



INDIANA UNIVERSITY

DEPARTMENT OF BIOLOGY
Jordan Hall 138
Bloomington, Indiana 47405
(812) 335-

Update of Bibliography of Recent Research on Axolotls

A  **DIALOG*** SEARCH
FROM THE
BIOSIS PREVIEWS DATABASE

PRINTS SUMMARY

User:016452 , File 55
TITLE:DIALOG (VERSION 2)

File(s) searched:

File 55:BIOSIS PREVIEWS 81-87/JAN BA8302;RRM3202 (C.BIOSIS
1987)

Sets selected:

Set	Items	Description
1	147	E3-E5
2	119	AMBYSTOMA (W) MEXICANUM
3	193	S1 OR S2

Prints requested (* indicates user print cancellation) :

Date	Time	Description
16jan	15:16EST	PO05: PR 3/5/1-193

Total items to be printed: 193

(Please see Axolotl Newsletter # 12 for previous bibliography)

DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302;RRM3202 (C.BIOSIS 1987)

0017037231 BIOSIS Number: 83016577
MYELIN LIPIDS A PHYLOGENETIC STUDY
BURGISSER P; MATTHIEU J-M; JESERICH G; WAHNELDT T V
LAB. NEUROCHIMIE, SERVICE PEDIATRIE, CHUV, CH-1011,
LAUSANNE, SWITZERLAND.
NEUROCHEM RES 11 (9). 1986. 1261-1272. CODEN: NERED
Language: ENGLISH
Subfile: BA (Biological Abstracts)
The lipid composition of CNS and PNS myelin was studied in
rat, Xenopus, trout and Torpedo. The main difference lay in
the proportion of cerebroside, which decreased in the
sequence rat > Xenopus > Torpedo > trout. In addition Torpedo
CNS and PNS myelins were extremely rich in sulfatides. In some
respects, Torpedo appeared closer to tetrapods than trout.
Otherwise, the proportion of the different lipid classes did
not reveal any clear evolutionary trends. The presence of
hydroxylated galactolipids in CNS myelin was investigated in
several additional species. Considerable amounts were found in
Torpedo, Polypterus, Protopterus, lizard, and chicken, with
the highest values in rat and anurans. Only very small amounts
of hydroxylated cerebroside were detected in trout and in
axolotl, while newt had none. This parameter appears therefore
of doubtful usefulness for phylogenetic studies. In contrast
to myelin proteins, myelin lipids are of limited value for
establishing phylogenetic relationships among vertebrates.

Descriptors/Keywords: RAT TROUT TORPEDO LIZARD XENOPUS CHICKEN
POLYPTERUS PROTOPTERUS AXOLOTL NEWT CEREBROSIDE CENTRAL
NERVOUS SYSTEM PERIPHERAL NERVOUS SYSTEM

Concept Codes:
*01500 Evolution
*10064 Biochemical Studies-Proteins, Peptides and Amino
Acids
*10066 Biochemical Studies-Lipids
*12003 Physiology, General and Miscellaneous-Comparative
(1970-)
*20504 Nervous System-Physiology and Biochemistry
10054 Biochemical Methods-Proteins, Peptides and Amino
Acids
10056 Biochemical Methods-Lipids
10068 Biochemical Studies-Carbohydrates
20501 Nervous System-General: Methods
Biosystematic Codes:
85202 Chondrichthyes
85206 Osteichthyes
85304 Caudata
85306 Sallientia
85408 Sauria
85538 Galliformes
86375 Muridae

Super Taxa:
Animals: Vertebrates; Nonhuman Vertebrates: Fish; Amphibian
s; Reptiles; Birds; Mammals; Nonhuman Mammals; Rodents

0017016440 BIOSIS Number: 83006374
SELECTIVE INNERVATION OF TRANSPLANTED LIMB MUSCLES BY
REGENERATING MOTOR AXONS IN THE AXOLOTL AMBYSTOMA-MEXICANUM
WIGSTON O J
DEP. PHYSIOL., EMORY UNIV. SCH. MED., ATLANTA, GA. 30322.
J NEUROSCI 6 (9). 1986. 2757-2763. CODEN: JNRSDD
Language: ENGLISH
Subfile: BA (Biological Abstracts)

The segmental pattern of motor innervation of hindlimb
muscles in the axolotl was studied before and after
reinnervation. To ascertain the specificity of reinnervation,
the four spinal nerves innervating the hindlimb were severed
and allowed to regenerate. The segmental origin of axons
reinnervating particular muscles was then determined by
intracellular recording from muscle fibers. Muscles were
reinnervated in a specific manner: From the outset, the axons
reinnervating each muscle originated largely from segmentally
appropriate spinal nerves in the proper proportions,
suggesting that a reliable mechanism of selective synapse
regeneration exists even in mature axolotls. To examine the
selectivity of reinnervation, individual muscles were
transplanted to novel positions within the limb and the
specificity of their reinnervation determined. Even after
being moved to new positions, muscles were reinnervated for
the most part by axons of appropriate segmental origin.
Therefore, cues must exist on or within limb muscles that
regenerating motor axons recognize and use to discriminate
between different muscles during synapse formation. These
results suggest that one of the mechanisms that promote the
reestablishment of correct connections during reinnervation of
axolotl limbs may be the selective formation of synapses with
appropriate target cells.

Concept Codes:
*02506 Cytology and Cytochemistry-Animal
*11107 Anatomy and Histology, General and
Comparative-Regeneration and Transplantation (1971-
)
*11318 Chordate Body Regions-Extremities (1970-)
*17504 Muscle-Physiology and Biochemistry
*20504 Nervous System-Physiology and Biochemistry
*25508 Developmental Biology-Embryology-Morphogenesis,
General
10504 Biophysics-General: Biophysical Techniques
17501 Muscle-General: Methods

Biosystematic Codes:
85304 Caudata
Super Taxa:
Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0017009220 BIOSIS Number: 32009220
THE EXTENT OF SUPERINNERVATION PRODUCING TRANSSYNAPTIC
STIMULATING EFFECTS OF MAUTHNER CELL MORPHOGENESIS
MODEL P G; GOODMAN L A
(cont. next page)

DIALOG
INFORMATION SERVICES, INC.

008822

DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302;RRM3202 (C.BIOSIS 1987)

10461, USA.
16TH ANNUAL MEETING OF THE SOCIETY FOR NEUROSCIENCE, PART 2,
WASHINGTON, D.C., USA, NOV. 9-14, 1986. SOC NEUROSCI ABSTR 1
2 (2). 1986. 1106. CODEN: ASNEE
Language: ENGLISH
Document Type: CONFERENCE PAPER
Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT AMBYSTOMA-MEXICANUM AXOLOTL
Concept Codes:
*20504 Nervous System-Physiology and Biochemistry
*25508 Developmental Biology-Embryology-Morphogenesis,
General
00520 General Biology-Symposia, Transactions and
Proceedings of Conferences, Congresses, Review
Annals
01056 Microscopy Techniques-Histology and Histochemistry
02506 Cytology and Cytochemistry-Animal
11108 Anatomy and Histology, General and
Comparative-Microscopic and Ultramicroscopic Anatomy
Biosystematic Codes:
85304 Caudata
Super Taxa:
Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0017009218 BIOSIS Number: 32009218
THE EFFECT OF VESTIBULAR NERVE DEGENERATION AND REGENERATION
ON THE MORPHOLOGY OF THE MAUTHNER CELL
GOODMAN L A; MODEL P G
DEP. NEUROSCI., ALBERT EINSTEIN COLL. MED., BRONX, N.Y.
10461, USA.
16TH ANNUAL MEETING OF THE SOCIETY FOR NEUROSCIENCE, PART 2,
WASHINGTON, D.C., USA, NOV. 9-14, 1986. SOC NEUROSCI ABSTR 1
2 (2). 1986. 1106. CODEN: ASNEE
Language: ENGLISH
Document Type: CONFERENCE PAPER
Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT AMBYSTOMA-MEXICANUM AXOLOTL
Concept Codes:
*11107 Anatomy and Histology, General and
Comparative-Regeneration and Transplantation (1971-
)
*20006 Sense Organs, Associated Structures and
Functions-Pathology
*20008 Sense Organs, Associated Structures and
Functions-Deafness, Speech and Hearing
*20506 Nervous System-Pathology
*25508 Developmental Biology-Embryology-Morphogenesis,
General
00520 General Biology-Symposia, Transactions and
Proceedings of Conferences, Congresses, Review
Annals
01056 Microscopy Techniques-Histology and Histochemistry
02506 Cytology and Cytochemistry-Animal

11108 Anatomy and Histology, General and
Comparative-Microscopic and Ultramicroscopic Anatomy
Biosystematic Codes:
85304 Caudata
Super Taxa:
Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0017006771 BIOSIS Number: 32006771
ENVIRONMENTAL CONTROL IN PIGMENT PATTERN FORMATION OF THE
AXOLOTL AMBYSTOMA-MEXICANUM LARVA
EPPERLEIN H H; PERRIS R; LOEFBERG J
ANATOMISCHES INST., UNIV. FREIBURG, ALBERTSTR. 17, 7800
FREIBURG, WEST GERMANY.
SLAVKIN, H. C. (ED.). PROGRESS IN CLINICAL AND BIOLOGICAL
RESEARCH, VOL. 217B. PROGRESS IN DEVELOPMENTAL BIOLOGY, PART
B; TENTH INTERNATIONAL CONGRESS OF THE INTERNATIONAL SOCIETY
OF DEVELOPMENTAL BIOLOGISTS, LOS ANGELES, CALIF., USA, AUG.
4-9, 1985. XXVIII+462P. ALAN R. LISS, INC.: NEW YORK, N.Y.,
USA. ILLUS. ISBN 0-8451-0193-5. O (0). 1986. 191-194.
CODEN: PCBRD

Language: ENGLISH
Subfile: BARRM (Biological Abstracts/RRM)
Descriptors/Keywords: MELANOPHORE XANTHOPHORE CHROMATOPHORE
MIGRATION

Concept Codes:
*25502 Developmental Biology-Embryology-General and
Descriptive
*25508 Developmental Biology-Embryology-Morphogenesis,
General
00520 General Biology-Symposia, Transactions and
Proceedings of Conferences, Congresses, Review
Annals
12100 Movement (1971-)
Biosystematic Codes:
85304 Caudata
Super Taxa:
Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0017006760 BIOSIS Number: 32006760
INVESTIGATING POSSIBLE MECHANISMS OF SPECIFIC NERVE
REGENERATION IN THE AXOLOTL
STEPHENS N
ANATOMY DEP. KINGS COLL., STAND, LONDON WC2, ENGLAND.
SLAVKIN, H. C. (ED.). PROGRESS IN CLINICAL AND BIOLOGICAL
RESEARCH, VOL. 217B. PROGRESS IN DEVELOPMENTAL BIOLOGY, PART
B; TENTH INTERNATIONAL CONGRESS OF THE INTERNATIONAL SOCIETY
OF DEVELOPMENTAL BIOLOGISTS, LOS ANGELES, CALIF., USA, AUG.
4-9, 1985. XXVIII+462P. ALAN R. LISS, INC.: NEW YORK, N.Y.,
USA. ILLUS. ISBN 0-8451-0193-5. O (0). 1986. 129-132.
CODEN: PCBRD
Language: ENGLISH
Subfile: BARRM (Biological Abstracts/RRM)
(cont. next page)

DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302;RRM3202 (C.BIOSIS 1987)

Descriptors/Keywords: NEUROMUSCULAR JUNCTION
 Concept Codes:
 *11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-)
 *17504 Muscle-Physiology and Biochemistry
 *20504 Nervous System-Physiology and Biochemistry
 *25504 Developmental Biology-Embryology-Experimental
 00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals

Biosystematic Codes:
 85304 Caudata
 Super Taxa:
 Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0017006736 BIOSIS Number: 32006736
INVOLVEMENT OF THE CYTOSKELETON IN EARLY GRAY CRESCENT FORMATION IN AXOLOTL AMBYSTOMA-MEXICANUM OOCYTE RELATIONSHIPS WITH GERMINAL VESICLE BREAKDOWN
 GAUTIER J; BEETSCHEN J-C
 LAB. DE BIOL. GENERALE, UA CNRS N 675, UNIV. P. SABATIER, 118 ROUTE DE NARBONNE, 31062 TOULOUSE, FRANCE.
 SLAVKIN, H. C. (ED.), PROGRESS IN CLINICAL AND BIOLOGICAL RESEARCH, VOL. 217A, PROGRESS IN DEVELOPMENTAL BIOLOGY, PART A; TENTH INTERNATIONAL CONGRESS OF THE INTERNATIONAL SOCIETY OF DEVELOPMENTAL BIOLOGISTS, LOS ANGELES, CALIF., USA, AUG. 4-9, 1985. XXVIII+448P. ALAN R. LISS, INC.: NEW YORK, N.Y., USA, ILLUS. ISBN 0-8451-0192-7. 0 (0). 1986. 403-406.
 CODEN: PCBRD
 Language: ENGLISH
 Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: CYTOSKELETON ANTAGONISTS COLCEMID NCCODAZOLE TAXOL CYTOCHALASIN VINBLASTINE SULFATE
 Concept Codes:
 *25504 Developmental Biology-Embryology-Experimental
 *25508 Developmental Biology-Embryology-Morphogenesis, General
 00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals
 02506 Cytology and Cytochemistry-Animal
 10064 Biochemical Studies-Proteins, Peptides and Amino Acids
 22003 Pharmacology-Drug Metabolism; Metabolic Stimulators
 Biosystematic Codes:
 85302 Apoda
 Super Taxa:
 Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0017006717 BIOSIS Number: 32006717
THE PRESENCE OF CYTOPLASMIC RETINOIC-ACID BINDING PROTEINS IN AMPHIBIAN TISSUES AND THEIR POSSIBLE ROLE IN LIMB REGENERATION

008824

KEEBLE S; MADEN M
 NATIONAL INST. MED. RES., RIDGEWAY, MILL HILL, LONDON NW7 1AA, UK.
 SLAVKIN, H. C. (ED.), PROGRESS IN CLINICAL AND BIOLOGICAL RESEARCH, VOL. 217A, PROGRESS IN DEVELOPMENTAL BIOLOGY, PART A; TENTH INTERNATIONAL CONGRESS OF THE INTERNATIONAL SOCIETY OF DEVELOPMENTAL BIOLOGISTS, LOS ANGELES, CALIF., USA, AUG. 4-9, 1985. XXVIII+448P. ALAN R. LISS, INC.: NEW YORK, N.Y., USA, ILLUS. ISBN 0-8451-0192-7. 0 (0). 1986. 309-314.
 CODEN: PCBRD
 Language: ENGLISH
 Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: AMBYSTOMA-MEXICANUM BLASTEMA
 Concept Codes:
 *11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-)
 *25504 Developmental Biology-Embryology-Experimental
 00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals
 10063 Biochemical Studies-Vitamins
 10064 Biochemical Studies-Proteins, Peptides and Amino Acids
 11318 Chordate Body Regions-Extremities (1970-)
 Biosystematic Codes:
 85304 Caudata
 Super Taxa:
 Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0017006683 BIOSIS Number: 32006683
BIOCHEMICAL AND ULTRASTRUCTURAL STUDIES ON VITAMIN A INDUCED PROXIMALIZATION OF LIMB REGENERATION IN AXOLOTL
 SHARMA K K; ANTON H J
 DEP. ZOOL., UNIV. RAJASTHAN, JAIPUR 302004, INDIA.
 SLAVKIN, H. C. (ED.), PROGRESS IN CLINICAL AND BIOLOGICAL RESEARCH, VOL. 217A, PROGRESS IN DEVELOPMENTAL BIOLOGY, PART A; TENTH INTERNATIONAL CONGRESS OF THE INTERNATIONAL SOCIETY OF DEVELOPMENTAL BIOLOGISTS, LOS ANGELES, CALIF., USA, AUG. 4-9, 1985. XXVIII+448P. ALAN R. LISS, INC.: NEW YORK, N.Y., USA, ILLUS. ISBN 0-8451-0192-7. 0 (0). 1986. 105-108.
 CODEN: PCBRD
 Language: ENGLISH
 Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: BLASTOMA GENE EXPRESSION
 Concept Codes:
 *03506 Genetics and Cytogenetics-Animal
 *11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-)
 *25504 Developmental Biology-Embryology-Experimental
 00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals (cont. next page)



DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302;RRM3202 (C.BIOSIS 1987)

Proceedings of Conferences, Congresses, Review Annuals
 10063 Biochemical Studies-Vitamins
 11318 Chordate Body Regions-Extremities (1970-)
 Biosystematic Codes:
 85304 Caudata
 Super Taxa:
 Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0017006673 BIOSIS Number: 32006673
REGENERATION FROM DISCONTINUOUS CIRCUMFERENCES IN AXOLOTL AMBYSTOMA-MEXICANUM LIMBS
 MUNEOKA K; HOLLER-DINSMORE G; BRYANT S
 DEV. BIOL. CENT., UNIV. CALIF., IRVINE, CALIF. 92717.
 SLAVKIN, H. C. (ED.), PROGRESS IN CLINICAL AND BIOLOGICAL RESEARCH, VOL. 217A, PROGRESS IN DEVELOPMENTAL BIOLOGY, PART A; TENTH INTERNATIONAL CONGRESS OF THE INTERNATIONAL SOCIETY OF DEVELOPMENTAL BIOLOGISTS, LOS ANGELES, CALIF., USA, AUG. 4-9, 1985. XXVIII+448P. ALAN R. LISS, INC.: NEW YORK, N.Y., USA, ILLUS. ISBN 0-8451-0192-7. 0 (0). 1986. 61-66.
 CODEN: PCBRD
 Language: ENGLISH
 Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: AMBYSTOMA-MEXICANUM
 Concept Codes:
 *11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-)
 *25508 Developmental Biology-Embryology-Morphogenesis, General
 00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals
 11318 Chordate Body Regions-Extremities (1970-)
 Biosystematic Codes:
 85304 Caudata
 Super Taxa:
 Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0016726739 BIOSIS Number: 82109746
ROLE OF BILATERAL ZONES OF INGRESSING SUPERFICIAL CELLS DURING GASTRULATION OF AMBYSTOMA-MEXICANUM
 LUNDMARK C
 BODEGA MARINE LAB., BODEGA BAY, CALIF. 94923.
 J EMBRYOL EXP MORPHOL 97 (0). 1986. 47-62. CODEN: JEEMA
 Language: ENGLISH
 Subfile: BA (Biological Abstracts)
 Vital dye staining and cell lineage tracers were used to mark superficial cells of early *Ambystoma mexicanum* gastrulae. Superficial marks placed between the equator and the blastopore, on the dorsal midline, stained notochord, whereas marks or injections made at similar animal-vegetal levels but 90 degrees, to either side of the dorsal midline were later found in somitic mesoderm. Notochord marks remained on the

dorsal surface of the archenteron throughout gastrulation, though they became elongate and narrow by the morphogenetic movements of extension and convergence. Marked somitic mesoderm disappeared from the superficial epithelial layer soon after passing over the blastoporal lip and could not be found on the archenteron surface. A possible mechanism for this de-epithelialization is proposed on the basis of correlated SEM. The significance of a method of gastrulation so distinctly different from that of certain other amphibians is discussed in terms of amphibian phylogeny.

Descriptors/Keywords: ARCHENTERON EXTENSION CONVERGENCE AMPHIBIAN PHYLOGENY
 Concept Codes:
 *02506 Cytology and Cytochemistry-Animal
 *25502 Developmental Biology-Embryology-General and Descriptive
 *25508 Developmental Biology-Embryology-Morphogenesis, General
 01054 Microscopy Techniques-Cytology and Cytochemistry
 12002 Physiology, General and Miscellaneous-General
 12100 Movement (1971-)
 Biosystematic Codes:
 85304 Caudata
 Super Taxa:
 Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0016726726 BIOSIS Number: 82109733
EFFECTS OF RETINOIDS ON REGENERATING LIMBS COMPARISON OF RETINOIC-ACID AND AROTINOID AT DIFFERENT AMPUTATION LEVELS
 KIM W-S; STOCUM D L
 DEP. GENETICS DEV., 515 MORRILL HALL, UNIV. ILL., 505 S. GODWIN AVE., URBANA, IL 61801, USDA.
 WILHELM ROUX'S ARCH DEV BIOL 195 (7). 1986. 455-463.
 CODEN: WRABD
 Language: ENGLISH
 Subfile: BA (Biological Abstracts)
 Retinoic acid and the synthetic retinoid, arotinoid, were compared for their efficacy in inducing proximodistal (PD) pattern duplication in regenerating axolotl limbs, after amputation through either the distal zeugopodium (lower arm or leg) or distal stylopodium (upper arm or leg). At each level of amputation, the morphology of the duplications produced was the same for both retinoids, and the mean level of proximodistal duplication was dose-dependent. Blastema formation was delayed by both retinoids and the delay was associated with regression of the limb stump. Blastemas which produced PD duplication to the stylopodial or girdle level grew out from the stump in a posterior direction. In several zeugopodial regenerates, a partial duplicated, PD-reversed zeugopodium regenerated between the stump cartilages and a completely duplicated zeugopodium distally. Arotinoid was 50 times more effective than retinoic acid in evoking duplication. The dose of arotinoid required to duplicate a stylopodium in a (cont. next page)



DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN 8A8302;RRM3202 (C.BIOSIS 1987)

stylopodial regenerate was several times higher than the dose required to duplicate a zeugopodium in a zeugopodial regenerate, suggesting differences either in the sensitivity of zeugopodial and stylopodial cells to retinoid, or in the numbers of positional value specifying these segments.

Descriptors/Keywords: AMBYSTOMA-MEXICANUM PATTERN DUPLICATION BLASTEMA FORMATION

Concept Codes:

- *11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-)
 - *11318 Chordate Body Regions-Extremities (1970-)
 - *13016 Metabolism-Fat-Soluble Vitamins
 - *25502 Developmental Biology-Embryology-General and Descriptive
 - *25508 Developmental Biology-Embryology-Morphogenesis, General
 - 10063 Biochemical Studies-Vitamins
 - 10066 Biochemical Studies-Lipids
- Biosystematic Codes:
85304 Caudata
- Super Taxa:
Animals: Vertebrates; Nonhuman Vertebrates: Amphibians

0016724646 BIOSIS Number: 31116567

ACTIVITY OF EFFERENT NEURONS IN THE LATERAL-LINE SYSTEM

MUENZ H; CLAAS B
FAKULTAET FUER BIOL., UNIV. BIELEFELD, POSTFACH 8640 D4800 BIELEFELD 1, FRG.
TENTH EUROPEAN NEUROSCIENCE CONGRESS, MARSEILLE, FRANCE, SEPT. 14-18, 1986. NEUROSCI LETT SUPPL 0 (26). 1986. S375.
CODEN: NLSUE
Language: ENGLISH
Document Type: CONFERENCE PAPER
Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT DREOCHROMIS-NILOITICUS AMBYSTOMA-MEXICANUM AXOLOTL SENSORY INPUT

Concept Codes:

- *20004 Sense Organs, Associated Structures and Functions-Physiology and Biochemistry
 - *20504 Nervous System-Physiology and Biochemistry
 - 00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals
 - 02506 Cytology and Cytochemistry-Animal
- Biosystematic Codes:
85206 Osteichthyes
- Super Taxa:
Animals: Vertebrates; Nonhuman Vertebrates: Fish

0016724478 BIOSIS Number: 31116399
EFFECTS OF ASPARTATE AND RELATED DRUGS ON SACCULAR AND LAGENAR AFFERENTS OF THE AXOLOTL AMBYSTOMA-MEXICANUM INNER EAR

SOTO E; VEGA R
DEP. CIENCIAS FISIOLÓGICAS, ICUAP, UNIV. AUTONOMA PUEBLA, APDO. POSTAL 406, PUEBLA, PUE., MEX.
TENTH EUROPEAN NEUROSCIENCE CONGRESS, MARSEILLE, FRANCE, SEPT. 14-18, 1986. NEUROSCI LETT SUPPL 0 (26). 1986. S286.
CODEN: NLSUE
Language: ENGLISH
Document Type: CONFERENCE PAPER
Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT CENTRAL STIMULANT-DRUG EXCITATORY NEUROTRANSMITTER MAGNESIUM

Concept Codes:

- *10508 Biophysics-Membrane Phenomena
 - *13010 Metabolism-Minerals
 - *17020 Endocrine System-Neuroendocrinology (1972-)
 - *20004 Sense Organs, Associated Structures and Functions-Physiology and Biochemistry
 - *20008 Sense Organs, Associated Structures and Functions-Deafness, Speech and Hearing
 - *20504 Nervous System-Physiology and Biochemistry
 - *20204 Pharmacology-Neuropharmacology
 - *22031 Pharmacology-Sense Organs, Associated Structures and Functions
 - 00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals
 - 02506 Cytology and Cytochemistry-Animal
 - 10064 Biochemical Studies-Proteins, Peptides and Amino Acids
 - 10069 Biochemical Studies-Minerals
- Biosystematic Codes:
85304 Caudata
- Super Taxa:
Animals: Vertebrates; Nonhuman Vertebrates: Amphibians

0016722900 BIOSIS Number: 31114821

SELECTIVE REINNERVATION OF AXOLOTL LIMB MUSCLES BY THEIR ORIGINAL MOTONEURONS

WIGSTON D J; KENNEDY P R
PHYSIOL. DEP., EMORY UNIV. SCH. MED., ATLANTA, GA. 30322.
16TH ANNUAL MEETING OF THE SOCIETY FOR NEUROSCIENCE, PART 1, WASHINGTON, D.C., USA, NOV. 9-14, 1986. SOC NEUROSCI ABSTR 1, 2 (1). 1986. 541. CODEN: ASNEE
Language: ENGLISH
Document Type: CONFERENCE PAPER
Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT

Concept Codes:

(cont. next page)



DIALOG
INFORMATION SERVICES, INC.

008826

DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN 8A8302;RRM3202 (C.BIOSIS 1987)

- *02506 Cytology and Cytochemistry-Animal
 - *06504 Radiation-Radiation and Isotope Techniques
 - *17501 Muscle-General: Methods
 - *17504 Muscle-Physiology and Biochemistry
 - *20504 Nervous System-Physiology and Biochemistry
 - 00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals
 - 11104 Anatomy and Histology, General and Comparative-Experimental Anatomy
 - 11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-)
- Biosystematic Codes:
85304 Caudata
- Super Taxa:
Animals: Vertebrates; Nonhuman Vertebrates: Amphibians

0016714956 BIOSIS Number: 82107309

AXOLOTL AMBYSTOMA-MEXICANUM RETINA AND LENS DEVELOPMENT MUTUAL TISSUE STIMULATION AND AUTONOMOUS FAILURE IN THE EYELESS MUTANT RETINA

CUNY R; MALACINSKI G M
UNITE RECH. GERONTOLOGIQUES, INSERM 118, 29 RUE WILHEM, 75016 PARIS, FR.
J EMBRYOL EXP MORPHOL 96 (0). 1986. 151-170.
CODEN: JEEMA
Language: ENGLISH
Subfile: BA (Biological Abstracts)

During eye development in the axolotl (*Ambystoma mexicanum* Shaw), morphogenetic movements bring together tissues from head epidermis, neuroectoderm and neural crest. The stages 0 to 14 of axolotl eye development were expanded from Rabi's (1989) stages 1 to 10 and correlated with Harrison's (1969) stages. At the onset of neurulation (stage 13 of Harrison), the head epidermis is already determined to form skin, and the neuroectoderm is committed to form brain, because these tissues develop autonomously in 60% Leibovitz L-15 culture medium. However, a sequence of mutual tissue interactions is necessary to stimulate eye development. When head epidermis and neuroectoderm were cocultured, eyes developed, containing retinas with photoreceptors (stage 8) and lenses with secondary lens fibres (stage 8). The first event needed in this case appears to be the secretion of a growth factor from the head epidermis which stimulates retina development from the neuroectoderm. When neuroectoderm cultures were exposed to nondialysable extracts (30 μ g ml⁻¹) of an adult epidermis derivative, the bovine cornea, pigmented retinas (stage 8) and at higher concentrations (3000 μ g ml⁻¹) neural retinas developed (stage 6). In turn, lens formation is stimulated in the head epidermis by a retina-derived growth factor. A maturation that causes adult eyelessness (e eyeless, nonlethal, recessive) affects the earliest event in eye development (stage 1a), while a mutation that causes arrest of eye development (ml microphtalmic, lethal, recessive) acts in a later event (stage 8). Two possibilities have been

considered in the case of mutation e: either the head epidermis does not secrete sufficient amounts of active growth factor, or the presumptive retina itself is defective. The latter statement turned out to be correct, because mutant e neural plates rarely developed early retina stages (stage 5) in organ culture when combined with wild-type head epidermis. On the other hand, wild-type neural plates formed advanced retinas (stage 8) in all cases when combined with mutant e head epidermis. As expected, no retina or lens developed when both neural plate and head epidermis were from mutant e donors. The heterozygous presence of genes e and r (renal insufficiency, lethal, recessive) produces duplications in the presumptive retina at the optic stalk. This observation is consistent with the notion that the mutation e, assisted by the r locus, causes a primary failure in the presumptive retinal region.

Descriptors/Keywords: RETINA-DERIVED GROWTH FACTOR PRESUMPTIVE RETINAL REGION PRIMARY FAILURE CO-CULTURED TISSUE NEURULATION MORPHOGENETIC MOVEMENT PHOTORECEPTOR MUTATION

Concept Codes:

- *02506 Cytology and Cytochemistry-Animal
 - *03506 Genetics and Cytogenetics-Animal
 - *10508 Biophysics-Membrane Phenomena
 - *12100 Movement (1971-)
 - *17002 Endocrine System-General
 - *18504 Integumentary System-Physiology and Biochemistry
 - *20006 Sense Organs, Associated Structures and Functions-Pathology
 - *20504 Nervous System-Physiology and Biochemistry
 - *25508 Developmental Biology-Embryology-Morphogenesis, General
 - *25552 Developmental Biology-Embryology-Descriptive Teratology and Teratogenesis
 - 01054 Microscopy Techniques-Cytology and Cytochemistry
 - 10064 Biochemical Studies-Proteins, Peptides and Amino Acids
 - 10504 Biophysics-General Biophysical Techniques
 - 10604 External Effects-Light and Darkness
 - 12504 Pathology, General and Miscellaneous-Diagnostic
 - 32500 Tissue Culture, Apparatus, Methods and Media
- Biosystematic Codes:
85304 Caudata
- Super Taxa:
Animals: Vertebrates; Nonhuman Vertebrates: Amphibians

0016712323 BIOSIS Number: 82104661

IDENTIFICATION OF A SECOND TYPE OF CATECHOLAMINERGIC NEURON IN THE SPINAL CORD OF THE AXOLOTL SALAMANDER

SIMS T J J
DEP. ANATOMY, UNIV. ARKANSAS MED. SCI., LITTLE ROCK, ARKANSAS 72205.
EXP NEUROL 93 (2). 1986. 428-433. CODEN: EXNEA
Language: ENGLISH

(cont. next page)

DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302;RRM3202 (C.BIOSIS 1987)

Subfile: BA (Biological Abstracts)

Two distinct groups of catecholaminergic neurons were observed by histofluorescence techniques in the spinal cord of the axolotl salamander, only one of which was detected in normal intact cords. These neurons were located in the ventral ependymal zone. When the spinal cord was transected, a second group of catecholaminergic neurons was observed in the lateral portions of the ventral gray matter of the spinal cord caudal to the transection site. These observations suggest that the amount of catecholamine in the somata of the second group of neurons is normally very small and that catecholamines accumulate in the perikarya after transection of their ascending axons.

Descriptors/Keywords: VENTRAL EPENDYMAL ZONE
HISTOFLOUORESCENCE

Concept Codes:

- *02506 Cytology and Cytochemistry-Animal
- *11104 Anatomy and Histology, General and Comparative-Experimental Anatomy
- *11108 Anatomy and Histology, General and Comparative-Microscopic and Ultramicroscopic Anatomy
- *17020 Endocrine System-Neuroendocrinology (1972-)
- *20501 Nervous System-General: Methods
- *20502 Nervous System-Anatomy
- *20504 Nervous System-Physiology and Biochemistry
- 01056 Microscopy Techniques-Histology and Histochemistry
- 11310 Chordate Body Regions-Back and Buttocks (1970-)

Biosystematic Codes:

85304 Caudata

Super Taxa:

Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0016708215 BIOSIS Number: 82100553

DEVELOPMENT RATE OF POIKILOThERMAL ANIMALS

DETLAF T A

N.K. KOLTsov INST. DEV. BIOL., ACAD. SCI. USSR, MOSCOW.

USSR.

ZH OBSHCH BIOL 47 (2). 1986. 163-172. CODEN: ZOBIA

Language: RUSSIAN

Subfile: BA (Biological Abstracts)

Methods of comparison of development rates in different species of poikilothermal animals [*Rana arvalis*, *R. temporaria*, *R. pipiens*, *R. palustris*, *Ambystoma mexicanum*, *Triturus helveticus* and *Pleurodeles waltlii*] are discussed with reference to estimation of the development duration in units of astronomic time and in relative units of development duration (in the number of female.0 the duration of one mitotic cycle during the synchronous cleavage divisions), fishes and amphibians taken as an example. The dimensionless criterion of relative development rate has been proposed. It has been found that in close species and genera, in the beginning of development the criterion of relative development rate equals 1 and later some species begin to develop faster than others because they pass the same periods of development (.female.n) for lesser number of .sbd.0. It has been

008828

demonstrated that in systematically more distant groups of animals identical periods of development have different relative duration since their gastrulation begins at different stages of the blastulation i.e. at the expense of heterochronies.

Descriptors/Keywords: RANA-ARVALIS RANA-TEMPORARIA
RANA-PIPIENS RANA-PALUSTRIS AMBYSTOMA-MEXICANUM
TRITURUS-HELVETICUS PLEURODELES-WALTII FISH MITOSIS
GASTRULATION

Concept Codes:

- *02506 Cytology and Cytochemistry-Animal
- *07200 Circadian Rhythms and Other Periodic Cycles
- *10515 Biophysics-Bio cybernetics (1972-)
- *12003 Physiology, General and Miscellaneous-Comparative (1970-)
- *25502 Developmental Biology-Embryology-General and Descriptive
- 04500 Mathematical Biology and Statistical Methods
- 23012 Temperature: Its Measurement, Effects and Regulation-Thermoregulation

Biosystematic Codes:

85304 Caudata

85306 Salientia

Super Taxa:

Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0016705068 BIOSIS Number: 31106376

MICROPERFUSION OF EXCITATORY AMINO-ACID ANALOGUES ON THE AXOLOTL AMBYSTOMA-MEXICANUM INNER EAR

SOTO E; VEGA R

DEP. CIENCIAS FISIOLOG., ICUAP, UNIV. AUTONOMA PUEBLA.

APARTADO POSTAL 406, PUEBLA, PUE., MEXICO.

16TH ANNUAL MEETING OF THE SOCIETY FOR NEUROSCIENCE, PART 1,

WASHINGTON, D.C., USA, NOV. 9-14, 1986. SOC NEUROSCI ABSTR 1

2 (1). 1986. 253. CODEN: ASNEE

Language: ENGLISH

Document Type: CONFERENCE PAPER

Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT GLUTAMATE KAINATE ASPARTATE N METHYL-D-ASPARTATE DL-2 AMINO-4-PHOSPHONO BUTYRATE ALPHA AMINOADIPATE GLUTAMATE DIETHYL ESTER

Concept Codes:

- *20004 Sense Organs, Associated Structures and Functions-Physiology and Biochemistry
- *20504 Nervous System-Physiology and Biochemistry
- 00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals
- 10064 Biochemical Studies-Proteins, Peptides and Amino Acids
- 10508 Biophysics-Membrane Phenomena

Biosystematic Codes:

(cont. next page)



DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302;RRM3202 (C.BIOSIS 1987)

85304 Caudata

Super Taxa:

Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0016704481 BIOSIS Number: 31105789

EMBRYONIC ORIGIN OF AMPHIBIAN ELECTRORECEPTORS

NORTHUTT R G

DIV. BIOL. SCI'S., UNIV. MICHIGAN, ANN ARBOR, MI 48109-1048.

16TH ANNUAL MEETING OF THE SOCIETY FOR NEUROSCIENCE, PART 1,

WASHINGTON, D.C., USA, NOV. 9-14, 1986. SOC NEUROSCI ABSTR 1

2 (1). 1986. 103. CODEN: ASNEE

Language: ENGLISH

Document Type: CONFERENCE PAPER

Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT AMBYSTOMA-MEXICANUM

Concept Codes:

- *02506 Cytology and Cytochemistry-Animal
- *20502 Nervous System-Anatomy
- *20504 Nervous System-Physiology and Biochemistry
- *25502 Developmental Biology-Embryology-General and Descriptive
- 00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals
- 10508 Biophysics-Membrane Phenomena

Biosystematic Codes:

85304 Caudata

Super Taxa:

Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0016681665 BIOSIS Number: 31093127

IMMUNOHISTOCHEMICAL ANALYSIS OF AXOLOTL LYMPHOID ORGANS USING MONOCLONAL ANTIBODIES

TOURNEFIER A; ARDAVIN C F; LE BORGNE F

UNIVERSITE P. AND M. CURIE, PARIS, FRANCE.

3RD INTERNATIONAL CONGRESS OF DEVELOPMENTAL AND COMPARATIVE

IMMUNOLOGY, REIMS, FRANCE, JULY 7-13, 1985. DEV COMP IMMUNOL

10 (1). 1986. 109. CODEN: DCIMD

Language: ENGLISH

Document Type: CONFERENCE PAPER

Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT SPLEEN LIVER THYMUS

LYMPHOCYTES

Concept Codes:

- *02506 Cytology and Cytochemistry-Animal
- *15008 Blood, Blood-Forming Organs and Body Fluids-Lymphatic Tissue and Reticuloendothelial System
- *34502 Immunology and Immunochimistry-General: Methods
- 00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals
- 01056 Microscopy Techniques-Histology and Histochemistry
- 10064 Biochemical Studies-Proteins, Peptides and Amino

Acids

10068 Biochemical Studies-Carbohydrates

17016 Endocrine System-Thymus

Biosystematic Codes:

85304 Caudata

Super Taxa:

Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0016681664 BIOSIS Number: 31093126

ELECTROPHORETIC ANALYSIS OF LYMPHOCYTE PROTEIN PATTERNS IN AXOLOTL

GUILLET F; TOURNEFIER A

UNIVERSITE P. AND M. CURIE, PARIS, FRANCE.

3RD INTERNATIONAL CONGRESS OF DEVELOPMENTAL AND COMPARATIVE

IMMUNOLOGY, REIMS, FRANCE, JULY 7-13, 1985. DEV COMP IMMUNOL

10 (1). 1986. 108. CODEN: DCIMD

Language: ENGLISH

Document Type: CONFERENCE PAPER

Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT THYMOCYTES SPLEEN CELLS

HYDROCORTISONE SENSITIVITY

Concept Codes:

- *02506 Cytology and Cytochemistry-Animal
- *10010 Comparative Biochemistry, General
- *15008 Blood, Blood-Forming Organs and Body Fluids-Lymphatic Tissue and Reticuloendothelial System
- *17004 Endocrine System-Adrenals
- *34502 Immunology and Immunochimistry-General: Methods
- 00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals
- 10054 Biochemical Methods-Proteins, Peptides and Amino Acids
- 10067 Biochemical Studies-Sterols and Steroids
- 10504 Biophysics-General Biophysical Techniques
- 10506 Biophysics-Molecular Properties and Macromolecules
- 13012 Metabolism-Proteins, Peptides and Amino Acids
- 17016 Endocrine System-Thymus
- 22008 Pharmacology-Blood and Hematopoietic Agents
- 22016 Pharmacology-Endocrine System
- 22018 Pharmacology-Immunological Processes and Allergy

Biosystematic Codes:

85304 Caudata

Super Taxa:

Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0016681648 BIOSIS Number: 31093110

ANTIDINITROPHENYL ANTIBODY DIVERSITY IN THE MEXICAN AXOLOTL CHARLEMAGNE J

UNIVERSITE P. AND M. CURIE, PARIS, FRANCE.

3RD INTERNATIONAL CONGRESS OF DEVELOPMENTAL AND COMPARATIVE

IMMUNOLOGY, REIMS, FRANCE, JULY 7-13, 1985. DEV COMP IMMUNOL

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DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302;RRM3202 (C.BIOSIS 1987)

10 (1). 1986. 100. CODEN: DCIMO
Language: ENGLISH
Document Type: CONFERENCE PAPER
Subfile: BARRM (Biological Abstracts/RRM)

85304 Caudata
Super Taxa:
Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

Descriptors/Keywords: ABSTRACT SOMATIC DIVERSIFICATION HEAVY
CHAIN LIGHT CHAIN

Concept Codes:

*03506 Genetics and Cytogenetics-Animal
*10010 Comparative Biochemistry, General
*34502 Immunology and Immunochemistry-General; Methods
*62514 Chordata, General and Systematic Zoology-Amphibia
00520 General Biology-Symposia, Transactions and
Proceedings of Conferences, Congresses, Review
Annals
10064 Biochemical Studies-Proteins, Peptides and Amino
Acids
10068 Biochemical Studies-Carbohydrates
10506 Biophysics-Molecular Properties and Macromolecules
10804 Enzymes-Methods

Biosystematic Codes:

85304 Caudata

Super Taxa:

Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0016681647 BIOSIS Number: 31093109
SPECIFICITY OF SOME MONOCLONAL ANTIBODIES TOWARDS AXOLOTL
IMMUNOGLOBULINS
VILAIN C; CHARDIN H; CHARLEMAGNE J
UNIVERSITE P. AND M. CURIE, PARIS, FRANCE.
3RD INTERNATIONAL CONGRESS OF DEVELOPMENTAL AND COMPARATIVE
IMMUNOLOGY, REIMS, FRANCE, JULY 7-13, 1985. DEV COMP IMMUNOL
10 (1). 1986. 99. CODEN: DCIMO
Language: ENGLISH
Document Type: CONFERENCE PAPER
Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT LYMPHOCYTE MEMBRANE ANTIBODY
CHAIN DIVERSITY ANTI-DINITROPHENYL ANTIBODY

Concept Codes:

*02506 Cytology and Cytochemistry-Animal
*10054 Biochemical Methods-Proteins, Peptides and Amino
Acids
*10508 Biophysics-Membrane Phenomena
*15008 Blood, Blood-Forming Organs and Body Fluids-Lymphatic
Tissue and Reticuloendothelial System
*34502 Immunology and Immunochemistry-General; Methods
00520 General Biology-Symposia, Transactions and
Proceedings of Conferences, Congresses, Review
Annals
10064 Biochemical Studies-Proteins, Peptides and Amino
Acids
10068 Biochemical Studies-Carbohydrates
10506 Biophysics-Molecular Properties and Macromolecules
32500 Tissue Culture, Apparatus, Methods and Media
Biosystematic Codes:

008830

0016669653 BIOSIS Number: 82080683
CELLULAR CONTRIBUTION FROM DERMIS AND CARTILAGE TO THE
REGENERATION LIMB BLASTEMA IN AXOLOTLS AMBYSTOMA-MEXICANUM
MUNOKA K; FOX W F; BRYANT S V
DEV. BIOL. CENT., UNIV. OF CALIFORNIA, IRVINE, CALIFORNIA
92717.

DEV BIOL 116 (1). 1986. 256-260. CODEN: DEBIA
Language: ENGLISH

Subfile: BA (Biological Abstracts)

Using the triploid/diploid cell marker in the axolotl,
Ambystoma mexicanum, we have analyzed the extent to which
cells derived from the dermis and the skeleton contribute to
the regenerating limb blastema. We found that dermal cells
contribute 43% of the blastemal cell population whereas cells
derived from skeletal tissue contribute only 2%. When compared
to the availability of cells at the plane of amputation dermal
cells overcontribute by greater than twofold whereas skeletal
cells undercontribute by several-fold. These data correlate
with the effects that these two tissues have on the formation
of the limb pattern during regeneration; dermis has a dramatic
influence on pattern and skeletal tissue has virtually no
effect. It is suggested that the fibroblasts present in the
dermis and in other parts of the limb form virtually all of
the mesodermal tissues in the regenerative with the exception
of the muscle.

Descriptors/Keywords: DERMIS SKELETON

Concept Codes:

*11107 Anatomy and Histology, General and
Comparative-Regeneration and Transplantation (1971-
)
*11318 Chordate Body Regions-Extremities (1970-)
*18004 Bones, Joints, Fasciae, Connective and Adipose
Tissue-Physiology and Biochemistry
*18504 Integumentary System-Physiology and Biochemistry
*25508 Developmental Biology-Embryology-Morphogenesis,
General
18001 Bones, Joints, Fasciae, Connective and Adipose
Tissue-General; Methods
18501 Integumentary System-General; Methods

Biosystematic Codes:

85304 Caudata

Super Taxa:

Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0016659722 BIOSIS Number: 31080838
MYOCELLS IN THE REGENERATION OF A TRANSPLANTED
EXTREMITY MUSCLE IN AXOLOTLS AMBYSTOMA-MEXICANUM
TUCHKOVA S YA

(cont. next page)

DIALOG
INFORMATION SERVICES, INC.

DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302;RRM3202 (C.BIOSIS 1987)

N. K. KOLTSOV INST. DEV. BIOL., ACAD. SCI. USSR, MOSCOW,
USSR.
DOKL AKAD NAUK SSSR 286 (4). 1986. 973-975.
CODEN: DANKA
Language: RUSSIAN
Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: LIGHT MICROSCOPY ELECTRON MICROSCOPY

Concept Codes:

*11107 Anatomy and Histology, General and
Comparative-Regeneration and Transplantation (1971-
)
*11318 Chordate Body Regions-Extremities (1970-)
*17502 Muscle-Anatomy
*17504 Muscle-Physiology and Biochemistry
01058 Microscopy Techniques-Electron Microscopy
02506 Cytology and Cytochemistry-Animal

Biosystematic Codes:

85304 Caudata

Super Taxa:

Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0016650125 BIOSIS Number: 82071101
EFFECTS OF RETINOIC-ACID ON REGENERATING NORMAL AND DOUBLE
HALF LIMBS OF AXOLOTLS HISTOLOGICAL STUDIES
KIM W-S; STOCUM D L
DEP. BIOCHEM., ROGER ADAMS LAB., UNIV. ILL., URBANA, ILL.
61801.

WILHELM ROUX'S ARCH DEV BIOL 195 (4). 1986. 243-251.

CODEN: WRABD

Language: ENGLISH

Subfile: BA (Biological Abstracts)

Retinoids induce proximodistal (PD) pattern duplication in
zeugopodial (lower arm or leg) regenerates of normal limbs and
PD pattern duplication plus anteroposterior (AP) pattern
completion in double anterior half zeugopodial regenerates. In
contrast, retinoids inhibit the regeneration of double
posterior half zeugopodia (Kim and Stocum, 1986). Here we
describe the developmental histology of regenerating normal,
double anterior half and double posterior half zeugopodia in
axolotls after intraperitoneal injection of retinoic acid (RA)
At the stage of initial blastema cell accumulation. In all
three classes of RA-treated limbs, the accumulation of
blastema cells disappeared within 3 days after injection, and
dedifferentiation continued to a much more proximal extent
than in controls. Subsequently, however, the developmental
histology of the three limb classes was different. RA-treated
double posterior limbs exhibited the histological features
typical of non-regenerating limbs; the premature appearance of
a thick basement membrane under the wound epidermis, formation
of a thick connective tissue mat between the basement membrane
and the cut ends of the stump cartilages, and failure of
blastema formation. In contrast, RA-treated normal zeugopodia
reformed single blastemas which grew out in a posterior or
posterodorsal direction. RA-treated double anterior zeugopodia
formed twin blastemas that were spatially separated to varying

degrees and which grew distally. The blastemas of both these
RA-treated limb types consisted of a proximal, low-density
cell population that formed the girdle of the regenerate and a
distal, high-density cell population that formed the free
limb. In the free limb portion of the blastema, the density of
the mesenchymal cell population was higher than in controls.
Blastemas of RA-treated normal and double anterior zeugopodia
appeared similar in size and proportions to controls at the
medium bud stage, but subsequently took on the characteristics
of stylopodial blastemas. These observations suggest that the
extra pattern induced by RA in regenerating urodele limbs may
be correlated with an increase in the number of
dedifferentiated cells per unit of blastema volume.

Descriptors/Keywords: VITAMIN-DRUG AMPUTATION BLASTEMA
FORMATION CONNECTIVE TISSUE

Concept Codes:

*02506 Cytology and Cytochemistry-Animal
*11104 Anatomy and Histology, General and
Comparative-Experimental Anatomy
*11107 Anatomy and Histology, General and
Comparative-Regeneration and Transplantation (1971-
)
*11318 Chordate Body Regions-Extremities (1970-)
*22003 Pharmacology-Drug Metabolism; Metabolic Stimulators
*25554 Developmental Biology-Embryology-Experimental
Teratology and Teratogenesis
01056 Microscopy Techniques-Histology and Histochemistry
10063 Biochemical Studies-Vitamins

Biosystematic Codes:

85304 Caudata

Super Taxa:

Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0016650117 BIOSIS Number: 82071093
A SCANNING ELECTRON MICROSCOPY AND HISTOLOGICAL STUDY ON THE
EFFECTS OF THE MUTANT EYELESS E-E GENE UPON THE HYPOTHALAMUS
IN THE MEXICAN AXOLOTL AMBYSTOMA-MEXICANUM

EAGLESON G W; MALACINSKI G M
DEP. BIOLOGY, LORAS COLLEGE, DUBUQUE, IA 52004-0178
ANAT REC 215 (3). 1986. 317-327. CODEN: ANREA

Language: ENGLISH

Subfile: BA (Biological Abstracts)

A scanning electron microscopy, histological, and
immunohistochemical investigation examined the effects of the
mutant gene (e) upon hypothalamic development in the Mexican
axolotl. The adult eyeless mutant is sterile. Previous studies
indicated that this reproductive defect was due to the
mutation's effect upon the hypothalamus. The present study
demonstrated the pleiotropic effects of the eyeless gene upon
development of the hypothalamus. Scanning electron microscopy
studies looked at the early ontogeny of the
hypothalamohypophyseal system. The major morphological
difference observed in the hypothalamus of normals compared to
(cont. next page)

DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302;RRM3202 (C.BIOSIS 1987)

eyeless mutants was the reduced nature or complete lack of a preoptic recess in eyeless mutants. Early embryonic tissue movements also differed when normal siblings were compared to eyeless mutant axolotls. Histological examination looking for paraldehde-fuchsin-positive secretory neurons revealed a paired nucleus preopticus in both normals and eyeless mutants, but this region lacked the emanating paraldehde-fuchsin-positive fiber tracts in eyeless mutants. The neurohypophysis of the eyeless mutants was atrophied and contained far less paraldehde-fuchsin-positive material when compared to normal axolotls. Immunohistochemical studies were done to look at the distribution of immunoreactive luteinizing-hormone-releasing hormone (ir-LHRH) in brains of eyed and eyeless mutant axolotls at different stages. This study detected deficiencies in ir-LHRH in the anterior hypothalamus of eyeless mutants. In general in the eyeless mutant axolotl, the observed anterior hypothalamic deficiencies are comparable to those observed in anurans which have had their optic vesicles removed. These observations suggest a possible utility of the eyeless mutant axolotl for studies concerned with endocrine development in the absence of hypothalamic modulation.

Descriptors/Keywords: IMMUNOCHEMISTRY NEUROHYPOPHYSIS PARALDEHDE-FUCHSIN TECHNIQUE LHRH PREOPTIC RECESS DEFICIENCY

Concept Codes:

- *03506 Genetics and Cytochemistry-Animal
 - *17014 Endocrine System-Pituitary
 - *20006 Sense Organs, Associated Structures and Functions-Pathology
 - *20502 Nervous System-Anatomy
 - *20506 Nervous System-Pathology
 - *25552 Developmental Biology-Embryology-Descriptive Teratology and Teratogenesis
 - 01056 Microscopy Techniques-Histology and Histochemistry
 - 01058 Microscopy Techniques-Electron Microscopy
 - 34502 Immunology and Immunochimistry-General; Methods
- Biosystematic Codes:
85304 Caudata
- Super Taxa:
Animals; Vertebrates; Nonhuman Vertebrates; Amphibians

0016650070 BIOSIS Number: 82071046
THE PIGMENTARY SYSTEM OF DEVELOPING AXOLOTLS
AMBYSTOMA-MEXICANUM IV. AN ANALYSIS OF THE AXANTHIC PHENOTYPE
FROST S K; EPP L G; ROBINSON S J
CENT. BIOMED. RES. HANWORTH HALL ADDITION, UNIV. KANSAS,
LAWRENCE, KANSAS 66045.
J EMBRYOL EXP MORPHOL 95 (0). 1986. 117-130.
CODEN: JEEMA
Language: ENGLISH
Subfile: BA (Biological Abstracts)
The axanthic mutant in the Mexican axolotl (Ambystoma mexicanum) was analyzed with respect to the differentiation of pigment cells. Transmission electron micrographs revealed the presence of melanophores and cells that are described as

unpigmented xanthophores in axanthic skin. Iridophores apparently failed to differentiate in axanthic axolotls (a pattern similar to that observed in melanoid axolotls). Chromatographic analyses of skin extracts confirmed that there are no pteridines (xanthophore pigments) in axanthic skin, suggesting that the axanthic gene may affect pteridine biosynthesis at some point early in the biosynthetic pathway. Why iridophores fail to differentiate in these animals is not known, but this, too, may be related to an inability to synthesize pigments properly. Xanthophore and iridophore pigments both presumably derive from purine precursors. Finally, all axanthic animals were found to be infected by a virus. Electron microscopic results demonstrated the presence of numerous macrophages in the dermis of the skin, occupying positions typical of pigment cells. The virus was localized primarily in macrophages, but was also observed in pigment cells. The virus is, as yet, uncharacterized but is thought to contribute to the low survivability of axanthic adults.

Descriptors/Keywords: MELANOPHORE VIRAL INFECTION TRANSMISSION ELECTRON MICROSCOPY

Concept Codes:

- *02506 Cytology and Cytochemistry-Animal
 - *03506 Genetics and Cytochemistry-Animal
 - *11108 Anatomy and Histology, General and Comparative-Microscopic and Ultramicroscopic Anatomy
 - *18502 Integumentary System-Anatomy
 - *25502 Developmental Biology-Embryology-General and Descriptive
 - *25508 Developmental Biology-Embryology-Morphogenesis, General
 - *36006 Medical and Clinical Microbiology-Virology
 - 01012 Methods, Materials and Apparatus, General-Photography
 - 01058 Microscopy Techniques-Electron Microscopy
 - 33506 Virology-Animal Host Viruses
- Biosystematic Codes:
85306 Saliientia
- Super Taxa:
Animals; Vertebrates; Nonhuman Vertebrates; Amphibians

0016648454 BIOSIS Number: 82069430
REGENERATION FROM HALF LOWER ARMS IN THE AXOLOTL
AMBYSTOMA-MEXICANUM
WIGMORE P
DEP. ANATOMY, KING'S COLL. LONDON, STRAND, LONDON WC2R 2LS,
UK.
J EMBRYOL EXP MORPHOL 95 (0). 1986. 247-260.
CODEN: JEEMA
Language: ENGLISH
Subfile: BA (Biological Abstracts)
A technique involving grafting of pieces of skin from head onto the limb in order to isolate halves of the limb is described. This technique was used to isolate posterior.
(cont. next page)



008832

DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302;RRM3202 (C.BIOSIS 1987)

anterior, dorsal and ventral halves of the lower arm. All halves produced regenerates but no part of the limb was able to produce a high proportion of regenerates with a complete pattern of skeletal structures. Posterior half stumps regenerated limbs with a mean digit number of 2.7 and had a normal dorsoventral muscle pattern. Anterior half stumps produced a high proportion of single-digit regenerates and had a mean digit number of 1.3. Dorsal and ventral half stumps regenerated limbs with a mean digit number of 2.8 and 2.3, respectively. Hypomorphic regenerates from dorsal and ventral half stumps often had only dorsal or ventral muscle. These results are in contrast to those from the upper arm (Wigmore & Holder, 1985) where a complete skeletal and muscular pattern regenerated from posterior and dorsal halves and hypomorphic regenerates were obtained from anterior and ventral limbs.

Descriptors/Keywords: MUSCLE SKELETON GRAFTING TECHNIQUE

Concept Codes:

- *11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-)
 - *11318 Chordate Body Regions-Extremities (1970-)
 - *17502 Muscle-Anatomy
 - *18002 Bones, Joints, Fasciae, Connective and Adipose Tissue-Anatomy
 - 11104 Anatomy and Histology, General and Comparative-Experimental Anatomy
- Biosystematic Codes:
75304 Coleoptera
- Super Taxa:
Animals; Invertebrates; Arthropods; Insects

0016645794 BIOSIS Number: 31076564
MOLECULES OF THE AXOLOTL MAJOR HISTOCOMPATIBILITY COMPLEX
KAUFMAN J; PARISOT R
BASEL INST. IMMUNOLOGY, CH-4002 BASEL.
18TH ANNUAL MEETING OF THE UNION OF SWISS SOCIETIES OF EXPERIMENTAL BIOLOGY, BASEL, SWITZERLAND, MAR. 20-21, 1986.
EXPERIENTIA (BASEL) 42 (6). 1986. 669. CODEN: EXPEA
Language: ENGLISH
Document Type: CONFERENCE PAPER
Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT AMBYSTOMA-MEXICANUM BLOOD SPLEEN THRYOXIN

Concept Codes:

- *02506 Cytology and Cytochemistry-Animal
- *10506 Biophysics-Molecular Properties and Macromolecules
- *15002 Blood, Blood-Forming Organs and Body Fluids-Blood and Lymph Studies
- *15008 Blood, Blood-Forming Organs and Body Fluids-Lymphatic Tissue and Reticuloendothelial System
- *34508 Immunology and Immunochimistry-Immunopathology, Tissue Immunology
- 00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review

Annals
10064 Biochemical Studies-Proteins, Peptides and Amino Acids

Biosystematic Codes:

- 85304 Caudata
- Super Taxa:
Animals; Vertebrates; Nonhuman Vertebrates; Amphibians

0016623061 BIOSIS Number: 31063485
REGENERATION OF RETINOID-TREATED NORMAL AND DOUBLE HALF AXOLOTL LIMBS HISTOLOGICAL STUDIES

KIM W-S; STOCUM D L
DEP. OF GENETICS AND DEV., UNIV. OF ILL., URBANA, ILL.
NINETY-NINTH ANNUAL MEETING OF THE AMERICAN ASSOCIATION OF ANATOMISTS, RENO, NEV., USA, APR. 6-10, 1986. ANAT REC 214 (3). 1986. 65A. CODEN: ANREA

Language: ENGLISH

Document Type: CONFERENCE PAPER
Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT

Concept Codes:

- *11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-)
- *11318 Chordate Body Regions-Extremities (1970-)
- *12002 Physiology, General and Miscellaneous-General
- *13006 Metabolism-Lipids
- *13016 Metabolism-Fat-Soluble Vitamins
- 00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review
- Annals
- 01056 Microscopy Techniques-Histology and Histochemistry
- 10063 Biochemical Studies-Vitamins
- 10066 Biochemical Studies-Lipids

Biosystematic Codes:

- 85304 Caudata
- Super Taxa:
Animals; Vertebrates; Nonhuman Vertebrates; Amphibians

0016611863 BIOSIS Number: 82051833
THE REGENERATION OF DOUBLE DORSAL AND DOUBLE VENTRAL LIMBS IN THE AXOLOTL AMBYSTOMA-MEXICANUM

BURTON R; HOLDER N; JESANI P
DEVELOPMENTAL BIOL. CENT., UNIV. OF CALIF., IRVINE, CALIF. 92717, USA.

Language: ENGLISH

Subfile: BA (Biological Abstracts)

Surgically made double dorsal and double ventral upper arms, comprising double extensor and double flexor muscles respectively, were amputated immediately following operation; both limb types regenerated. In terms of skeletal anatomy, a
(cont. next page)



DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302;RRM3202 (C.BIOSIS 1987)

range of limb types was found. These included four-digit limbs of normal cartilage pattern, and hypomorphic limbs having from one to three digits. All of the double dorsal and the majority of the double ventral limbs were symmetrical in the dorsal-ventral axis. This was detected by analysing their muscle patterns at carpal and midforearm level, and muscle and epidermal characteristics in the metacarpal region are discussed in terms of the significance of healing time and stump pattern on the regenerative ability of surgically created limb regions.

Descriptors/Keywords: SKELETAL ANATOMY MUSCLE
 Concept Codes:

- *11104 Anatomy and Histology, General and Comparative-Experimental Anatomy
- *11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-)
- *17504 Muscle-Physiology and Biochemistry
- *18004 Bones, Joints, Fasciae, Connective and Adipose Tissue-Physiology and Biochemistry
- *25504 Developmental Biology-Embryology-Experimental
- *25508 Developmental Biology-Embryology-Morphogenesis, General
- 17501 Muscle-General: Methods
- 17502 Muscle-Anatomy
- 18001 Bones, Joints, Fasciae, Connective and Adipose Tissue-General: Methods
- 18002 Bones, Joints, Fasciae, Connective and Adipose Tissue-Anatomy

Biosystematic Codes:
 85304 Caudata
 Super Taxa:
 Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0016609123 BIOSIS Number: 31059201
CONTRIBUTION OF THE CYTOSKELETON TO THE EARLY FORMATION OF THE GRAY CRESCENT IN THE OOCYTE OF THE AXOLOTL RELATIONSHIPS WITH THE RUPTURE OF THE GERMINAL VESICLE
 GAUTIER J.; BEETSCHEN J.-C
 LABORATOIRE BIOLOGIE GENERALE, UA CNRS N 675, UNIVERSITE P. SABATIER, 118 ROUTE NARBONNE, 31062 TOULOUSE CEDEX, FRANCE.
 3RD ANNUAL MEETING OF THE SOCIETE DE BIOLOGIE CELLULAIRE DE FRANCE (FRENCH SOCIETY FOR CELL BIOLOGY), TOULOUSE, FRANCE, SEPT. 25-27, 1985. BIOL CELL 54 (3), 1985 (RECD. 1986). 11A. CODEN: BCELD
 Language: FRENCH
 Document Type: CONFERENCE PAPER
 Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT MICROTUBULE POLYMERIZATION
 Concept Codes:
 *02506 Cytology and Cytochemistry-Animal
 *16504 Reproductive System-Physiology and Biochemistry
 *25508 Developmental Biology-Embryology-Morphogenesis, General

008834

00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annals
 Biosystematic Codes:
 85304 Caudata
 Super Taxa:
 Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0016602790 BIOSIS Number: 31053868
ANALYSIS OF STRUCTURE AND FUNCTIONAL POLARIZATION OF THE INNER EAR OF THE AXOLOTL AMBYSTOMA-MEXICANUM USING SCANNING ELECTRON MICROSCOPY
 HINDUJSA R.; SOTO E.; VEGA R.; BUDELLI R
 DEP. OF SURGERY, UNIV. OF CHICAGO,
 27TH NATIONAL CONGRESS OF PHYSIOLOGICAL SCIENCES, MORELIA, MICHOACAN, MEXICO, JULY 15-19, 1984. BOL ESTUD MED BIOL UNIV NAC AUTON MEX 32 (1-8), 1984-1985. 112. CODEN: BEMBA
 Language: SPANISH
 Document Type: CONFERENCE PAPER
 Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT L THYROXINE METAMORPHOSIS KINOCILIA
 Concept Codes:

- *11108 Anatomy and Histology, General and Comparative-Microscopic and Ultramicroscopic Anatomy
- *20004 Sense Organs, Associated Structures and Functions-Physiology and Biochemistry
- *20504 Nervous System-Physiology and Biochemistry
- *25508 Developmental Biology-Embryology-Morphogenesis, General
- 00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annals
- 01054 Microscopy Techniques-Cytology and Cytochemistry
- 01058 Microscopy Techniques-Electron Microscopy
- 10064 Biochemical Studies-Proteins, Peptides and Amino Acids
- 17018 Endocrine System-Thyroid

Biosystematic Codes:
 85304 Caudata
 Super Taxa:
 Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0016594217 BIOSIS Number: 82043917
EXPRESSION OF DNA LIGASE GENES BY RAM SPERMATID NUCLEI AND RNA IN AMPHIBIAN AMBYSTOMA-MEXICANUM EGGS
 DAVID J C.; LOIR M.; LEFRESNE J.; THIEBAUD P.; SIGNORET J
 LAB. BIOCHIMIE DU DEVELOPPEMENT, L.A. N 256, C.N.R.S., UNIV. RENNES I, CAMPUS DE BEAULIEU, 35042 RENNES CEDEX, FRANCE.
 WILHELM ROUX'S ARCH DEV BIOL 195 (3), 1986. 186-192. CODEN: WRABD
 Language: ENGLISH

(cont. next page)



DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302;RRM3202 (C.BIOSIS 1987)

Subfile: BA (Biological Abstracts)
 During animal development and gametogenesis two DNA ligases are found and successively expressed. In this study the two DNA ligases present in the axolotl egg and the two ligases present during ram sperm cell maturation were distinguished by biochemical and immunological methods. The expression of the genes for the heavy and light ram DNA ligases has been studied using transplantation of spermatid and sperm nuclei in axolotl eggs. We found that ram DNA ligases were expressed in axolotl egg cytoplasm. The exclusion phenomenon between the heavy and light form of DNA ligase is species-specific and involves a cytoplasmic mediator. In the transplanted ram germ cell nuclei the heavy ram DNA ligase expression was found to be sensitive to inhibitors of transcription while the light one was not. When mRNA was used, no exclusion process was observed and both the heavy and light enzyme expression were sensitive to cycloheximide and not to aamanitin. These results are discussed in terms of the possible stability of the gene-regulated state following nuclear transfer.

Descriptors/Keywords: DEVELOPMENT GAMETOGENESIS NUCLEAR TRANSPLANTATION
 Concept Codes:

- *02506 Cytology and Cytochemistry-Animal
- *03506 Genetics and Cytogenetics-Animal
- *10806 Enzymes-Chemical and Physical
- *25508 Developmental Biology-Embryology-Morphogenesis, General
- 10062 Biochemical Studies-Nucleic Acids, Purines and Pyrimidines
- 10064 Biochemical Studies-Proteins, Peptides and Amino Acids
- 11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-)

Biosystematic Codes:
 85304 Caudata
 Super Taxa:
 Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0016592505 BIOSIS Number: 82042205
CYCLIC AMP AND CELL DIFFERENTIATION IN AMPHIBIAN EMBRYONIC EXPLANTS

MATTSSON M-O.; LOVTRUP S
 DEP. ZOOPHYSIOL., UNIV. UMEA, S-901 87 UMEA, SWED.
 EXP CELL BIOL 54 (2), 1986. 106-111. CODEN: ECEBD
 Language: ENGLISH
 Subfile: BA (Biological Abstracts)

Conflicting results have been published concerning the effects of cyclic nucleotides on amphibian cell differentiation. Here we report the effects of cyclic adenosine monophosphate (cAMP) and dibutyl-1-cyclic adenosine monophosphate (db-cAMP) on isolated explants from late blastulae of *Ambystoma mexicanum* and *Xenopus laevis*. Both cAMP and db-cAMP (10⁻⁴-10⁻⁹ M) promote a neutralizing differentiation in *Ambystoma mexicanum* explants, promoting

with the nucleotides (10⁻⁴, 10⁻⁶, 10⁻⁸ M) LiCl or heparan sulphate only give rise to ciliated aggregates or dissociation. The results confirm observations that different amphibian species react in different ways to activating chemicals.

Descriptors/Keywords: AMBYSTOMA-MEXICANUM XENOPUS-LAEVIS CELL REACTIVE VARIABILITY DIBUTYRYL CYCLIC AMP HEPARAN SULFATE
 Concept Codes:

- *02506 Cytology and Cytochemistry-Animal
- *25502 Developmental Biology-Embryology-General and Descriptive
- 10062 Biochemical Studies-Nucleic Acids, Purines and Pyrimidines
- 10068 Biochemical Studies-Carbohydrates
- 32500 Tissue Culture, Apparatus, Methods and Media
- 32600 In Vitro Studies, Cellular and Subcellular

Biosystematic Codes:
 85304 Caudata
 85306 Saliientia
 Super Taxa:
 Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0016582263 BIOSIS Number: 31041995
EVIDENCE THAT RESERVE CELLS ARE A SOURCE OF REGENERATED ADULT NEWT MUSCLE IN-VITRO

CAMERON J A.; HILGERS A R.; HINTERBERGER T J
 DEP. ANAT. SCI., UNIV. ILL., 190 MEDICAL SCI. BLDG., 506 S. MATHEWS, URBANA, ILL. 61801, USA.
 NATURE (LOND) 321 (6070), 1986. 607-610. CODEN: NATUA
 Language: ENGLISH
 Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: NOTOPHTHALMUS-VIRIDESCENS AMBYSTOMA-MACULATUM TRITURUS-VULGARIS TRITURUS-CRISTATUS HYNOBIIUS-TOKYDENSI AMBYSTOMA-MEXICANUM URDELE AMPHIBIAN MUSCLE REGENERATION MYOGENIC POST-SATELLITE CELLS MONOCLONAL ANTIBODY REPAIR MYOGENESIS POST-SATELLITE CELL DNA SYNTHESIS
 Concept Codes:

- *02506 Cytology and Cytochemistry-Animal
- *11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-)
- *17504 Muscle-Physiology and Biochemistry
- 01054 Microscopy Techniques-Cytology and Cytochemistry
- 10062 Biochemical Studies-Nucleic Acids, Purines and Pyrimidines
- 11108 Anatomy and Histology, General and Comparative-Microscopic and Ultramicroscopic Anatomy
- 13014 Metabolism-Nucleic Acids, Purines and Pyrimidines
- 32600 In Vitro Studies, Cellular and Subcellular
- 34502 Immunology and Immunochemistry-General; Methods

Biosystematic Codes:
 (cont. next page)

DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302;RRM3202 (C.BIOSIS 1987)

85304 Caudata
 Super Taxa:
 Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0016573458 BIOSIS Number: 82033259
CALCIUM-INDEPENDENT STIMULATION OF GLYCOGENOLYSIS BY ARGININE VASOTOCIN AND CATECHOLAMINES IN LIVER OF THE AXOLOTL AMBYSTOMA-MEXICANUM IN-VITRO

JANSENS P A; KLEINEKE J; CAINE A G
 DEP. ZOOL., AUST. NATL. UNIV., CANBERRA, ACT. AUST. 2601.
 J ENDOCRINOL 109 (1). 1986. 75-84. CODEN: JOENA

Language: ENGLISH
 Subfile: BA (Biological Abstracts)
 Arginine vasotocin (AVT) caused a concentration-dependent increase of glycogen phosphorylase activity, breakdown of glycogen and release of glucose, when added to pieces of axolotl liver in organ culture. The concentration causing half-maximal response (EC50) was about 1 nmol/l. These actions of AVT were unaffected by the adrenergic antagonists propranolol, yohimbine and prazosin, but were blocked by equimolar amounts of d(CH2)5Tyr(Me)AVT, a synthetic antagonist of vasopressin. Arginine vasotocin similarly caused glycogenolysis in isolated perfused axolotl liver where the EC50 was about 0.1 nmol/l. The glycogenolytic action of AVT (10 nmol/l) was sustained for at least 3 h in Ca2+-free perfusion and longer in organ culture. No increase in Ca2+ concentration in the effluent perfusion medium was apparent during AVT-induced glucose release. Omission of Ca2+ from the medium, together with addition of EGTA (2.5 mmol/l) to the organ culture, had only a slight inhibitory effect upon the rate of glycogenolysis brought about by AVT and did not inhibit the glycogenolytic action of catecholamines. Addition of the calcium ionophore A23187 (5 μmol/l) neither caused glucose release nor abolished the glycogenolytic action of AVT added subsequently. Nevertheless, A23187 caused increased loss of 45Ca from Ca2+-loaded liver pieces whereas AVT was without effect. There was a slight accumulation of cyclic AMP (cAMP), but not cGMP, in axolotl liver pieces cultured in the presence of 0.1 μmol AVT/l and this was accentuated in the presence of phosphodiesterase inhibitors. We conclude that, in contrast to the position in mammals, Ca2+ is not involved in the glycogenolytic actions of AVT or catecholamines in axolotl liver. Preliminary experiments suggest that the same is true in the carp and we suggest that the involvement of Ca2+ in regulation of hepatic glucose release may not have evolved until after the amphibians separated from the ancestors of the mammals.

Descriptors/Keywords: GLYCOGEN PHOSPHORYLASE EVOLUTION
 Concept Codes:
 *01500 Evolution
 *10808 Enzymes-Physiological Studies
 *13004 Metabolism-Carbohydrates
 *14004 Digestive System-Physiology and Biochemistry
 *17014 Endocrine System-Pituitary
 *17020 Endocrine System-Neuroendocrinology (1972-)

008836

*20504 Nervous System-Physiology and Biochemistry
 10064 Biochemical Studies-Proteins, Peptides and Amino Acids
 10068 Biochemical Studies-Carbohydrates
 32600 In Vitro Studies, Cellular and Subcellular
 Biosystematic Codes:
 85304 Caudata
 Super Taxa:
 Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0016570657 BIOSIS Number: 82030458
BEHAVIORAL DEVELOPMENT IN THE ABSENCE OF NEURAL ACTIVITY EFFECTS OF CHRONIC IMMOBILIZATION ON AMPHIBIAN EMBRYOS
 HAVERKAMP L J; OPPENHEIM R W
 DEP. OF NEUROLOGY, BAYLOR COLLEGE OF MEDICINE, 1 BAYLOR PLAZA, HOUSTON, TEXAS 77030.
 J NEUROSCI 6 (5). 1986. 1332-1337. CODEN: JNRSO

Language: ENGLISH
 Subfile: BA (Biological Abstracts)
 Embryos of *Xenopus laevis* and *Ambystoma mexicanum* were continually immobilized from premitotic stages which normally reared embryos were swimming well. Immobilization was achieved through exposure to solutions of chlorotone, lidocaine, or alpha-bungarotoxin. At a number of stages after recovery from the drugs, spontaneous and stimulated behaviors were extensively quantified. Immobilization of *Ambystoma* embryos resulted in temporary defects in musculoskeletal development. In contrast, treated *Xenopus* embryos could not be distinguished from controls by simple visual observation within minutes to hours after removal from the drug solutions. Quantifications of behavior revealed, however, a transient period of 24-48 hr during which treated embryos exhibited consistently reduced measures of stimulated swimming, while showing an increase in frequency of spontaneous movements. Detailed behavioral testing could detect no permanent effects of chronic immobilization in either species after this initial period of recovery. The results are discussed in reference to the classic works of Harrison (1904), Carmichael (1926, 1927), and Mathews and Detwiler (1926).

Descriptors/Keywords: XENOPUS-LAEVIS AMBYSTOMA-MEXICANUM MUSCULOSKELETAL DEVELOPMENT
 Concept Codes:
 *07003 Behavioral Biology-Animal Behavior
 *11104 Anatomy and Histology, General and Comparative-Experimental Anatomy
 *17504 Muscle-Physiology and Biochemistry
 *18001 Bones, Joints, Fasciae, Connective and Adipose Tissue-General; Methods
 *20501 Nervous System-General; Methods
 *20504 Nervous System-Physiology and Biochemistry
 *21001 Psychiatry-General; Medical Psychology and Sociology
 *25502 Developmental Biology-Embryology-General and Descriptive
 (cont. next page)



DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302;RRM3202 (C.BIOSIS 1987)

10060 Biochemical Studies-General
 22501 Toxicology-General: Methods and Experimental
 22504 Toxicology-Pharmacological Toxicology (1972-)

Biosystematic Codes:
 85304 Caudata
 85306 Saliencia

Super Taxa:
 Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0016566343 BIOSIS Number: 31036417
NOISE CHANGES ASSOCIATED WITH THE ACTION OF GLUTAMATE ON RETINAL BIPOLAR CELLS FROM THE SALAMANDER AMBYSTOMA-MEXICANUM

ATTWELL D; MOBBS P; TESSIER-LAVIGNE M; WILSON M
 DEP. OF PHYSIOL., UNIV. COLL. LONDON.
 MEETING OF THE PHYSIOLOGICAL SOCIETY, CAMBRIDGE, ENGLAND.
 SEPT. 12-14, 1985. J PHYSIOL (LOND) 371 (0). 1986. 39P.
 CODEN: JPHYA

Language: ENGLISH
 Document Type: CONFERENCE PAPER
 Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT MEMBRANE POTENTIAL

Concept Codes:
 *02506 Cytology and Cytochemistry-Animal
 *10508 Biophysics-Membrane Phenomena
 *20004 Sense Organs, Associated Structures and Functions-Physiology and Biochemistry
 00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals
 10064 Biochemical Studies-Proteins, Peptides and Amino Acids
 10604 External Effects-Light and Darkness

Biosystematic Codes:
 85304 Caudata

Super Taxa:
 Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0016566339 BIOSIS Number: 31036413
SINGLE POTASSIUM CHANNELS IN MUELLER CELLS OF THE SALAMANDER AMBYSTOMA-MEXICANUM RETINA

ATTWELL D; BREW H; GRAY P; MOBBS P
 DEP. OF PHYSIOL., UNIV. COLL. LONDON.
 MEETING OF THE PHYSIOLOGICAL SOCIETY, CAMBRIDGE, ENGLAND.
 SEPT. 12-14, 1985. J PHYSIOL (LOND) 371 (0). 1986. 35P.
 CODEN: JPHYA

Language: ENGLISH
 Document Type: CONFERENCE PAPER
 Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT CONDUCTANCE

Concept Codes:
 *02506 Cytology and Cytochemistry-Animal
 *10508 Biophysics-Membrane Phenomena
 *13010 Metabolism-Minerals

*20004 Sense Organs, Associated Structures and Functions-Physiology and Biochemistry
 00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals

Biosystematic Codes:
 85304 Caudata

Super Taxa:
 Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0016552150 BIOSIS Number: 82021552
PATTERN DISCONTINUITY POLARITY AND DIRECTIONAL INTERCALATION IN AXOLOTL AMBYSTOMA-MEXICANUM LIMBS

MUNEOKA K; HOLLER-DINSMORE G V; BRYANT S V
 DEV. BIOL. CENTER, UNIV. CALIF., IRVINE, CALIF. 92717, USA.
 J EMBRYOL EXP MORPHOL 93 (0). 1986. 51-72. CODEN: JEEMA
 Language: ENGLISH

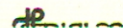
Subfile: BA (Biological Abstracts)
 Axolotl limb stumps with dorsal-ventral confrontations between digits 2 and 3 but with a normal anterior-posterior pattern were created by grafting between contralateral limbs. Graft and host differed in ploidy to permit a determination of the origin of cells in the regenerated limb. After regeneration, limbs were analysed for skeletal and muscle patterns and for the distribution of marked cells in the regenerate. Regenerated limbs showed varying degrees of abnormality in their dorsal-ventral organization. Following regeneration, the original dorsal-ventral discontinuities occurred in a position-dependent manner. Cell marker analysis indicates a relationship between the resolution of discontinuities and the extent to which cells become displaced across the original graft-host interface. These data lend support to the suggestion that circumferential intercalation is directionally biased.

Descriptors/Keywords: CIRCUMFERENTIAL INTERCALATION

Concept Codes:
 *11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-)
 *11318 Chordate Body Regions-Extremities (1970-)
 *25508 Developmental Biology-Embryology-Morphogenesis, General
 02506 Cytology and Cytochemistry-Animal
 11108 Anatomy and Histology, General and Comparative-Microscopic and Ultramicroscopic Anatomy

Biosystematic Codes:
 85304 Caudata

Super Taxa:
 Animals: Vertebrates; Nonhuman Vertebrates; Amphibians



DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302;RRM3202 (C.BIOSIS 1987)

0016532520 BIOSIS Number: 82011879
AN IMMUNOCYTOCHEMICAL STUDY OF REGULATORY PEPTIDES IN THE AMPHIBIAN GASTROINTESTINAL TRACT
 BUCHAN A M J
 REGULATORY PEPTIDE GROUP, DEP. PHYSIOL., UNIV. B.C., VANCOUVER, B.C., CAN.
 CAN J ZOOL 64 (1), 1986, 1-7. CODEN: CUZDA
 Language: ENGLISH
 Subfile: BA (Biological Abstracts)
 Samples from the gastrointestinal tract of two urodele and eight anuran species were investigated by immunocytochemical method for the presence of structures immunoreactive with a range of antisera raised to the mammalian regulatory peptides. The regulatory peptides involved were gastrin, cholecystokinin, motilin, secretin, gastric inhibitory polypeptide, pancreatic glucagon, enteroglucagon, glicentin, neurotensin, somatostatin, pancreatic polypeptide, vasoactive intestinal polypeptide, substance P, Met-enkephalin, bombesin, and beta-endorphin. In the majority of the species investigated, immunoreactive epithelial endocrine cells were demonstrated with the antisera to somatostatin, gastrin, enteroglucagon, and neurotensin. Motilin containing cells were observed in a single species, *Ambystoma mexicanum*. Of the peptides detected within the mammalian innervation, vasoactive intestinal polypeptide, substance P, Met-enkephalin, and beta-endorphin immunoreactive nerve fibres were seen. The distribution of the immunoreactive nerves differed significantly with species. Bombesin immunoreactivity was not seen within the innervation, although a population of endocrine cells was detected within the corpus of several species. No immunoreactivity was observed with the antisera to secretin, inhibitory polypeptide, or pancreatic polypeptide in the species investigated.

Descriptors/Keywords: AMBYSTOMA-MEXICANUM URODELE ANURAN IMMUNOREACTIVE NERVE FIBER ANTISERUM EPITHELIAL ENDOCRINE CELL
 Concept Codes:
 *02506 Cytology and Cytochemistry-Animal
 *10064 Biochemical Studies-Proteins, Peptides and Amino Acids
 *14004 Digestive System-Physiology and Biochemistry
 *17008 Endocrine System-Pancreas
 *17020 Endocrine System-Neuroendocrinology (1972-)
 *20504 Nervous System-Physiology and Biochemistry
 *34502 Immunology and Immunocytochemistry-General: Methods
 10068 Biochemical Studies-Carbohydrates
 15002 Blood, Blood-Forming Organs and Body Fluids-Blood and Lymph Studies
 17002 Endocrine System-General
 17014 Endocrine System-Pituitary
 18504 Integumentary System-Physiology and Biochemistry
 Biosystematic Codes:
 85304 Caudata
 85306 Salientia
 Super Taxa:
 Animals; Vertebrates; Nonhuman Vertebrates; Amphibians

008938

0016524121 BIOSIS Number: 31014329
IDENTIFICATION OF ON-OFF AMACRINE AND GANGLION CELL RESPONSES IN THE AXOLOTL RETINA
 VAN DER VALK J; DVORAK D
 DEP. BEHAVIOURAL BIOLOGY, R.S.B.S., A.N.U., CANBERRA, A.C.T. 2601.
 SIXTH MEETING OF THE AUSTRALIAN NEUROSCIENCE SOCIETY, PERTH, WEST. AUSTR., AUSTRALIA, FEB. 11-13, 1986. NEUROSCI LETT SUPPL 0 (23), 1986, S87. CODEN: NLSUE
 Language: ENGLISH
 Document Type: CONFERENCE PAPER
 Subfile: BARRM (Biological Abstracts/RRM)
 Descriptors/Keywords: ABSTRACT MUDPUPPY
 Concept Codes:
 *02506 Cytology and Cytochemistry-Animal
 *20004 Sense Organs, Associated Structures and Functions-Physiology and Biochemistry
 *20504 Nervous System-Physiology and Biochemistry
 00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals
 10504 Biophysics-General Biophysical Techniques
 Biosystematic Codes:
 85304 Caudata
 Super Taxa:
 Animals; Vertebrates; Nonhuman Vertebrates; Amphibians

0016513221 BIOSIS Number: 82003466
THE PIGMENTARY SYSTEM OF DEVELOPING AXOLOTLS AMBYSTOMA-MEXICANUM III. AN ANALYSIS OF THE ALBINO PHENOTYPE
 FROST S K; EPP L G; ROBINSON S J
 DEP. BIOL., MOUNT UNION COLL., ALLIANCE, OHIO 44601, USA.
 J EMBRYOL EXP MORPHOL 92 (0), 1986, 255-268.
 CODEN: JEEMA
 Language: ENGLISH
 Subfile: BA (Biological Abstracts)
 The albino mutant in the Mexican axolotl (*Ambystoma mexicanum*) is analysed with respect to the differentiation of pigment cells. Pigment cells were observed with the transmission electron microscope in order to determine any unusual structural characteristics and to determine what happens to each of the cell types as development proceeds. Chemical analyses of pteridine pigments were also carried out, and the pattern of pteridines in albino animals was found to be more complex than, and quantitatively enhanced (at all developmental stages examined) over, the pattern observed in comparable wild-type axolotls. The golden colour of albino axolotls is due primarily to sepiapterin (a yellow pteridine) and secondarily to riboflavin (and other flavins). Coincident with enhanced levels of yellow pigments, xanthophore pigment organelles (pterinosomes) in albino skin reach a mature state earlier than they do in wild-type axolotl skin. This morphology is conserved throughout development in albino (cont. next page)



DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302;RRM3202 (C.BIOSIS 1987)

animals whereas it is gradually lost in the wild type. Unpigmented melanophores from albino axolotls are illustrated for the first time, and in larval albino axolotls the morphology of these cells is shown to be very similar to xanthophore morphology. In older albino animals xanthophores are easily distinguished from unpigmented melanophores. Iridophores seem to appear in albino skin at an earlier stage than they have been observed in wild-type skin. Morphologically, wild-type and albino iridophores are identical.

Descriptors/Keywords: PIGMENT CELL DIFFERENTIATION
 Concept Codes:
 *02506 Cytology and Cytochemistry-Animal
 *03506 Genetics and Cytogenetics-Animal
 *11108 Anatomy and Histology, General and Comparative-Microscopic and Ultramicroscopic Anatomy
 *18502 Integumentary System-Anatomy
 *18504 Integumentary System-Physiology and Biochemistry
 *18508 Integumentary System-Pathology
 *25508 Developmental Biology-Embryology-Morphogenesis, General
 01058 Microscopy Techniques-Electron Microscopy
 10060 Biochemical Studies-General
 Biosystematic Codes:
 85304 Caudata
 Super Taxa:
 Animals; Vertebrates; Nonhuman Vertebrates; Amphibians

0016511752 BIOSIS Number: 82001997
MORPHOGENETIC WAVES IN THE DEVELOPMENT OF THE LATERAL MESODERM IN THE MEXICAN AXOLOTL AMBYSTOMA-MEXICANUM AND THEIR RELATIONSHIP TO PRONEPHRIC DUCT MIGRATION
 GILLESPIE L L; ARMSTRONG J B
 DEPARTMENT OF BIOLOGY, UNIVERSITY OF OTTAWA, OTTAWA, CANADA K1N 6N5.
 J EXP ZOOL 237 (3), 1986, 327-338. CODEN: JEZOA
 Language: ENGLISH
 Subfile: BA (Biological Abstracts)
 That portion of the lateral mesoderm capable of supporting migration of the pronephric duct was mapped by transplanting secondary ducts ventral to the primary duct. Ducts transplanted more anterior than the primary duct did not migrate, whereas those transplanted more than 2 somite-widths posterior to the primary duct appeared to be delayed in the onset of migration. These transplants thus define an "active" region that extends approximately from the posterior margin of the last-formed somite to the position of the primary duct tip, about 2 somite-widths anterior. The anterior boundary of the active region coincides with a wave of shape change that passes in a cranio-caudal direction through the lateral mesoderm. In this wave, the mesoderm changes from a two-cell to single-cell layer, and then back to a two-cell layer. The duct tip is always located over the single-cell layer. We also examined the distribution of extracellular matrix (ECM) between the mesoderm and epidermis. The posterior limit of the

ECM was always posterior to the duct tip but did not extend beyond the last-formed somite.

Descriptors/Keywords: SOMITE CRANIOCAUDAL DIRECTION
 EXTRACELLULAR MATRIX TRANSPLANTATION
 Concept Codes:
 *02506 Cytology and Cytochemistry-Animal
 *18504 Integumentary System-Physiology and Biochemistry
 *25504 Developmental Biology-Embryology-Experimental
 *25508 Developmental Biology-Embryology-Morphogenesis, General
 11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-)
 11318 Chordate Body Regions-Extremities (1970-)
 12100 Movement (1971-)
 Biosystematic Codes:
 85304 Caudata
 Super Taxa:
 Animals; Vertebrates; Nonhuman Vertebrates; Amphibians

0016511728 BIOSIS Number: 82001973
RETINOIC-ACID MODIFIES POSITIONAL MEMORY IN THE ANTEROPOSTERIOR AXIS OF REGENERATING AXOLOTL AMBYSTOMA-MEXICANUM LIMBS
 KIM W-S; STOCUM D L
 DEPARTMENT OF BIOCHEMISTRY, ROGER ADAMS LABORATORY, UNIVERSITY OF ILLINOIS, URBANA, ILLINOIS 61801.
 DEV BIOL 114 (1), 1986, 170-179. CODEN: DEBIA
 Language: ENGLISH
 Subfile: BA (Biological Abstracts)
 The effects of retinoic acid (RA) on anteroposterior (AP) positional memory of regenerating axolotl limbs were tested after removing the anterior or posterior half from the zeugopodium (lower arm or leg). RA (150 .mu.g/g body wt) was injected into groups of animals bearing the following types of limbs: (1) anterior and posterior half zeugopodia grafted to the eyesocket and amputated distally 7 days later; (2) unamputated anterior and posterior half zeugopodia in situ; (3) double anterior and double posterior half zeugopodia amputated distally 7 days after their construction; (4) sham-operated zeugopodia amputated distally 7 days after operation. Controls consisted of these four groups injected with the retinoid solvent, dimethyl sulfoxide, or not injected. Control half zeugopodia grafted to the eyesocket regenerated no more than one or two digits. Control unamputated half zeugopodia in situ underwent partial or complete regeneration of the missing half from the proximal and midline wound surfaces exposed during construction of the half zeugopodia. Control double anterior and posterior zeugopodia both regenerated symmetrical, hypomorphic regenerates with 1-3 digits in the double anteriors and 1-6 digits in the double posteriors. Sham-operated controls regenerated normally. Regenerating anterior and posterior (cont. next page)



DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302;RRM3202 (C.BIOSIS 1987)

halves responded differently to RA. RA-treated anterior half zeugopodia in the eyesocket, and anterior half stumps adjacent to the unamputated posterior half zeugopodia in situ both produced regenerates that duplicated stump structures in the proximodistal axis and formed a complete and normal AP pattern. RA-treated double anterior zeugopodia regenerated proximodistal-duplicated pairs of mirror-imaged limbs, each with a complete and normal AP pattern. In contrast, half posterior zeugopodia in the eyesocket, the posterior half stumps of unamputated half anterior zeugopodia in situ, and double posterior zeugopodia all failed to regenerate. These results suggest that RA modifies positional memory in only one direction in the AP axis, posterior.

Descriptors/Keywords: ZEUGOPDIUM

Concept Codes:
 *11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-)
 *25502 Developmental Biology-Embryology-General and Descriptive
 *25508 Developmental Biology-Embryology-Morphogenesis, General
 10063 Biochemical Studies-Vitamins
 10066 Biochemical Studies-Lipids
 13016 Metabolism-Fat-Soluble Vitamins
 Biosystematic Codes:
 85304 Caudata
 Super Taxa:
 Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

001651174 BIOSIS Number: 82001959
 CHANGES IN PATTERNS OF PROTEIN SYNTHESIS IN AXOLOTL AMBYSTOMA-MEXICANUM OOCYTES DURING PROGESTERONE-INDUCED MATURATION

GAUTIER J; TENCER R
 LAB. BIOL. GENERALE, UNITE ASSOCIEE CNRS 04 675, UNIV. PAUL SABATIER, 118 ROUTE NARBONNE, 31062 TOULOUSE CEDEX, FR.
 J EMBRYOL EXP MORPHOL 92 (0), 1986, 103-114.
 CODEN: JEEMA
 Language: ENGLISH
 Subfile: BA (Biological Abstracts)
 Patterns of protein phosphorylation and synthesis during axolotl (Ambystoma mexicanum) oocyte maturation were studied by incorporation of [32P]orthophosphate and [35S]methionine into polypeptides, followed by two-dimensional gel electrophoresis. Various alterations were observed after progesterone treatment: de novo appearance of [35S]methionine-labelled polypeptides, a quantitative increase in previously synthesized proteins and a quantitative decrease in or disappearance of other previously synthesized proteins. Changes in 32P- and 35S-labeling were observed very early during maturation. Neither prior oocyte enucleation nor alpha-amanitin treatment had a significant effect on these changes. Stimulation with MPF provided the same final protein pattern as PG treatment. However, cholera toxin inhibited all

008840

the changes seen during maturation. Comparisons between the patterns of [35S]methionine- and [32P]phosphate-labelling provide further information on the biochemical events that take place during oocyte maturation.

Concept Codes:
 *02506 Cytology and Cytochemistry-Animal
 *13012 Metabolism-Proteins, Peptides and Amino Acids
 *17006 Endocrine System-Gonads and Placenta
 *25502 Developmental Biology-Embryology-General and Descriptive
 *25508 Developmental Biology-Embryology-Morphogenesis, General
 06504 Radiation-Radiation and Isotope Techniques
 10064 Biochemical Studies-Proteins, Peptides and Amino Acids
 10067 Biochemical Studies-Sterols and Steroids
 10069 Biochemical Studies-Minerals
 13010 Metabolism-Minerals
 Biosystematic Codes:
 85304 Caudata
 Super Taxa:
 Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

001650349 BIOSIS Number: 31003419
 GLIAL GROWTH FACTOR AND THE NEURONAL CONTROL OF CELL DIVISION IN AMPHIBIAN LIMB REGENERATION

KINTNER C R; LEMKE G E; BROCKES J P
 MRC CELL BIOPHYSIC UNIT, 26 DRURY LANE, LONDON WC2B 5RL, ENGLAND.
 EDELMAN, G. M., W. E. GALL AND W. M. COWAN (ED.).
 NEUROSCIENCE INSTITUTE PUBLICATION SERIES. MOLECULAR BASES OF NEURAL DEVELOPMENT. X-606P. JOHN WILEY AND SONS, INC. NEW YORK, N.Y., USA; CHICHESTER, ENGLAND, ILLUS. ISBN 0-471-91561-6. Q (0), 1985, 119-138. CODEN: NIPSE
 Language: ENGLISH
 Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: NEWT AXOLOTL PITUITARY GLAND MOLECULAR WEIGHT BLASTEMA CELL SCHWANN CELL

Concept Codes:
 *02506 Cytology and Cytochemistry-Animal
 *10506 Biophysics-Molecular Properties and Macromolecules
 *11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-)
 *17014 Endocrine System-Pituitary
 *20504 Nervous System-Physiology and Biochemistry
 *25508 Developmental Biology-Embryology-Morphogenesis, General
 10064 Biochemical Studies-Proteins, Peptides and Amino Acids
 11318 Chordata Body Regions-Extremities (1970-)
 Biosystematic Codes:
 (cont. next page)



DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302;RRM3202 (C.BIOSIS 1987)

85304 Caudata
 Super Taxa:
 Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0016231941 BIOSIS Number: 81113949
 PROMOTION OF CHROMATOPHORE DIFFERENTIATION IN ISOLATED PREMIGRATORY NEURAL CREST CELLS BY EXTRACELLULAR MATERIAL EXPLANTED ON MICROCARRIERS
 PERRIS R; LOFBERG J
 DEP. ZOOLOGY, UPPSALA UNIV., BOX 561, S-751-22 UPPSALA, SWEDEN.

DEV BIOL 113 (2), 1986, 327-341. CODEN: DEBIA
 Language: ENGLISH
 Subfile: BA (Biological Abstracts)
 This study was undertaken to determine whether premigratory neural crest cells of the axolotl embryo differentiate autonomously into chromatophores, or whether stimuli from the environment, particularly from the extracellular matrix, are required for this process. Neural crest cells were excised from the dorsal part of the premigratory crest cord and cultured alone, either in a serum-free salt solution or in the presence of fetal calf serum (FCS), and together with explants of the neural tube or dorsal epidermis. A "microcarrier" technique was developed to assay the possible effects of subepidermal extracellular matrix (ECM) on chromatophore differentiation. ECM was adsorbed in vivo onto microcarriers, prepared from Nucleopore filters, by inserting such carriers under the dorsolateral epidermis in the embryonic trunk. Neural crest cells were then cultured on the substrate of ECM deposited on the carriers. Melanophores were detected by DOPA incubation, revealing phenol oxidase activity, or by externally visible accumulation of melanin. Prospective xanthophores were visualized before they became overtly differentiated by alkali-induced pteridine fluorescence. Isolated premigratory neural crest cells did not transform autonomously into any of these phenotypes. Conversely, coculture with the neural tube or the dorsal epidermis, and also the initial presence or later addition of FCS during incubation, resulted in differentiation of neural crest cells into chromatophores. Both chromatophore phenotypes were also expressed on the ECM substrate deposited on the microcarriers. The results indicate that neural crest cells do not differentiate autonomously into melanophores and xanthophores, but that interactions with components of, or factors associated with the extracellular matrix surrounding the premigratory neural crest and present along the dorsolateral migratory pathway are crucial for the expression of these chromatophore phenotypes in the embryo.

Descriptors/Keywords: AMBYSTOMA-MEXICANUM PHENOL OXIDASE DORSOLATERAL MIGRATORY PATHWAY

Concept Codes:
 *02506 Cytology and Cytochemistry-Animal
 *10808 Enzymes-Physiological Studies
 *12100 Movement (1971-)
 *20504 Nervous System-Physiology and Biochemistry

*25508 Developmental Biology-Embryology-Morphogenesis, General
 01054 Microscopy Techniques-Cytology and Cytochemistry
 10060 Biochemical Studies-General
 10504 Biophysics-General Biophysical Techniques

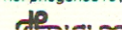
Biosystematic Codes:
 85302 Apoda
 Super Taxa:
 Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0016231741 BIOSIS Number: 81113749
 THE PRECISION OF PATHWAY SELECTION BY DEVELOPING PERIPHERAL AXONS IN THE AXOLOTL

FREEMAN J M; DAVEY D F
 DEP. PHYSIOLOGY, UNIV. SYDNEY, NSW 2006, AUST.
 J EMBRYOL EXP MORPHOL 91 (0), 1986, 117-134.
 CODEN: JEEMA
 Language: ENGLISH
 Subfile: BA (Biological Abstracts)
 At the time of hindlimb development in the axolotl there is a well-established but still developing trunk innervation. The trunk innervation is primarily composed of the segmental nerves, each of which consists of a dorsal and a ventral ramus and its branches. At a few segmental levels in the region of the hindlimb a large number of additional axons arise to innervate the limb. To reach the limb, they must grow via the ventral rather than the dorsal rami. The precision with which this pathway is selected was determined by counting axons in the dorsal and ventral rami at limb segmental levels, prior to and during the period of maximum axon proliferation. If outgrowth is highly directed rather than random, then the ratio of ventral/dorsal ramus axons should increase significantly during the period when large numbers of additional axons are produced. In addition, since the dorsal trunk varies little in size between limb segments and immediately caudal 'non-limb' segments, the number of axons in the dorsal rami can be compared at the two levels. Mistaken projections should result in inordinately large axon numbers in dorsal rami at limb compared to non-limb levels. The results show that there is approximately a tenfold increase in the ratio of ventral/dorsal ramus axons at the time of maximum outgrowth to the limb, thus the mode of distribution at the ventral-dorsal branch point is significantly altered in favor of growth toward the limb, and outgrowth appears to be highly directed rather than random. Moreover at this time there is no discernible increase in the number of dorsal ramus axons at limb levels while those at non-limb levels increase fourfold. The apparent growth of all axons into the ventral ramus suggests the presence of a strong, non-specific attraction.

Descriptors/Keywords: SEGMENTAL NERVE

Concept Codes:
 *20502 Nervous System-Anatomy
 *25508 Developmental Biology-Embryology-Morphogenesis, General
 (cont. next page)



DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN 8A8302;RRM3202 (C.BIOSIS 1987)

General
Biosystematic Codes:
85306 Salientia
Super Taxa:
Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0016225975 BIOSIS Number: 81107983
COMPARISON OF THE EFFECTS OF VITAMIN A ON LIMB DEVELOPMENT AND REGENERATION IN THE AXOLOTL AMBYSTOMA-MEXICANUM
SCADDING S R; MADEN M
DEP. ZOOLOGY, UNIV. GUELPH, GUELPH, ONT. N1G 2W1, CAN.
J EMBRYOL EXP MORPHOL 91 (0). 1986. 19-34. CODEN: JEEMA

Language: ENGLISH
Subfile: BA (Biological Abstracts)
The objective of this investigation was to compare the effect of vitamin A on limb development and limb regeneration in the same animal, at the same time, thus eliminating the possibility that species differences or different rates of uptake between animals would influence the results. Axolotl larvae had both right limbs amputated and then were treated with retinol palmitate by immersion at 60 or 300 mg/l for 4 or 10 days. Intact left developing limbs at the cone, two-digit, or four-digit stages responded to the treatment by deletion of skeletal elements producing hypomorphic limbs. Severity of the deletions was correlated with higher dose, longer times, and earlier stages of limb development. In contralateral right regenerating limbs, the effect of the same treatment was to cause various degrees of proximodistal duplication as well as occasional hypomorphic regenerates. Thus, there is a marked difference in response to vitamin A between developing and regenerating limbs. The implications of this observation are discussed especially with respect to the underlying morphogenetic mechanisms.

Concept Codes:
*10063 Biochemical Studies-Vitamins
*11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-)
*25508 Developmental Biology-Embryology-Morphogenesis, General
11318 Chordate Body Regions-Extremities (1970-)

Biosystematic Codes:
85304 Caudata
Super Taxa:
Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0016208632 BIOSIS Number: 81099932
A QUANTITATIVE ANALYSIS OF REGENERATION FROM CHIMERIC LIMB STUMPS IN THE AXOLOTL AMBYSTOMA-MEXICANUM
MUNEOKA K; HOLLER-DINSMORE G V; BRYANT S V
DEVELOPMENTAL BIOL. CENT., UNIV. CALIFORNIA, IRVINE, CALIF. 92717, USA.
J EMBRYOL EXP MORPHOL 90 (0). 1985 (RECD. 1986). 1-12.
CODEN: JEEMA

008842

Language: ENGLISH
Subfile: BA (Biological Abstracts)
We have analysed the cellular contribution and cellular displacement which occur during regeneration from chimeric (half triploid, half diploid) lower arms in the axolotl. In general both anterior and posterior halves contribute approximately 50% of the regenerated limb cells. Deviations from equal contribution were observed only when anterior tissue was grafted, suggesting that anterior tissue is more sensitive to grafting operations. Approximately 25% of all cells in the regenerated limb were found to be displaced to the opposite side of the limb. Cellular displacement was not random; 63% of all displaced cells were found in regions adjacent to the tissue of origin.

Descriptors/Keywords: CELLULAR DISPLACEMENT
Concept Codes:
*02506 Cytology and Cytochemistry-Animal
*11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-)
*25508 Developmental Biology-Embryology-Morphogenesis, General
11318 Chordate Body Regions-Extremities (1970-)
Biosystematic Codes:
85304 Caudata
Super Taxa:
Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0016201687 BIOSIS Number: 30103767
THE AMPHIBIAN MAUTHNER CELL IS DETERMINED DURING VERY EARLY NEURULATION
SCHLENOFF D H; MODEL P G
DEP. NEUROSCI., ALBERT EINSTEIN COLL. MED., BRONX, N.Y. 10461.

15TH ANNUAL MEETING OF THE SOCIETY FOR NEUROSCIENCE, PART 2, DALLAS, TEX., USA, OCT. 20-25, 1985. SOC NEUROSCI ABSTR 11 (2). 1985. 1062. CODEN: ASNEE
Language: ENGLISH
Document Type: CONFERENCE PAPER
Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT AXOLOTL EMBRYO NEURON DEVELOPMENT
Concept Codes:
*02506 Cytology and Cytochemistry-Animal
*20504 Nervous System-Physiology and Biochemistry
*25502 Developmental Biology-Embryology-General and Descriptive
*25508 Developmental Biology-Embryology-Morphogenesis, General
00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals
(cont. next page)



DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN 8A8302;RRM3202 (C.BIOSIS 1987)

Biosystematic Codes:
85304 Caudata
Super Taxa:
Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0016194405 BIOSIS Number: 30096485
EVIDENCE FOR THE ROLE OF FIBRONECTIN IN AMPHIBIAN GASTRULATION
BOUCAUT J C; DARRIBERE T; LI S D; BOULEKBACHE H; YAMADA K M; THIERY J P
LAB. BIOL. EXP., U.A. 1135 CNRS, UNIV. RENE DESCARTES 45, RUE DES SAINTS-PERES, 75270 PARIS CEDEX 06, FR.
MEETING ON EARLY AMPHIBIAN DEVELOPMENT HELD BY THE BRITISH SOCIETY FOR DEVELOPMENTAL BIOLOGY, GLASGOW, ENGLAND, MAR. 25-26, 1985. J EMBRYOL EXP MORPHOL 89 (SUPPL.). 1985 (RECD. 1985). 211-228. CODEN: JEEMA

Language: ENGLISH
Subfile: BARRM (Biological Abstracts/RRM)
Descriptors/Keywords: PLEURODELES-WALTLII AMBYSTOMA-MEXICANUM BLASTOCOEL CAVITY MESODERMAL CELL MIGRATION ECTODERM INVERSION CELL BINDING SITE

Concept Codes:
*02506 Cytology and Cytochemistry-Animal
*13004 Metabolism-Carbohydrates
*13012 Metabolism-Proteins, Peptides and Amino Acids
*25502 Developmental Biology-Embryology-General and Descriptive
*25508 Developmental Biology-Embryology-Morphogenesis, General
00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals
10064 Biochemical Studies-Proteins, Peptides and Amino Acids
10068 Biochemical Studies-Carbohydrates

Biosystematic Codes:
85304 Caudata
Super Taxa:
Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0016194401 BIOSIS Number: 30096481
REGIONAL SPECIFICITY OF GLYCOCONJUGATES IN XENOPUS AND AXOLOTL EMBRYOS
SLACK J M W; CLEINE J H; SMITH J C
IMPERIAL CANCER RES. FUND, MILL HILL LAB., LONDON NW7 1AD, UK.
MEETING ON EARLY AMPHIBIAN DEVELOPMENT HELD BY THE BRITISH SOCIETY FOR DEVELOPMENTAL BIOLOGY, GLASGOW, ENGLAND, MAR. 25-26, 1985. J EMBRYOL EXP MORPHOL 89 (SUPPL.). 1985 (RECD. 1986). 137-154. CODEN: JEEMA

Language: ENGLISH
Subfile: BARRM (Biological Abstracts/RRM)
Descriptors/Keywords: XENOPUS-LAEVIS PROTEOGLYCAN GLYCOTIID

GLYCOPROTEIN NEURAL INDUCTION MESODERM MOSAICISM
GASTRULATION
Concept Codes:
*02506 Cytology and Cytochemistry-Animal
*13004 Metabolism-Carbohydrates
*13006 Metabolism-Lipids
*13012 Metabolism-Proteins, Peptides and Amino Acids
*25502 Developmental Biology-Embryology-General and Descriptive
*25508 Developmental Biology-Embryology-Morphogenesis, General
00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals
10064 Biochemical Studies-Proteins, Peptides and Amino Acids
10066 Biochemical Studies-Lipids
10068 Biochemical Studies-Carbohydrates
34502 Immunology and Immunocytochemistry-General; Methods
Biosystematic Codes:
85304 Caudata
85306 Salientia
Super Taxa:
Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0016194396 BIOSIS Number: 30096476
TOWARDS UNDERSTANDING PATERNAL EXTRAGENIC CONTRIBUTIONS TO EARLY AMPHIBIAN PATTERN SPECIFICATION THE AXOLOTL AMBYSTOMA-MEXICANUM TS-1 GENE AS A MODEL SYSTEM
MALACINSKI G M; BARNE D
PROGRAM MOLECULAR CELL DEV. BIOL., INDIANA UNIV., BLOOMINGTON, INDIANA 47405, USA.
MEETING ON EARLY AMPHIBIAN DEVELOPMENT HELD BY THE BRITISH SOCIETY FOR DEVELOPMENTAL BIOLOGY, GLASGOW, ENGLAND, MAR. 25-26, 1985. J EMBRYOL EXP MORPHOL 89 (SUPPL.). 1985 (RECD. 1986). 53-68. CODEN: JEEMA

Language: ENGLISH
Subfile: BARRM (Biological Abstracts/RRM)
Descriptors/Keywords: SPERM EGG PHENOTYPE MUTATION
Concept Codes:
*02506 Cytology and Cytochemistry-Animal
*02506 Genetics and Cytogenetics-Animal
*18504 Reproductive System-Physiology and Biochemistry
*25502 Developmental Biology-Embryology-General and Descriptive
*25508 Developmental Biology-Embryology-Morphogenesis, General
Biosystematic Codes:
85304 Caudata
Super Taxa:
Animals: Vertebrates; Nonhuman Vertebrates; Amphibians



DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302;RRM3202 (C.BIOSIS 1987)

0016193151 BIOSIS Number: 30095231
SELECTIVE REINNERVATION OF AXOLOTL LIMB MUSCLES
WIGSTON D J
PHYSIOLOGY DEPARTMENT, EMORY UNIVERSITY, ATLANTA, GA.
30322.
15TH ANNUAL MEETING OF THE SOCIETY FOR NEUROSCIENCE, PART 2,
DALLAS, TEX., USA, OCT. 20-25, 1985. SOC NEUROSCI ABSTR 11
(2), 1985. 976. CODEN: ASNEE
Language: ENGLISH
Document Type: CONFERENCE PAPER
Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT REGENERATION MOTONEURONS
Concept Codes:
*11107 Anatomy and Histology, General and
Comparative-Regeneration and Transplantation (1971-
)
*17504 Muscle-Physiology and Biochemistry
*20504 Nervous System-Physiology and Biochemistry
00520 General Biology-Symposia, Transactions and
Proceedings of Conferences, Congresses, Review
Annals
Biosystematic Codes:
85304 Caudata
Super Taxa:
Animals: Vertebrates: Nonhuman Vertebrates: Amphibians

0016193037 BIOSIS Number: 30095117
THE EFFECT OF TRANSSYNAPTIC STIMULATION ON THE MORPHOGENESIS
OF THE AMPHIBIAN AMBYSTOMA-MEXICANUM MAUTHNER CELL
GOODMAN L A; MODEL P G
DEP. NEUROSCIENCE, ALBERT EINSTEIN COLL. MED., BRONX, NY
10461.
15TH ANNUAL MEETING OF THE SOCIETY FOR NEUROSCIENCE, PART 2,
DALLAS, TEX., USA, OCT. 20-25, 1985. SOC NEUROSCI ABSTR 11
(2), 1985. 946. CODEN: ASNEE
Language: ENGLISH
Document Type: CONFERENCE PAPER
Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT SUPERINNERVATION DENDRITIC
BRANCHING PATTERN REGULATION
Concept Codes:
*02506 Cytology and Cytochemistry-Animal
*17020 Endocrine System-Neuroendocrinology (1972-)
*20504 Nervous System-Physiology and Biochemistry
*25508 Developmental Biology-Embryology-Morphogenesis,
General
00520 General Biology-Symposia, Transactions and
Proceedings of Conferences, Congresses, Review
Annals
Biosystematic Codes:
85304 Caudata
Super Taxa:
Animals: Vertebrates: Nonhuman Vertebrates: Amphibians

008844

0016192029 BIOSIS Number: 30094109
ELECTROPHYSIOLOGY OF THE MUELLER CELL NETWORK IN THE
ISOLATED AXOLOTL RETINA
ATTWELL D; BREW H; MOBBS P
DEP. PHYSIOL., UNIV. COLL. LOND., GOWER ST., LONDON WC1 6BT.
MEETING OF THE PHYSIOLOGICAL SOCIETY AND THE SOCIETA
ITALIANA DI FISIOLOGIA (ITALIAN PHYSIOLOGICAL SOCIETY), OXFORD
MEETING, JULY 11-13, 1985. J PHYSIOL (LOND) 369 (O), 1985.
33P. CODEN: JPHYA
Language: ENGLISH
Document Type: CONFERENCE PAPER
Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT EXTRACELLULAR POTASSIUM
VITREOUS FLUID GLIAL CELL RESTING POTENTIAL
Concept Codes:
*02506 Cytology and Cytochemistry-Animal
*13010 Metabolism-Minerals
*15010 Blood, Blood-Forming Organs and Body Fluids-Other
Body Fluids
*20004 Sense Organs, Associated Structures and
Functions-Physiology and Biochemistry
*20504 Nervous System-Physiology and Biochemistry
00520 General Biology-Symposia, Transactions and
Proceedings of Conferences, Congresses, Review
Annals
10069 Biochemical Studies-Minerals
10504 Biophysics-General Biophysical Techniques
10610 External Effects-Electric, Magnetic and Gravitational
Phenomena
20001 Sense Organs, Associated Structures and
Functions-General: Methods
20501 Nervous System-General: Methods
Biosystematic Codes:
85304 Caudata
Super Taxa:
Animals: Vertebrates: Nonhuman Vertebrates: Amphibians

0016176946 BIOSIS Number: 81087362
AN AUTORADIOGRAPHIC ASSAY OF RETINAL GROWTH IN ADULT
AMPHIBIANS
SVISTUNOV S A; MITASHOV V I
N. K. KOLTISOV INST. DEV. BIOL., ACAD. SCI. USSR, MOSCOW,
USSR.
ONTOGENEZ 16 (5), 1985. 474-482. CODEN: ONGZA
Language: RUSSIAN
Subfile: BA (Biological Abstracts)
The retinal growth was studied in adult amphibians (*Triturus
vulgaris*, *Ambystoma mexicanum*, *Xenopus laevis*) during six
months using repeated ³H-thymidine injections. The retinal
terminal zone was shown to be a source of the retina
population with new cells; the labelled cells were gradually
displaced from the growth zone to the retina differentiated
layers; the most intensively labelled cells occupied the
(cont. next page)



DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302;RRM3202 (C.BIOSIS 1987)

distal position with reference to the rest labelled cells
indicating, thus, a boundary between the initial, free of
labelled nuclei, and the added parts of retina. The level of
proliferation activity of the terminal zone cells in species
specific and drops in a sequence: *A. mexicanum* larvae sbd.X,
laevis.sbd.T, *vulgaris*.sbd.A, *mexicanum*. One more growth zone
of retina was found in the region of nonclosed embryonic slit
in *A. mexicanum*. The results obtained provide grounds for
regeneration potencies of the eye tissues revealed earlier in
these species.

Descriptors/Keywords: TRITURUS-VULGARIS AMBYSTOMA-MEXICANUM
XENOPUS-LAEVIS TRITIATED THYMIDINE CELLULAR DIFFERENTIATION
REGENERATION LARVAL DEVELOPMENT
Concept Codes:
*11106 Anatomy and Histology, General and
Comparative-Radiologic Anatomy
*11107 Anatomy and Histology, General and
Comparative-Regeneration and Transplantation (1971-
)
*13014 Metabolism-Nucleic Acids, Purines and Pyrimidines
*20001 Sense Organs, Associated Structures and
Functions-General: Methods
*20004 Sense Organs, Associated Structures and
Functions-Physiology and Biochemistry
*25508 Developmental Biology-Embryology-Morphogenesis,
General
01012 Methods, Materials and Apparatus,
General-Photography
06504 Radiation-Radiation and Isotope Techniques
10052 Biochemical Methods-Nucleic Acids, Purines and
Pyrimidines
10082 Biochemical Studies-Nucleic Acids, Purines and
Pyrimidines
20006 Sense Organs, Associated Structures and
Functions-Pathology
25502 Developmental Biology-Embryology-General and
Descriptive
Biosystematic Codes:
85304 Caudata
85306 Salientia
Super Taxa:
Animals: Vertebrates: Nonhuman Vertebrates: Amphibians

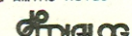
0016176701 BIOSIS Number: 81087117
SCANNING ELECTRON MICROSCOPIC STUDY OF SPERM PENETRATION IN
POLYSPERMIC URODELE AMPHIBIAN AMBYSTOMA-MEXICANUM EGGS
CHUNG H-M; MALACINSKI G M
DEP. BIOLOGY, SEOUL NATIONAL UNIV., KOREA.
KOREAN J ZOOL 28 (1), 1985 (RECD. 1986). 1-8.
CODEN: TOHJA
Language: ENGLISH
Subfile: BA (Biological Abstracts)
A series of observation on sperm penetration in urodele
(*Ambystoma mexicanum*) eggs are reported. The whole sperm

can be demonstrated that the *Ambystoma mexicanum* egg is
typically polyspermic. Each sperm penetration point is marked
by a distinct crater on the egg surface the so called sperm
pit. Initially, no sign of disruption in the surface structure
observed. Once sperm penetration was complete, the site of
entry became covered with long microvilli.

Concept Codes:
*02506 Cytology and Cytochemistry-Animal
*11108 Anatomy and Histology, General and
Comparative-Microscopic and Ultramicroscopic Anatomy
*16504 Reproductive System-Physiology and Biochemistry
01054 Microscopy Techniques-Cytology and Cytochemistry
Biosystematic Codes:
85304 Caudata
Super Taxa:
Animals: Vertebrates: Nonhuman Vertebrates: Amphibians

0016151743 BIOSIS Number: 81071454
GLUCAGON AND INSULIN REGULATE IN-VITRO HEPATIC
GLYCOGENOLYSIS IN THE AXOLOTL AMBYSTOMA-MEXICANUM VIA CHANGES
IN TISSUE CYCLIC AMP CONCENTRATION
JANSSENS P A; MAHER F
DEP. ZOOLOGY, AUSTRALIAN NATIONAL UNIV., GPO BOX 4,
CANBERRA, ACT 2600, AUSTRALIA.
GEN COMP ENDOCRINOL 61 (1), 1986. 64-70. CODEN: GCENA
Language: ENGLISH
Subfile: BA (Biological Abstracts)
Glucagon increases the rate of glycogenolysis in in vitro
cultures of hepatic tissue from the axolotl *Ambystoma
mexicanum*. The hormone causes an increase in the concentration
of cyclic AMP in the tissue which is followed by activation of
glycogen phosphorylase and subsequent breakdown of glycogen
and release of glucose from the tissue. Insulin counteracts
the glycogenolytic effect of glucagon by inhibiting the
increase in tissue cyclic AMP concentration brought about by
glucagon. This inhibitory effect of insulin is not seen in the
presence of the phosphodiesterase inhibitor IBMX and so it
appears that the initial action of insulin is a stimulation of
cyclic AMP phosphodiesterase activity which lowers the tissue
concentration of cyclic AMP and so counters the actions of
hormones that act by raising the tissue concentration of
cyclic AMP. This model for the mode of action of insulin is
supported by the finding that insulin also interferes with the
glycogenolytic actions of adrenaline, a second hormone which
acts by raising tissue cyclic AMP concentrations.

Descriptors/Keywords: EPINEPHRINE GLYCOGEN PHOSPHORYLASE
Concept Codes:
*10064 Biochemical Studies-Proteins, Peptides and Amino
Acids
*10808 Enzymes-Physiological Studies
*12004 Metabolism-Carbohydrates
*13012 Metabolism-Proteins, Peptides and Amino Acids
(cont. next page)



DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302;RRM3202 (C.BIOSIS 1987)

*13014 Metabolism-Nucleic Acids, Purines and Pyrimidines
*14004 Digestive System-Physiology and Biochemistry
*17002 Endocrine System-General
*17008 Endocrine System-Pancreas
*17020 Endocrine System-Neuroendocrinology (1972-)
*20504 Nervous System-Physiology and Biochemistry
*22003 Pharmacology-Drug Metabolism; Metabolic Stimulators
*22014 Pharmacology-Digestive System
*22016 Pharmacology-Endocrine System
10062 Biochemical Studies-Nucleic Acids, Purines and Pyrimidines
10068 Biochemical Studies-Carbohydrates
32500 Tissue Culture, Apparatus, Methods and Media
Biosystematic Codes:
85304 Caudata
Super Taxa:
Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0016147471 BIOSIS Number: 30078927
AMPHIBIAN LIMB REGENERATION CURVES GENERATED BY THE SCANNING LASER ACOUSTIC MICROSCOPE
SLOBIN J A; STOCUM D L; O'BRIEN W D JR
BIOACOUSTICS RES. LAB., DEPT. ELECTRICAL COMPUTER
ENGINEERING, UNIV. ILL., 1406 W. GREEN ST., URBANA, IL 61801.
36TH ANNUAL MEETING OF THE HISTOCHEMICAL SOCIETY, CRYSTAL
CITY, VA., USA, MAY 3-5, 1985. J HISTOCHEM CYTOCHEM 34 (1).
1985. 53-56. CODEN: JHCVA
Language: ENGLISH
Document Type: CONFERENCE PAPER
Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT AXOLOTL EPIDERMIS BONE
CARTILAGE MUSCLE DERMIS LIMB GROWTH
Concept Codes:
*00530 General Biology-Information, Documentation, Retrieval
and Computer Applications
*01052 Microscopy Techniques-General and Special Techniques
*06504 Radiation-Radiation and Isotope Techniques
*11107 Anatomy and Histology, General and
Comparative-Regeneration and Transplantation (1971-
)
*11318 Chordata Body Regions-Extremities (1970-)
*17504 Muscle-Physiology and Biochemistry
*18004 Bones, Joints, Fasciae, Connective and Adipose
Tissue-Physiology and Biochemistry
*18504 Integumentary System-Physiology and Biochemistry
*25508 Developmental Biology-Embryology-Morphogenesis,
General
00520 General Biology-Symposia, Transactions and
Proceedings of Conferences, Congresses, Review
Annuals
06502 Radiation-General
10504 Biophysics-General Biophysical Techniques
Biosystematic Codes:
85304 Caudata
Super Taxa:

008846

Animals: Vertebrates; Nonhuman Vertebrates; Amphibians
0016145358 BIOSIS Number: 30076814
HAIR CELLS IN THE LATERAL-LINE ARE TROPICALLY DEPENDENT ON INNERVATION BOTH FOR MAINTENANCE AND FOR REGENERATION
BORDEN P C; CORWIN J T
DEP. ZOOL., UNIV. HAWAII, HONOLULU, HAWAII 96822, USA.
15TH ANNUAL MEETING OF THE SOCIETY FOR NEUROSCIENCE, PART 1,
DALLAS, TEX., USA, OCT. 20-25, 1985. SOC NEUROSCI ABSTR 11
(1). 1985. 270. CODEN: ASNEE
Language: ENGLISH
Document Type: CONFERENCE PAPER
Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT AMBYSTOMA-MEXICANUM NERVE
TRANSECTION TAIL AMPUTATION POST-OPERATIVE SURVIVAL
Concept Codes:
*02506 Cytology and Cytochemistry-Animal
*11107 Anatomy and Histology, General and
Comparative-Regeneration and Transplantation (1971-
)
*18504 Integumentary System-Physiology and Biochemistry
*20504 Nervous System-Physiology and Biochemistry
00520 General Biology-Symposia, Transactions and
Proceedings of Conferences, Congresses, Review
Annuals
11105 Anatomy and Histology, General and
Comparative-Surgery
20501 Nervous System-General; Methods
Biosystematic Codes:
85304 Caudata
Super Taxa:
Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0016131668 BIOSIS Number: 81060684
EMBRYONIC INDUCTION AND CATION CONCENTRATIONS IN AMPHIBIAN EMBRYOS
SIEGEL G; GRUNZ H; GRUNDMANN U; TIEDEMANN H; TIEDEMANN H
INSTITUTE OF PHYSIOLOGY, BIOPHYSICAL RESEARCH GROUP, FREE
UNIVERSITY OF BERLIN, D-1000 BERLIN, 33 FRG.
CELL DIFFER 17 (4). 1985. 209-220. CODEN: CLDFA
Language: ENGLISH
Subfile: BA (Biological Abstracts)
Explanted ectoderm from early gastrulae of Triturus
alpestris was treated with the Na-K ionophore gramicidin (10-9
to 10-5 M) and the Ca-ionophore A 23187 (10-7 to 10-5 M). The
ectoderm developed almost exclusively to atypical epidermis as
in the control explants. When the ectoderm was treated with
ouabain (10-4 M), intracellular Na+ increased about 4.4-fold
and K+ was reduced by half. Mesenchyme cells in a small number
differentiated in about 40% of the ouabain-treated explants.
The time course of total Na+ and K+ ion concentrations was
measured over a period of 72 h in ectoderm of T. alpestris
after induction with vegetalizing factor and in control
explants. In the first 15 h after explantation, no significant
(cont. next page)



DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302;RRM3202 (C.BIOSIS 1987)

differences between control and induced explants were found. Thereafter, the steady state concentration of K+ decreased in the induced explants, whereas the steady-state concentration of Na+ slightly increased. The membrane resting potential recorded intracellularly of ectoderm sandwiches from early gastrula stages was found to be -41.3 mV in control and -59.3 mV in induced explants. From the specific conductances and permeabilities of non-induced and induced cells it is concluded that the induction process leads to a differentiation of the cell membrane, which acquires the characteristics of ionic selectivity. Ectoderm from Ambystoma mexicanum forms neural or neuroid tissue, mesenchyme and melanophores after explantation in salt solution in up to 50% of the explants without any additions. Isolated Ambystoma ectoderm is therefore not suitable for test experiments.

Descriptors/Keywords: TRITURUS-ALPESTRIS AMBYSTOMA-MEXICANUM
MEMBRANE RESTING POTENTIAL ATYPICAL EPIDERMIS
Concept Codes:
*02506 Cytology and Cytochemistry-Animal
*10508 Biophysics-Membrane Phenomena
*13002 Metabolism-General Metabolism; Metabolic Pathways
*18502 Integumentary System-Anatomy
*25504 Developmental Biology-Embryology-Experimental
10060 Biochemical Studies-General
10504 Biophysics-General Biophysical Techniques
Biosystematic Codes:
85300 Amphibia-Unspecified
Super Taxa:
Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0016129567 BIOSIS Number: 30070815
CELLULAR CONTRIBUTION TO THE REGENERATION BLASTEMA IN THE AXOLOTL
MUNEDA K
UNIV. OF CALIF., IRVINE.
ANNUAL JOINT MEETING OF THE AMERICAN SOCIETY OF ZOOLOGISTS,
THE AMERICAN MICROSCOPICAL SOCIETY, THE ANIMAL BEHAVIOR
SOCIETY, THE CRUSTACEAN SOCIETY, THE INTERNATIONAL ASSOCIATION
OF ASTACOLOGY, AND THE SOCIETY OF SYSTEMATIC ZOOLOGY,
BALTIMORE, MD., USA, DEC. 27-30, 1985. AM ZOO 25 (4). 1985.
104A. CODEN: AMZOA
Language: ENGLISH
Document Type: CONFERENCE PAPER
Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT CARTILAGE NERVE SKIN
Concept Codes:
*02506 Cytology and Cytochemistry-Animal
*11107 Anatomy and Histology, General and
Comparative-Regeneration and Transplantation (1971-
)
*18004 Bones, Joints, Fasciae, Connective and Adipose
Tissue-Physiology and Biochemistry
*18504 Integumentary System-Physiology and Biochemistry
*20504 Nervous System-Physiology and Biochemistry
*25508 Developmental Biology-Embryology-Morphogenesis,
General

General
00520 General Biology-Symposia, Transactions and
Proceedings of Conferences, Congresses, Review
Annuals
Biosystematic Codes:
85304 Caudata
Super Taxa:
Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0016129521 BIOSIS Number: 30070769
XANTHINE DEHYDROGENASE ACTIVITY AS A MODULATOR OF PIGMENT CELL DIFFERENTIATION
FROST S K; BORCHERT M E; THORSTEINSDOTTIR S; ROBINSON S J
UNIV. KANS., LAWRENCE, KS.
ANNUAL JOINT MEETING OF THE AMERICAN SOCIETY OF ZOOLOGISTS,
THE AMERICAN MICROSCOPICAL SOCIETY, THE ANIMAL BEHAVIOR
SOCIETY, THE CRUSTACEAN SOCIETY, THE INTERNATIONAL ASSOCIATION
OF ASTACOLOGY, AND THE SOCIETY OF SYSTEMATIC ZOOLOGY,
BALTIMORE, MD., USA, DEC. 27-30, 1985. AM ZOO 25 (4). 1985.
92A. CODEN: AMZOA
Language: ENGLISH
Document Type: CONFERENCE PAPER
Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT MELANOID AXOLOTL AXANTHIC
AXOLOTL SKIN LIVER MELANOPHORE IRIODOPHORE XANTHOPHORE
ISOXANTHOPHERIN GENETICS
Concept Codes:
*02506 Cytology and Cytochemistry-Animal
*03506 Genetics and Cytogenetics-Animal
*10808 Enzymes-Physiological Studies
*13012 Metabolism-Proteins, Peptides and Amino Acids
*13014 Metabolism-Nucleic Acids, Purines and Pyrimidines
*14004 Digestive System-Physiology and Biochemistry
*18504 Integumentary System-Physiology and Biochemistry
*25508 Developmental Biology-Embryology-Morphogenesis,
General
00520 General Biology-Symposia, Transactions and
Proceedings of Conferences, Congresses, Review
Annuals
10010 Comparative Biochemistry, General
10062 Biochemical Studies-Nucleic Acids, Purines and
Pyrimidines
10064 Biochemical Studies-Proteins, Peptides and Amino
Acids
14001 Digestive System-General; Methods
18501 Integumentary System-General; Methods
Biosystematic Codes:
85304 Caudata
Super Taxa:
Animals: Vertebrates; Nonhuman Vertebrates; Amphibians



DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302;RRM3202 (C.BIOSIS 1987)

0016129214 BIOSIS Number: 30070462
COMPARISON OF MYOTUBE AND MYOFIBRILLAR PROTEINS FROM AXOLOTL
AMBYSTOMA-MEXICANUM NEWT NOTOPHTHALMUS-VIRIDESCENS
XENODUS-LAEVIS AND CHICKEN
FONTAINE R N; HILGERS A R; CAMERON J A
UNIV. ILL., URBANA.
ANNUAL JOINT MEETING OF THE AMERICAN SOCIETY OF ZOOLOGISTS,
THE AMERICAN MICROSCOPICAL SOCIETY, THE ANIMAL BEHAVIOR
SOCIETY, THE CRUSTACEAN SOCIETY, THE INTERNATIONAL ASSOCIATION
OF ASTACOLOGY, AND THE SOCIETY OF SYSTEMATIC ZOOLOGY,
BALTIMORE, MD., USA, DEC. 27-30, 1985. AM ZOO 25 (4). 1985
16A. CODEN: AMZOA
Language: ENGLISH
Document Type: CONFERENCE PAPER
Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT MYOSIN ACTIN DESMIN ALPHA
ACTININ FILAMIN

Concept Codes:

- *02506 Cytology and Cytochemistry-Animal
- *10010 Comparative Biochemistry, General
- *10064 Biochemical Studies-Proteins, Peptides and Amino Acids
- *17504 Muscle-Physiology and Biochemistry
- 00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals
- 10506 Biophysics-Molecular Properties and Macromolecules
- 32500 Tissue Culture, Apparatus, Methods and Media

Biosystematic Codes:

- 85304 Caudata
- 85306 Saliientia
- 85536 Galliformes

Super Taxa:

Animals: Vertebrates: Nonhuman Vertebrates: Amphibians: Birds

0016129169 BIOSIS Number: 30070417
AXONAL BASIS IN THE DETERMINATION OF DIFFERENCES IN PIGMENT
PATTERN BETWEEN BLACK AND WHITE AXOLOTLS
VLASTO G; BRICK I
UNIV. CONN., STAMFORD.

ANNUAL JOINT MEETING OF THE AMERICAN SOCIETY OF ZOOLOGISTS,
THE AMERICAN MICROSCOPICAL SOCIETY, THE ANIMAL BEHAVIOR
SOCIETY, THE CRUSTACEAN SOCIETY, THE INTERNATIONAL ASSOCIATION
OF ASTACOLOGY, AND THE SOCIETY OF SYSTEMATIC ZOOLOGY,
BALTIMORE, MD., USA, DEC. 27-30, 1985. AM ZOO 25 (4). 1985.
4A. CODEN: AMZOA
Language: ENGLISH
Document Type: CONFERENCE PAPER
Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT MELANOBLAST NEURAL TUBE
ADHESION GRAFTING MIGRATION

Concept Codes:

- *11107 Anatomy and Histology, General and

008848

Comparative-Regeneration and Transplantation (1971-)
*18504 Integumentary System-Physiology and Biochemistry
*20504 Nervous System-Physiology and Biochemistry
00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals
02506 Cytology and Cytochemistry-Animal
Biosystematic Codes:
85304 Caudata
Super Taxa:
Animals: Vertebrates: Nonhuman Vertebrates: Amphibians

0016116820 BIOSIS Number: 81055141
ESTABLISHMENT OF A REGENERATION-SPECIFIC IN-VIVO BIOASSAY
FOR NEURTROPHIC ACTIVITY IN DENERVATED AMBYSTOMA FROELIMBS
BARGER P M; TASSAVA R A
DEP. ZOOLOGY, OHIO STATE UNIV., COLUMBUS, OHIO 43210.
EXPERIENTIA (BASEL) 41 (11): 1985. 1405-1407.
CODEN: EXPEA

Language: ENGLISH
Subfile: BA (Biological Abstracts)
Use of continuous 3H-thymidine labeling and subsequent assay for cell cycle activity using a novel parameter, mitotic index of a selectively labeled cell population, has led to the development of a regeneration-specific in vivo bioassay for neurotrophic activity. This system is based on the stimulation of cell cycle arrested cells to resume cycling activity after reinnervation in denervated larval Ambystoma mexicanum forelimb stumps.

Descriptors/Keywords: AMBYSTOMA-MEXICANUM CELL CYCLE ACTIVITY
REINNERVATION

Concept Codes:

- *02506 Cytology and Cytochemistry-Animal
- *11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-)
- *20504 Nervous System-Physiology and Biochemistry
- 01054 Microscopy Techniques-Cytology and Cytochemistry
- 11104 Anatomy and Histology, General and Comparative-Experimental Anatomy
- 20501 Nervous System-General: Methods

Biosystematic Codes:

- 85304 Caudata

Super Taxa:

Animals: Vertebrates: Nonhuman Vertebrates: Amphibians

0016115989 BIOSIS Number: 81054310
REGENERATION FROM ISOLATED HALF LIMBS IN THE UPPER ARM OF
THE AXOLOTL

WIGMORE P; HOLDER N
DEP. ANAT., KING'S COLL. LONDON, STRAND, LONDON WC2R 2LS.
(cont. next page)

 DIALOG
INFORMATION SERVICES, INC.

DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302;RRM3202 (C.BIOSIS 1987)

U.K.
J EMBRYOL EXP MORPHOL 89 (0). 1985. 333-348.
CODEN: JEEMA

Language: ENGLISH

Subfile: BA (Biological Abstracts)

A technique enabling the isolation of half limb stumps using strips of skin from the head is described. Using this technique posterior, anterior, dorsal and ventral halves of the upper arms of axolotls were constructed. All halves produced regenerates and regional differences were shown in the regenerative and regulative abilities of the different halves. Posterior half stumps regenerated limbs with a mean digit number of 3.9 and had a normal dorsoventral muscle pattern. Anterior halves produced hypomorphic limbs with a mean digit number of 1.2 while dorsal and ventral halves produced an average of 3.8 and 2.6 respectively. Regenerates from dorsal half stumps and a normal dorsoventral axis but the majority of those from ventral halves were either double ventral or had little muscle on the dorsal side of the limb.

Descriptors/Keywords: DERMIS MUSCLE

Concept Codes:

- *11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-)
- *17504 Muscle-Physiology and Biochemistry
- *18504 Integumentary System-Physiology and Biochemistry
- *25508 Developmental Biology-Embryology-Morphogenesis, General
- 11318 Chordate Body Regions-Extremities (1970-)

Biosystematic Codes:

- 85304 Caudata

Super Taxa:

Animals: Vertebrates: Nonhuman Vertebrates: Amphibians

0016112457 BIOSIS Number: 81050778
AN ANALYSIS OF PROTEIN SYNTHESIS PATTERNS DURING EARLY
EMBRYOGENESIS OF THE URODELE AMBYSTOMA-MEXICANUM

MEULER D C; MALACINSKI G M
PROGRAM MOLECULAR CELLULAR DEV. BIOL., DEP. BIOL., INDIANA
UNIV., BLOOMINGTON, INDIANA 47405, U.S.A.
J EMBRYOL EXP MORPHOL 89 (0). 1985. 71-92. CODEN: JEEMA

Language: ENGLISH

Subfile: BA (Biological Abstracts)

Changes in protein synthesis during early A. mexicanum (axolotl) embryogenesis were monitored using two-dimensional (2-D) polyacrylamide gel electrophoresis. No change in synthesis patterns during progesterone-induced oocyte maturation was detected. In oocytes matured in vivo (unfertilized eggs), however, the synthesis of several oogenetic proteins ceased, only to be resumed later in development. At fertilization, one novel non-oogenetic protein was found. A cleavage-specific protein was also detected. Dramatic changes in protein synthesis patterns were detected at gastrulation in axolotl embryos. About 10% of the proteins synthesized at earlier stages ceased synthesis at

gastrulation. Another 10% of the proteins synthesized during gastrulation were novel. A gastrulation-specific protein was also detected. After gastrulation additional novel non-oogenetic proteins were synthesized for most stages examined. A pronounced increase in the number of novel proteins synthesized was observed at the onset of neurulation and during neural fold fusion. Some of those proteins were specific to dorsal or axial structure tissue (AST) and some were specific to ventral or non-axial structure tissue (NAST). Actin and tubulin synthesis was also monitored during axolotl development. While the cytoplasmic gamma- and beta-actins were synthesized at all stages, muscle-specific alpha-actin synthesis began at the head-process stage (stage 23/25).

Descriptors/Keywords: OOCYTE PROGESTERONE GASTRULATION

Concept Codes:

- *02506 Cytology and Cytochemistry-Animal
- *13012 Metabolism-Proteins, Peptides and Amino Acids
- *16504 Reproductive System-Physiology and Biochemistry
- *17006 Endocrine System-Gonads and Placenta
- *25502 Developmental Biology-Embryology-General and Descriptive
- 10064 Biochemical Studies-Proteins, Peptides and Amino Acids
- 10067 Biochemical Studies-Steroids and Steroids

Biosystematic Codes:

- 85304 Caudata

Super Taxa:

Animals: Vertebrates: Nonhuman Vertebrates: Amphibians

0016088948 BIOSIS Number: 30049780
NEURAL CREST CELLS EXHIBIT DIRECTED MIGRATION ALONG THE
PRONEPHRIC DUCT PATHWAY

JACKSON S L; STEINBERG M S
DEP. OF BIOL., PRINCETON UNIV., PRINCETON, NJ 08544.
TWENTY-FIFTH ANNUAL MEETING OF THE AMERICAN SOCIETY FOR CELL
BIOLOGY, ATLANTA, GA., USA, NOV. 18-22, 1985. J CELL BIOL 10
1 (5 PART 2). 1985. 467A. CODEN: UCLBA

Language: ENGLISH

Document Type: CONFERENCE PAPER

Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT AXOLOTL EMBRYO ADHESION
MOLECULES

Concept Codes:

- *02506 Cytology and Cytochemistry-Animal
- *10064 Biochemical Studies-Proteins, Peptides and Amino Acids
- *12100 Movement (1971-)
- *15504 Urinary System and External Secretions-Physiology and Biochemistry
- *20504 Nervous System-Physiology and Biochemistry
- *25504 Developmental Biology-Embryology-Experimental
- 00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals

(cont. next page)

 DIALOG
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DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302;RRM3202 (C.BIOSIS 1987)

Proceedings of Conferences, Congresses, Review
Annuals
Biosystematic Codes:
85304 Caudata
Super Taxa:
Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0016088655 BIOSIS Number: 30049487
DIFFERENTIATION OF MUTANT AXOLOTL CARDIAC MUSCLE INDUCED BY RNA FROM EMBRYONIC AND ADULT TISSUES
DAVIS L A; LEMANSKI L F
DEP ANATOMY CELL BIOLOGY, SUNY UPSTATE MED. CENTER,
SYRACUSE, NY
TWENTY-FIFTH ANNUAL MEETING OF THE AMERICAN SOCIETY FOR CELL
BIOLOGY, ATLANTA, GA., USA, NOV. 18-22, 1985. J CELL BIOL 10
1 (5 PART 2), 1985. 390A. CODEN: JCLBA
Language: ENGLISH
Document Type: CONFERENCE PAPER
Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT AMBYSTOMA-MEXICANUM
Concept Codes:
*02506 Cytology and Cytochemistry-Animal
*14504 Cardiovascular System-Physiology and Biochemistry
*17504 Muscle-Physiology and Biochemistry
*25504 Developmental Biology-Embryology-Experimental
*25508 Developmental Biology-Embryology-Morphogenesis,
General
00520 General Biology-Symposia, Transactions and
Proceedings of Conferences, Congresses, Review
Annuals
03506 Genetics and Cytogenetics-Animal
10062 Biochemical Studies-Nucleic Acids, Purines and
Pyrimidines
Biosystematic Codes:
85304 Caudata
Super Taxa:
Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0016074697 BIOSIS Number: 81033093
MOLECULAR DUALITY OF DNA LIGASE IN AXOLOTL CORRESPONDS TO DISTINCTIVE TRANSCRIPTIONAL INFORMATION
THIEBAUD P; SIGNORET J; LEFRESNE J; RIMBAUT C; BUFFE D; DAVI
D J C
LAB. BIOCHIM. DEV., LA CNRS 256, UNIV. RENNES I, 35042
RENNES, FR.
EXP CELL RES 161 (1), 1985. 209-218. CODEN: ECREA
Language: ENGLISH
Subfile: BA (Biological Abstracts)
Based upon the use of specific antibodies and sucrose
gradient sedimentation analysis, the present work describes
the use of the post-transcriptional equipment of the urodele
egg to compare the information contained in two RNA samples
extracted from respectively liver and activated axolotl eggs.
It is shown that besides the normal DNA ligase activity

008850

present in the host Pleurodeles eggs, RNA can translate for
the specific carried information revealing a difference
between the two samples. Moreover, unlike in nuclear
transplantation, the homologous DNA ligases are not mutually
exclusive. These observations give a new convincing support of
the genetic basis of the molecular duality of DNA ligases.

Descriptors/Keywords: PLEURODELES EGG LIVER RNA GENETIC
FACTOR
Concept Codes:
*02506 Cytology and Cytochemistry-Animal
*03506 Genetics and Cytogenetics-Animal
*10062 Biochemical Studies-Nucleic Acids, Purines and
Pyrimidines
*10064 Biochemical Studies-Proteins, Peptides and Amino
Acids
*10506 Biophysics-Molecular Properties and Macromolecules
*10806 Enzymes-Chemical and Physical
*14004 Digestive System-Physiology and Biochemistry
10052 Biochemical Methods-Nucleic Acids, Purines and
Pyrimidines
10054 Biochemical Methods-Proteins, Peptides and Amino
Acids
10068 Biochemical Studies-Carbohydrates
10504 Biophysics-General Biophysical Techniques
34502 Immunology and Immunochimistry-General: Methods
Biosystematic Codes:
85304 Caudata
Super Taxa:
Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0016070143 BIOSIS Number: 30040767
ANALYSIS OF ACTIN AND TROPOMYOSIN IN CARDIAC MUTANT AXOLOTLS AMBYSTOMA-MEXICANUM BY TWO-DIMENSIONAL GEL ELECTROPHORESIS WESTERN BLOTS AND IMMUNOFLUORESCENT MICROSCOPY
STARR C M; DIAZ J G; LEMANSKI L F
DEP ANATOMY CELL BIOL., SUNY UPSTATE MED. CENT., SYRACUSE,
NY
TWENTY-FIFTH ANNUAL MEETING OF THE AMERICAN SOCIETY FOR CELL
BIOLOGY, ATLANTA, GA., USA, NOV. 18-22, 1985. J CELL BIOL 10
1 (5 PART 2), 1985. 42A. CODEN: JCLBA
Language: ENGLISH
Document Type: CONFERENCE PAPER
Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT CHICKEN
Concept Codes:
*03506 Genetics and Cytogenetics-Animal
*10064 Biochemical Studies-Proteins, Peptides and Amino
Acids
*11108 Anatomy and Histology, General and
Comparative-Microscopic and Ultramicroscopic Anatomy
*13012 Metabolism-Proteins, Peptides and Amino Acids
*14504 Cardiovascular System-Physiology and Biochemistry
(cont. next page)



DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302;RRM3202 (C.BIOSIS 1987)

00520 General Biology-Symposia, Transactions and
Proceedings of Conferences, Congresses, Review
Annuals
01052 Microscopy Techniques-General and Special Techniques
02506 Cytology and Cytochemistry-Animal
10054 Biochemical Methods-Proteins, Peptides and Amino
Acids
10504 Biophysics-General Biophysical Techniques
34502 Immunology and Immunochimistry-General: Methods
Biosystematic Codes:
85304 Caudata
Super Taxa:
Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0016034631 BIOSIS Number: 81013547
BANDING DIFFERENCES BETWEEN TIGER SALAMANDER AMBYSTOMA-TIGRINUM AND AXOLOTL AMBYSTOMA-MEXICANUM CHROMOSOMES
CUNY R; MALACINSKI G M
INSTITUT NATIONAL DE LA SANTE ET DE LA RECHERCHE MEDICALE,
UNITE DE RECHERCHES GERONTOLOGIQUES, U. 118, 29 RUE WILHEM,
75016 PARIS, FRANCE.
CAN J GENET CYTOL 27 (5), 1985. 510-514. CODEN: CNUJA
Language: ENGLISH
Subfile: BA (Biological Abstracts)
The Hoechst 33258, sbd, Giemsa banding patterns were compared
on axolotl (Ambystoma mexicanum Shaw) and axolotl, sbd, tiger
salamander (Ambystoma tigrinum Green) species hybrid prophase
chromosomes. Approximately 369 bands per haploid chromosome
set were seen in the axolotl and about 344 bands in the tiger
salamander. In the haploid set of 14 chromosomes, chromosome 3
has a constant short or q-arm terminal constriction at the
location of the nucleolar organizer. Chromosomes 14 Z and W
carry the sex determinants, the female being the heterogametic
sex (ZW). The banding patterns of chromosomes 1, 6, 11, and 14
Z of the two species are apparently indistinguishable by our
banding method. In the axolotl, chromosome 9 has a small long
or p-arm terminal deletion. In the tiger salamander, the
remaining 10 chromosomes have terminal or internal deletions.
No translocations or inversions seems to have occurred since
the gene pool separation of the two closely related species.

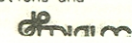
Descriptors/Keywords: PROPHASE NUCLEOLAR ORGANIZER DELETIONS
TRANSLOCATIONS INVERSIONS
Concept Codes:
*02506 Cytology and Cytochemistry-Animal
*03506 Genetics and Cytogenetics-Animal
01054 Microscopy Techniques-Cytology and Cytochemistry
10050 Biochemical Methods-General
10060 Biochemical Studies-General
Biosystematic Codes:
85304 Caudata
Super Taxa:
Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0016025584 BIOSIS Number: 30015792
EMBRYONIC EXTRACELLULAR MATRIX ADSORBED IN-VIVO ON TO MICRO-CARRIERS INDUCES EXPRESSION OF CHROMATOPHORE PHENOTYPES IN CULTURED NEURAL CREST CELLS
PERRIS R; LOFBERG J
DEPARTMENT ZOOLOGY, UPPSALA UNIVERSITY, S-751 22 UPPSALA,
SWEDEN.
10TH INTERNATIONAL CONGRESS OF THE INTERNATIONAL SOCIETY OF
DEVELOPMENTAL BIOLOGISTS ON NEW DISCOVERIES AND TECHNOLOGIES,
LOS ANGELES, CALIF., USA, AUG. 4-9, 1985. CELL DIFFER 16
(SUPPL.), 1985. 173S. CODEN: CLDFA
Language: ENGLISH
Document Type: CONFERENCE PAPER
Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT AXOLOTL EMBRYO MELANOPHORES
Concept Codes:
*02506 Cytology and Cytochemistry-Animal
*20504 Nervous System-Physiology and Biochemistry
*25504 Developmental Biology-Embryology-Experimental
*25508 Developmental Biology-Embryology-Morphogenesis,
General
00520 General Biology-Symposia, Transactions and
Proceedings of Conferences, Congresses, Review
Annuals
Biosystematic Codes:
85304 Caudata
Super Taxa:
Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0016025574 BIOSIS Number: 30015782
IMMUNOLocalIZATION OF FIBRONECTIN ALONG NEURAL CREST PATHWAYS IN THE WILD TYPE AND WHITE MUTANT AXOLOTL XENOPUS EMBRYO
JONSSON L; LOFBERG J
DEP. ZOOLOGY, UPPSALA UNIVERSITY, UPPSALA, SWEDEN.
10TH INTERNATIONAL CONGRESS OF THE INTERNATIONAL SOCIETY OF
DEVELOPMENTAL BIOLOGISTS ON NEW DISCOVERIES AND TECHNOLOGIES,
LOS ANGELES, CALIF., USA, AUG. 4-9, 1985. CELL DIFFER 16
(SUPPL.) 1985. 171S. CODEN: CLDFA
Language: ENGLISH
Document Type: CONFERENCE PAPER
Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT CELL MIGRATION
Concept Codes:
*02506 Cytology and Cytochemistry-Animal
*12100 Movement (1971-)
*20504 Nervous System-Physiology and Biochemistry
*25502 Developmental Biology-Embryology-General and
Descriptive
*25508 Developmental Biology-Embryology-Morphogenesis,
General
00520 General Biology-Symposia, Transactions and
(cont. next page)



DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302:RRM3202 (C. BIOSIS 1987)

Proceedings of Conferences, Congresses, Review
 Annuals
 01056 Microscopy Techniques-Histology and Histochemistry
 10064 Biochemical Studies-Proteins, Peptides and Amino
 Acids
 34502 Immunology and Immunochemistry-General: Methods
 Biosystematic Codes:
 85306 Saliientia
 Super Taxa:
 Animals; Vertebrates; Nonhuman Vertebrates; Amphibians

0016025442 BIOSIS Number: 30015650
**INVOLVEMENT OF THE CYTOSKELETON IN EARLY GREY CRESCENT
 FORMATION IN AXOLOTL AMBYSTOMA-MEXICANUM OOCYTE RELATIONSHIPS
 WITH THE GERMINAL VESICLE BREAKDOWN**
 GAUTIER J; BEETSCHEN J-C
 LAB. BIOL. GEN., UNIV. PAUL SABATIER, 118 RTE DE NARBONNE,
 31062 TOULOUSE, FR.
 10TH INTERNATIONAL CONGRESS OF THE INTERNATIONAL SOCIETY OF
 DEVELOPMENTAL BIOLOGISTS ON NEW DISCOVERIES AND TECHNOLOGIES,
 LOS ANGELES, CALIF., USA, AUG. 4-9, 1985. CELL DIFFER 16
 (SUPPL.), 1985, 119S. CODEN: CLDFA
 Language: ENGLISH
 Document Type: CONFERENCE PAPER
 Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT NOCODAZOLE TAXOL
 PHARMACOLOGICAL TOOL PROTEIN SYNTHESIS MICROTUBULES
 Concept Codes:
 *02506 Cytology and Cytochemistry-Animal
 *13012 Metabolism-Proteins, Peptides and Amino Acids
 *16504 Reproductive System-Physiology and Biochemistry
 *25502 Developmental Biology-Embryology-General and
 Descriptive
 *25508 Developmental Biology-Embryology-Morphogenesis,
 General
 00520 General Biology-Symposia, Transactions and
 Proceedings of Conferences, Congresses, Review
 Annuals
 10064 Biochemical Studies-Proteins, Peptides and Amino
 Acids
 10504 Biophysics-General Biophysical Techniques
 16501 Reproductive System-General: Methods
 Biosystematic Codes:
 85304 Caudata
 Super Taxa:
 Animals; Vertebrates; Nonhuman Vertebrates; Amphibians

0016025436 BIOSIS Number: 30015644
**EXPRESSION OF DNA LIGASE GENES BY MESSENGER RNA FROM RAM
 SPERMATIDS AND SPERMATOCYTES IN AMPHIBIAN EGGS**
 DAVID J C; SIGNORET J; LEFRESNE J; LOIR M
 RENNES, FR.
 10TH INTERNATIONAL CONGRESS OF THE INTERNATIONAL SOCIETY OF
 DEVELOPMENTAL BIOLOGISTS ON NEW DISCOVERIES AND TECHNOLOGIES,

LOS ANGELES, CALIF., USA, AUG. 4-9, 1985. CELL DIFFER 16
 (SUPPL.), 1985, 118S. CODEN: CLDFA
 Language: ENGLISH
 Document Type: CONFERENCE PAPER
 Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT AXOLOTL
 Concept Codes:
 *02506 Cytology and Cytochemistry-Animal
 *03506 Genetics and Cytogenetics-Animal
 *10808 Enzymes-Physiological Studies
 *13012 Metabolism-Proteins, Peptides and Amino Acids
 *13014 Metabolism-Nucleic Acids, Purines and Pyrimidines
 *16504 Reproductive System-Physiology and Biochemistry
 *25504 Developmental Biology-Embryology-Experimental
 00520 General Biology-Symposia, Transactions and
 Proceedings of Conferences, Congresses, Review
 Annuals
 10062 Biochemical Studies-Nucleic Acids, Purines and
 Pyrimidines
 10064 Biochemical Studies-Proteins, Peptides and Amino
 Acids
 10504 Biophysics-General Biophysical Techniques
 16501 Reproductive System-General: Methods
 Biosystematic Codes:
 85304 Caudata
 85715 Bovidae
 Super Taxa:
 Animals; Vertebrates; Nonhuman Vertebrates; Amphibians; Mam
 mals; Nonhuman Mammals

0016025415 BIOSIS Number: 30015623
**THE SUBEPIDERMAL EXTRACELLULAR MATRIX CONTROLS THE SOCIAL
 BEHAVIOR OF CHROMATOPHORES DURING PIGMENT PATTERN FORMATION IN
 AXOLOTL AMBYSTOMA-MEXICANUM LARVAE**
 EPPERLEIN H H; PERRIS R; LOFBERG J
 ANATOMISCHES INST., UNIV., D-7800 FREIBURG,
 10TH INTERNATIONAL CONGRESS OF THE INTERNATIONAL SOCIETY OF
 DEVELOPMENTAL BIOLOGISTS ON NEW DISCOVERIES AND TECHNOLOGIES,
 LOS ANGELES, CALIF., USA, AUG. 4-9, 1985. CELL DIFFER 16
 (SUPPL.), 1985, 108S. CODEN: CLDFA
 Language: ENGLISH
 Document Type: CONFERENCE PAPER
 Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT BLACK MELANOPHORE YELLOW
 XANTHOPHORE
 Concept Codes:
 *02506 Cytology and Cytochemistry-Animal
 *07003 Behavioral Biology-Animal Behavior
 *10508 Biophysics-Membrane Phenomena
 *25502 Developmental Biology-Embryology-General and
 Descriptive
 *25508 Developmental Biology-Embryology-Morphogenesis,
 (cont. next page)



008852

DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302:RRM3202 (C. BIOSIS 1987)

General
 00520 General Biology-Symposia, Transactions and
 Proceedings of Conferences, Congresses, Review
 Annuals
 Biosystematic Codes:
 85304 Caudata
 Super Taxa:
 Animals; Vertebrates; Nonhuman Vertebrates; Amphibians

0016025401 BIOSIS Number: 30015609
**POSSIBLE MECHANISMS OF SPECIFIC NERVE REGENERATION IN THE
 AXOLOTL**
 STEPHENS N; HOLDER N
 ANATOMY DEP., KING'S COLL., STRAND, LONDON, ENGLAND.
 10TH INTERNATIONAL CONGRESS OF THE INTERNATIONAL SOCIETY OF
 DEVELOPMENTAL BIOLOGISTS ON NEW DISCOVERIES AND TECHNOLOGIES,
 LOS ANGELES, CALIF., USA, AUG. 4-9, 1985. CELL DIFFER 16
 (SUPPL.), 1985, 104S. CODEN: CLDFA
 Language: ENGLISH
 Document Type: CONFERENCE PAPER
 Subfile: BARRM (Biological Abstracts/RRM)

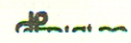
Descriptors/Keywords: ABSTRACT SCHWANN CELL MOTOR NEURON
 Concept Codes:
 *02506 Cytology and Cytochemistry-Animal
 *11107 Anatomy and Histology, General and
 Comparative-Regeneration and Transplantation (1971-
)
 *17502 Muscle-Anatomy
 *17504 Muscle-Physiology and Biochemistry
 *20502 Nervous System-Anatomy
 *20504 Nervous System-Physiology and Biochemistry
 00520 General Biology-Symposia, Transactions and
 Proceedings of Conferences, Congresses, Review
 Annuals
 01056 Microscopy Techniques-Histology and Histochemistry
 20501 Nervous System-General: Methods
 Biosystematic Codes:
 85304 Caudata
 Super Taxa:
 Animals; Vertebrates; Nonhuman Vertebrates; Amphibians

0016025334 BIOSIS Number: 30015542
**THE CELLULAR BASIS OF RETINOID-INDUCED ALTERATIONS IN
 PATTERN FORMATION**
 MADEN M; KEEBLE S
 NATIONAL INST. MED. RES., LONDON NW7 1AA, UK.
 10TH INTERNATIONAL CONGRESS OF THE INTERNATIONAL SOCIETY OF
 DEVELOPMENTAL BIOLOGISTS ON NEW DISCOVERIES AND TECHNOLOGIES,
 LOS ANGELES, CALIF., USA, AUG. 4-9, 1985. CELL DIFFER 16
 (SUPPL.), 1985, 71S. CODEN: CLDFA
 Language: ENGLISH
 Document Type: CONFERENCE PAPER
 Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT AXOLOTL LIMB REGENERATION
 POSITIONAL INFORMATION CARTILAGE MATRIX BREAKDOWN
 MUCOPOLYSACCHARIDE INDUCTION
 Concept Codes:
 *02506 Cytology and Cytochemistry-Animal
 *10063 Biochemical Studies-Vitamins
 *10066 Biochemical Studies-Lipids
 *11107 Anatomy and Histology, General and
 Comparative-Regeneration and Transplantation (1971-
)
 *11318 Chordate Body Regions-Extremities (1970-)
 *25508 Developmental Biology-Embryology-Morphogenesis,
 General
 00520 General Biology-Symposia, Transactions and
 Proceedings of Conferences, Congresses, Review
 Annuals
 10506 Biophysics-Molecular Properties and Macromolecules
 13004 Metabolism-Carbohydrates
 18004 Bones, Joints, Fasciae, Connective and Adipose
 Tissue-Physiology and Biochemistry
 Biosystematic Codes:
 85304 Caudata
 Super Taxa:
 Animals; Vertebrates; Nonhuman Vertebrates; Amphibians

0016025333 BIOSIS Number: 30015541
**BIOCHEMICAL AND ULTRASTRUCTURAL STUDIES ON VITAMIN A-INDUCED
 PROXIMALIZATION OF LIMB REGENERATION IN AXOLOTL**
 SHARMA K K; ANTON H J
 ZOOL. INST. UNIV. KOELN, 5 KOELN 41, WEST GERMANY.
 10TH INTERNATIONAL CONGRESS OF THE INTERNATIONAL SOCIETY OF
 DEVELOPMENTAL BIOLOGISTS ON NEW DISCOVERIES AND TECHNOLOGIES,
 LOS ANGELES, CALIF., USA, AUG. 4-9, 1985. CELL DIFFER 16
 (SUPPL.), 1985, 71S. CODEN: CLDFA
 Language: ENGLISH
 Document Type: CONFERENCE PAPER
 Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT DNA CONTENT BLASTEMA STUMP
 CELL
 Concept Codes:
 *02506 Cytology and Cytochemistry-Animal
 *03506 Genetics and Cytogenetics-Animal
 *11107 Anatomy and Histology, General and
 Comparative-Regeneration and Transplantation (1971-
)
 *11318 Chordate Body Regions-Extremities (1970-)
 *13014 Metabolism-Nucleic Acids, Purines and Pyrimidines
 *13208 Nutrition-Fat-Soluble Vitamins
 *25508 Developmental Biology-Embryology-Morphogenesis,
 General
 00520 General Biology-Symposia, Transactions and
 Proceedings of Conferences, Congresses, Review
 Annuals
 (cont. next page)



DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302;RRM3202 (C.BIOSIS 1987)

10062 Biochemical Studies-Nucleic Acids, Purines and Pyrimidines
10063 Biochemical Studies-Vitamins
Biosystematic Codes:
85304 Caudata
Super Taxa:
Animals; Vertebrates; Nonhuman Vertebrates; Amphibians

0016025270 BIOSIS Number: 30015478
TRIPLOID-LABELED POLARIZING REGION CONTRIBUTES CELLS TO THE DUPLICATED PORTION OF THE SYMMETRICAL FORELIMB IN AMBYSTOMA-MEXICANUM EMBRYOS

TANK P W
DEPT. ANATOMY, UNIVERSITY ARKANSAS MEDICAL SCIENCES, LITTLE ROCK, ARIZ. 72205.

10TH INTERNATIONAL CONGRESS OF THE INTERNATIONAL SOCIETY OF DEVELOPMENTAL BIOLOGISTS ON NEW DISCOVERIES AND TECHNOLOGIES, LOS ANGELES, CALIF., USA, AUG. 4-9, 1985. CELL DIFFER 16 (SUPPL.), 1985. 46S. CODEN: CLDFA

Language: ENGLISH
Document Type: CONFERENCE PAPER
Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT

Concept Codes:

- *02506 Cytology and Cytochemistry-Animal
- *03506 Genetics and Cytogenetics-Animal
- *11318 Chordate Body Regions-Extremities (1970-)
- *25504 Developmental Biology-Embryology-Experimental
- 00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals

Biosystematic Codes:

85304 Caudata

Super Taxa:

Animals; Vertebrates; Nonhuman Vertebrates; Amphibians

0016025256 BIOSIS Number: 30015464
THE EYELESS GENE E IN THE MEXICAN SALAMANDER AMBYSTOMA-MEXICANUM MIGHT INTERFERE WITH A HEAD GRADIENT

BRUN R B
TEXAS CHRISTIAN UNIVERSITY, FORT WORTH, TEXAS 76129 U.S.A.

10TH INTERNATIONAL CONGRESS OF THE INTERNATIONAL SOCIETY OF DEVELOPMENTAL BIOLOGISTS ON NEW DISCOVERIES AND TECHNOLOGIES, LOS ANGELES, CALIF., USA, AUG. 4-9, 1985. CELL DIFFER 16 (SUPPL.), 1985. 42S. CODEN: CLDFA

Language: ENGLISH
Document Type: CONFERENCE PAPER
Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT EYE FORMATION

Concept Codes:

- *03506 Genetics and Cytogenetics-Animal
- *11304 Chordate Body Regions-Head (1970-)
- *20004 Sense Organs, Associated Structures and

008854

Functions-Physiology and Biochemistry
*25504 Developmental Biology-Embryology-Experimental
00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals

20006 Sense Organs, Associated Structures and Functions-Pathology

Biosystematic Codes:

85304 Caudata

Super Taxa:

Animals; Vertebrates; Nonhuman Vertebrates; Amphibians

0016025216 BIOSIS Number: 30015424

PROTAMINE MEDIATED ENHANCEMENT OF NUCLEAR EXPRESSION BROTHERS A J

DEP. ZOOL., UNIV. CALIF., BERKELEY, CALIF. 94720, USA.

10TH INTERNATIONAL CONGRESS OF THE INTERNATIONAL SOCIETY OF DEVELOPMENTAL BIOLOGISTS ON NEW DISCOVERIES AND TECHNOLOGIES, LOS ANGELES, CALIF., USA, AUG. 4-9, 1985. CELL DIFFER 16 (SUPPL.), 1985. 28S. CODEN: CLDFA

Language: ENGLISH
Document Type: CONFERENCE PAPER
Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT AXOLOTL DNA TRANSPLANTATION GAMETOGENESIS GENE EXPRESSION ALTERATION GASTRULATION

Concept Codes:

- *02506 Cytology and Cytochemistry-Animal
- *03506 Genetics and Cytogenetics-Animal
- *11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-)

*25504 Developmental Biology-Embryology-Experimental

*25508 Developmental Biology-Embryology-Morphogenesis, General

00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals

10064 Biochemical Studies-Proteins, Peptides and Amino Acids

10068 Biochemical Studies-Carbohydrates

Biosystematic Codes:

85304 Caudata

Super Taxa:

Animals; Vertebrates; Nonhuman Vertebrates; Amphibians

0016025179 BIOSIS Number: 30015387

REGENERATION FROM DISCONTINUOUS CIRCUMFERENCES AXOLOTL LIMBS

BRYANT S; MUNEOKA K; HOLLER-DINSMORE G

DEV. BIOL. CENT., UNIV. CALIF., IRVINE, CALIF. 92717.

10TH INTERNATIONAL CONGRESS OF THE INTERNATIONAL SOCIETY OF DEVELOPMENTAL BIOLOGISTS ON NEW DISCOVERIES AND TECHNOLOGIES, (cont. next page)


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DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302;RRM3202 (C.BIOSIS 1987)

LOS ANGELES, CALIF., USA, AUG. 4-9, 1985. CELL DIFFER 16 (SUPPL.), 1985. 12S. CODEN: CLDFA
Language: ENGLISH
Document Type: CONFERENCE PAPER
Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT DORSAL-VENTRAL CONFRONTATION DIRECTIONAL INTERCALATION CELL MOVEMENT

Concept Codes:

- *02506 Cytology and Cytochemistry-Animal
- *11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-)
- *11318 Chordate Body Regions-Extremities (1970-)
- *25504 Developmental Biology-Embryology-Experimental
- *25508 Developmental Biology-Embryology-Morphogenesis, General

00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals
12100 Movement (1971-)

Biosystematic Codes:

85304 Caudata

Super Taxa:

Animals; Vertebrates; Nonhuman Vertebrates; Amphibians

0016016836 BIOSIS Number: 81006294
MOTOR NEURON POOLS INNERVATING MUSCLES IN VITAMIN A-INDUCED PROXIMAL-DISTAL DUPLICATE LIMBS IN THE AXOLOTL

STEPHENS N; HOLDER N; MADEN M
DEPARTMENT ANATOMY, KING'S COLLEGE, STRAND, LONDON WC2R 2LS, U.K.

PROC R SOC LOND B BIOL SCI 224 (1236). 1985. 341-354.
CODEN: PRLBA

Language: ENGLISH
Subfile: BA (Biological Abstracts)

Serially duplicated limbs containing two sets of proximal muscles were created in axolotls by vitamin A treatment. The innervation of three replicated proximal muscles was studied by using retrograde transport of horseradish peroxidase. These were the forelimb muscles biceps (seven cases) and anconeus (five cases) and hindlimb muscle pubischiotibialis (five cases). In two cases (both of anconeus) innervation was from a correct motor neuron pool. In the other 15 cases the innervation was from an incorrect, distal limb muscle, motor neuron pool. These results are interpreted as evidence against long range signals between nerve and muscle controlling specific nerve regeneration. However, the data are compatible with models of axonal guidance that use local pathway cues.

Descriptors/Keywords: INNERVATION PATTERN NERVE REGENERATION AXONAL GUIDANCE

Concept Codes:

- *11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-)

*17504 Muscle-Physiology and Biochemistry
*20504 Nervous System-Physiology and Biochemistry
01054 Microscopy Techniques-Cytology and Cytochemistry
10063 Biochemical Studies-Vitamins
11318 Chordate Body Regions-Extremities (1970-)

Biosystematic Codes:

85304 Caudata

Super Taxa:

Animals; Vertebrates; Nonhuman Vertebrates; Amphibians

0016016674 BIOSIS Number: 81006132

A HORSE RADISH PEROXIDASE STUDY OF MOTOR NEURON POOLS OF THE FORELIMB AND HINDLIMB MUSCULATURE OF THE AXOLOTL

STEPHENS N; HOLDER N

ANATOMY DEPARTMENT, KING'S COLLEGE, STRAND, LONDON WC2R 2LS, U.K.

PROC R SOC LOND B BIOL SCI 224 (1236). 1985. 325-340.
CODEN: PRLBA

Language: ENGLISH

Subfile: BA (Biological Abstracts)

Motor neuron pools innervating axolotl limb muscles have been investigated by using the retrograde neuronal tracer horseradish peroxidase. Four muscles in the forelimb (biceps, anconeus, flexor digitorum and extensor digitorum) and four functionally equivalent muscles in the hindlimb (pubischiotibialis, iliotibialis, flexor digitorum and extensor digitorum) were studied. Motor neuron pools were characterized by using four criteria: position in the rostrocaudal axis; position of the median in the rostrocaudal axis; number of labelled cells; position of cells in the transverse plane of the spinal cord. Each pool was uniquely defined by the four characteristics, although overlap was found between pools. Two types of motor neuron were found in each pool, distinguished on the basis of size, shape and position in the spinal cord. The first type constituted the majority of cells in a pool, and occupied different positions in the transverse plane for each muscle. The second type was less common and always occupied a characteristic medial ventral position. These data will allow an assay of correct or incorrect innervation in experiments on the regeneration of specific neuromuscular connections in these animals.

Descriptors/Keywords: INNERVATION PATTERN

Concept Codes:

- *02506 Cytology and Cytochemistry-Animal
- *17502 Muscle-Anatomy
- *20502 Nervous System-Anatomy
- 01052 Microscopy Techniques-General and Special Techniques
- 10064 Biochemical Studies-Proteins, Peptides and Amino Acids
- 10804 Enzymes-Methods
- 11318 Chordate Body Regions-Extremities (1970-)
- 51518 Plant Physiology, Biochemistry and Biophysics-Enzymes

(cont. next page)

DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302;RRM3202 (C.BIOSIS 1987)

Biosystematic Codes:
85304 Caudata

Super Taxa:

Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0016007793 BIOSIS Number: 30007793

KINETICS OF LIGHT-SENSITIVE CHANNELS IN VERTEBRATE AXOLOTL RODS

ATTWELL D; GRAY P
DEP. PHYSIOL., UNIV. COLL. LONDON.
9TH EUROPEAN NEUROSCIENCE CONGRESS, OXFORD, ENGLAND, SEPT.
8-12, 1985. NEUROSCI LETT SUPPL 0 (22). 1985. S217

CODEN: NLSUE

Language: ENGLISH

Document Type: CONFERENCE PAPER

Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT

Concept Codes:

- *20004 Sense Organs, Associated Structures and Functions-Physiology and Biochemistry
- *20504 Nervous System-Physiology and Biochemistry
- 00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals
- 10504 Biophysics-General Biophysical Techniques
- 10508 Biophysics-Membrane Phenomena
- 10604 External Effects-Light and Darkness

Biosystematic Codes:

85304 Caudata

Super Taxa:

Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0016007107 BIOSIS Number: 30007107

THE EFFECTS OF RETINIC-ACID ON THE REGENERATIVE MORPHOGENESIS OF MEMBERS OF URODELA

THOMS S D

UNIV. LILLE I, LAB. DE MORPHOGENESE ANIMALES, 59655
VILLENEUVE-D'ASCQ, CEDEX, FRANCE
MEETING OF THE SOCIETE FRANCAISE DE BIOLOGIE DU
DEVELOPPEMENT (FRENCH SOCIETY OF DEVELOPMENTAL BIOLOGY),
NANCY, FRANCE, SEPT. 13-14, 1984. ARCH ANAT MICROSC MORPHOL
EXP 73 (4). 1985. 310-311. CODEN: AAMMA

Language: FRENCH

Document Type: CONFERENCE PAPER

Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT AXOLOTL

NOTOPHTHALMUS-VIRIDESCENS PLEURODELES-WALTII VITAMIN A

Concept Codes:

- *11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-)
- *11318 Chordate Body Regions-Extremities (1970-)
- *22003 Pharmacology-Drug Metabolism; Metabolic Stimulators

008856

*25502 Developmental Biology-Embryology-General and Descriptive

*25504 Developmental Biology-Embryology-Experimental

*25508 Developmental Biology-Embryology-Morphogenesis, General

00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals

10063 Biochemical Studies-Vitamins

10066 Biochemical Studies-Lipids

22100 Routes of Immunization, Infection and Therapy

Biosystematic Codes:

85304 Caudata

Super Taxa:

Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0016006548 BIOSIS Number: 30006548

REGENERATION OF THE VIII CRANIAL NERVE IN AXOLOTL AMBYSTOMA-MEXICANUM LARVAE

COVELL D A JR

DEP. NEUROSCI.

SUE GOLDING GRADUATE STUDENT SYMPOSIUM, MAY, 1985. EINSTEIN O

J BIOL MED 3 (3), 1985. 123. CODEN: EOJMD

Language: ENGLISH

Document Type: CONFERENCE PAPER

Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT CENTRAL NERVOUS SYSTEM

Concept Codes:

- *11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-)
- *20504 Nervous System-Physiology and Biochemistry
- *25502 Developmental Biology-Embryology-General and Descriptive
- 00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals
- 11104 Anatomy and Histology, General and Comparative-Experimental Anatomy

Biosystematic Codes:

85304 Caudata

Super Taxa:

Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0016006019 BIOSIS Number: 30006019

MEMBRANE CURRENTS IN DEPOLARIZING BIPOLAR CELLS RECORDED BY WHOLE-CELL PATCH-CLAMPING IN LIVING RETINAL SLICES FROM THE AXOLOTL RETINA

ATTWELL D; MOBBS P; TESSIER-LAVIGNE M; WILSON M

DEP. PHYSIOL., UNIV. COLL. LONDON.

PROCEEDINGS OF THE PHYSIOLOGICAL SOCIETY (UNIVERSITY COLLEGE LONDON MEETING), LONDON, ENGLAND, MAR. 28-29, 1985. J PHYSIOL

(cont. next page)


 DIALOG
INFORMATION SERVICES, INC.

DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302;RRM3202 (C.BIOSIS 1987)

(LOND) 365 (O), 1985. 34P. CODEN: JPHYA

Language: ENGLISH

Document Type: CONFERENCE PAPER

Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT L GLUTAMATE HYPERPOLARIZATION

SYNAPTIC TRANSMITTER PHOTORECEPTOR CONDUCTANCE

Concept Codes:

- *02506 Cytology and Cytochemistry-Animal
- *10508 Biophysics-Membrane Phenomena
- *20001 Sense Organs, Associated Structures and Functions-General; Methods
- *20004 Sense Organs, Associated Structures and Functions-Physiology and Biochemistry
- 00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals
- 10064 Biochemical Studies-Proteins, Peptides and Amino Acids
- 10502 Biophysics-General Biophysical Studies

Biosystematic Codes:

85304 Caudata

Super Taxa:

Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0016005989 BIOSIS Number: 30005989

USE OF PATCH-CLAMP RECORDING TO STUDY MUELLER CELLS AND BIPOLAR CELLS ISOLATED FROM OR IN SLICES OF THE AXOLOTL RETINA

ATTWELL D; BREW H; MOBBS P; TESSIER-LAVIGNE M; WILSON M

DEP. PHYSIOL., UNIV. COLL. LONDON.

PROCEEDINGS OF THE PHYSIOLOGICAL SOCIETY (UNIVERSITY COLLEGE LONDON MEETING), LONDON, ENGLAND, MAR. 28-29, 1985. J PHYSIOL

(LOND) 365 (O), 1985. 4P. CODEN: JPHYA

Language: ENGLISH

Document Type: CONFERENCE PAPER

Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT ELECTRICAL PROPERTY MEMBRANE

Concept Codes:

- *02506 Cytology and Cytochemistry-Animal
- *10502 Biophysics-General Biophysical Studies
- *20001 Sense Organs, Associated Structures and Functions-General; Methods
- *20004 Sense Organs, Associated Structures and Functions-Physiology and Biochemistry
- 00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals
- 10504 Biophysics-General Biophysical Techniques
- 10508 Biophysics-Membrane Phenomena

Biosystematic Codes:

85150 Vertebrata-Unspecified

Super Taxa:

Animals: Vertebrates; Nonhuman Vertebrates

0016005290 BIOSIS Number: 30005290

RETINOIDS AND THE CONTROL OF PATTERN IN REGENERATING LIMBS

MADEN M

NATIONAL INST. MED. RESEARCH, RIDGEWAY, MILL HILL, LONDON

NW7 1AA, U.K.

MUGENT, J. AND S. CLARK (ED.), CIBA FOUNDATION SYMPOSIUM,

NO. 113, RETINOIDS, DIFFERENTIATION AND DISEASE, LONDON,

ENGLAND, SEPT. 25-27, 1984. X+286P. CIBA FOUNDATION, LONDON,

ENGLAND; PITMAN PUBLISHING LIMITED, LONDON, ENGLAND, ILLUS.

ISBN 0-272-79813-4. O (O), 1985. 132-155. CODEN: CIBSB

Language: ENGLISH

Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: CHICK RANA-TEMPORARIA LIMB BUDS AXOLOTL

Concept Codes:

- *10063 Biochemical Studies-Vitamins
- *11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-)
- *11318 Chordate Body Regions-Extremities (1970-)
- *25504 Developmental Biology-Embryology-Experimental
- *25508 Developmental Biology-Embryology-Morphogenesis, General
- 00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals
- 10066 Biochemical Studies-Lipids

Biosystematic Codes:

85304 Caudata

85306 Saliientia

85536 Galliformes

Super Taxa:

Animals: Vertebrates; Nonhuman Vertebrates; Amphibians; Birds

0016001330 BIOSIS Number: 30001330

THE AXOLOTL MUTANTS

ARMSTRONG J B

DEP. OF BIOL., UNIV. OF OTTAWA, OTTAWA, CANADA K1N 6N5.

DEV GENET 6 (1), 1985. 1-26. CODEN: DGNDT

Language: ENGLISH

Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: REVIEW AMBYSTOMA-MEXICANUM

EMBRYOGENESIS

Concept Codes:

- *03506 Genetics and Cytogenetics-Animal
- *25502 Developmental Biology-Embryology-General and Descriptive
- *25508 Developmental Biology-Embryology-Morphogenesis, General

Biosystematic Codes:

85304 Caudata

Super Taxa:

(cont. next page)


 DIALOG
INFORMATION SERVICES, INC.

DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302;RRM3202 (C.BIOSIS 1987)

Animals: Vertebrates: Nonhuman Vertebrates: Amphibians
0015708230 BIOSIS Number: 29107393
NEUROTRANSMITTER-INDUCED CURRENTS IN BIPOLAR CELLS ISOLATED FROM THE AXOLOTL RETINA RECORDED BY WHOLE-CELL PATCH-CLAMPING
ATTWELL D; MOBS S P; TESSIER-LAVIGNE M; WILSON M
DEP PHYSIOL., UNIV. COLL., LONDON
PROCEEDINGS OF THE PHYSIOLOGICAL SOCIETY (BRISTOL MEETING), LONDON, ENGLAND, FEB. 22-23, 1985. J PHYSIOL (LOND) 364 (0) 1985. 38P. CODEN: UPHYA
Language: ENGLISH
Document Type: CONFERENCE PAPER
Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT MEMBRANE CONDUCTANCE
PHOTORECEPTOR GLYCINE PUTRESCINE CADAVERINE N
ACETYLHISTIDINE ASPARTATE GLUTAMATE GAMMA AMINOBUTYRIC-ACID
BICUCULLINE STRYCHNINE

Concept Codes:
*02506 Cytology and Cytochemistry-Animal
*10508 Biophysics-Membrane Phenomena
*17020 Endocrine System-Neuroendocrinology (1972-)
*20004 Sense Organs, Associated Structures and Functions-Physiology and Biochemistry
*20504 Nervous System-Physiology and Biochemistry
*22024 Pharmacology-Neuropharmacology
00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals
10060 Biochemical Studies-General
10064 Biochemical Studies-Proteins, Peptides and Amino Acids
10502 Biophysics-General Biophysical Studies
10504 Biophysics-General Biophysical Techniques
13012 Metabolism-Proteins, Peptides and Amino Acids
20501 Nervous System-General: Methods
Biosystematic Codes:
85304 Caudata
Super Taxa:
Animals: Vertebrates: Nonhuman Vertebrates: Amphibians

0015702335 BIOSIS Number: 80100764
FORMATION OF THE PRONEPHROS AND PRONEPHRIC DUCT RUDIMENT IN THE MEXICAN AXOLOTL AMBYSTOMA-MEXICANUM
GILLESPIE L L; ARMSTRONG J B
DEPARTMENT BIOLOGY, UNIVERSITY OTTAWA, OTTAWA, CANADA K1N 6N5.
J MORPHOL 185 (2), 1985. 217-222. CODEN: JOMDA
Language: ENGLISH
Subfile: BA (Biological Abstracts)
In the Mexican axolotl (*A. mexicanum*), the pronephros begins to form at the 4-somite stage. It is initially continuous with the posterior-lateral region of somite 2 and the lateral margin of somites 3 and 4. By the 7-somite stage, the pronephros has become compacted, and the cells are now morphologically distinct from the somitic cells. At this stage, a mass of loosely connected cells, apparently

originating from the lateral mesoderm, is seen below somites 4 and 5. By the 8-somite stage, these presumptive duct cells have migrated dorsally to the duct path and are found below somites 5-7. By the 9-somite stage they have begun to migrate caudally.

Descriptors/Keywords: SOMITIC CELL LATERAL MESODERM
Concept Codes:
*11108 Anatomy and Histology, General and Comparative-Microscopic and Ultramicroscopic Anatomy
*15502 Urinary System and External Secretions-Anatomy
*15504 Urinary System and External Secretions-Physiology and Biochemistry
*25502 Developmental Biology-Embryology-General and Descriptive
Biosystematic Codes:
85304 Caudata
Super Taxa:
Animals: Vertebrates: Nonhuman Vertebrates: Amphibians

0015690025 BIOSIS Number: 29098355
GLIAL GROWTH FACTOR AND THE NEURONAL CONTROL OF CELL DIVISION IN AMPHIBIAN LIMB REGENERATION
KINTNER C R; LEMKE G E; BROCKES J P
MRC CELL BIOPHYSICS UNIT, 26 DRURY LANE, LONDON WC2B 5RL, ENGLAND.
EDELMAN, G. M., W. E. GALL AND W. M. COWAN (ED.), THE NEUROSCIENCES INSTITUTE PUBLICATION SERIES: MOLECULAR BASES OF NEURAL DEVELOPMENT: ANNUAL SYMPOSIA OF THE NEUROSCIENCES INSTITUTE OF THE NEUROSCIENCES RESEARCH PROGRAM, X-606P, JOHN WILEY & SONS, INC., NEW YORK, N.Y., USA; CHICHESTER, ENGLAND; NEUROSCIENCES RESEARCH FOUNDATION, INC., NEW YORK, N.Y., USA. ILLUS. ISBN 0-471-81561-6. O (0), 1985. 119-138. CODEN: 20851
Language: ENGLISH
Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: NEWT AXOLOTL RAT SCHWANN CELL BLASTEMAL CELL ASTROCYTE FIBROBLAST
Concept Codes:
*02506 Cytology and Cytochemistry-Animal
*11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-)
*17002 Endocrine System-General
*20504 Nervous System-Physiology and Biochemistry
*25508 Developmental Biology-Embryology-Morphogenesis, General
00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals
10064 Biochemical Studies-Proteins, Peptides and Amino Acids
11318 Chordate Body Regions-Extremities (1970-)
(cont. next page)



008858

DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302;RRM3202 (C.BIOSIS 1987)

Biosystematic Codes:
85304 Caudata
86375 Muridae
Super Taxa:
Animals: Vertebrates: Nonhuman Vertebrates: Amphibians; Mammals: Nonhuman Mammals: Rodents

0015688717 BIOSIS Number: 29097047
REGENERATION AND DEVELOPMENT OF VERTEBRATE APPENDAGES
MUNEKA K; BRYANT S
DEV. BIOL. CENT., UNIV. CALIF., IRVINE, CALIF. 92717, USA.
FERGUSON, M. W. J. (ED.), SYMPOSIA OF THE ZOOLOGICAL SOCIETY OF LONDON, NO. 52. THE STRUCTURE, DEVELOPMENT AND EVOLUTION OF REPTILES: MEETING, LONDON, ENGLAND, MAY 26-27, 1983. XXII+697P. ACADEMIC PRESS INC., LONDON, ENGLAND; ORLANDO, FLA., USA. ILLUS. ISBN 0-12-613352-2. O (0), 1984 (RECD. 1985). 177-196. CODEN: SZSLA
Language: ENGLISH
Subfile: BARRM (Biological Abstracts/RRM)

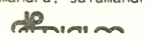
Descriptors/Keywords: AMBYSTOMA-MEXICANUM PATTERN FORMATION POLAR COORDINATE MODEL
Concept Codes:
*11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-)
*11318 Chordate Body Regions-Extremities (1970-)
*25504 Developmental Biology-Embryology-Experimental
*25508 Developmental Biology-Embryology-Morphogenesis, General
00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals
04500 Mathematical Biology and Statistical Methods
Biosystematic Codes:
85150 Vertebrata-Unspecified
85304 Caudata
Super Taxa:
Animals: Vertebrates: Nonhuman Vertebrates: Amphibians

0015663042 BIOSIS Number: 80078243
STAGE-DEPENDENT EFFECTS OF RETINOIC-ACID ON REGENERATING URODELE LIMBS
NIAZI I A; PESCIATELLI M J; STOCUM D L
UNIV. ILLINOIS, DEP. GENETICS AND DEVELOPMENT, 515 MORRILL HALL, 505 SOUTH GODDWIN AVE, URBANS, IL 61801.
WILHELM ROUX'S ARCH DEV BIOL 194 (6), 1985. 355-363. CODEN: WRABD
Language: ENGLISH
Subfile: BA (Biological Abstracts)
Following amputation through the distal zeugopodium, regenerating limbs of larval *Ambystoma mexicanum* and pre and post-metamorphic *Pleurodeles waltl* were treated with 150 .mu.g of retinoic acid (RA) per gram of body weight, at the dedifferentiation, early bud, medium bud, late bud or early

redifferentiation stages of regeneration. The effect of RA on regenerate morphogenesis differed as a function of the stage at which it was administered. When given during dedifferentiation or at early bud stages, RA evoked proximodistal duplications of stump segments in the regenerates. The maximum duplication index (DI) in *Ambystoma* was achieved when RA was injected at 4 days post-amputation, which corresponds to the stage of dedifferentiation; and in *Pleurodeles* at 10 days post-amputation, which corresponds to a stage midway between early bud and medium bud. When RA was administered at later stages, the DI declined progressively to 0 or nearly 0 by the stage of early redifferentiation in both species. The decline in DI was due to a decreased frequency of duplication, not to a decrease in the magnitude of duplication in individual regenerates. At the same time, there was an increase in hyponormism and aberrant morphogenesis of both duplicating and non-duplicating regenerates. These results indicate that regenerative cells are differentially sensitive to RA in a stage-dependent way.

Descriptors/Keywords: AMBYSTOMA-MEXICANUM PLEURODELES-WALTII REGENERATIVE CELL
Concept Codes:
*02506 Cytology and Cytochemistry-Animal
*11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-)
*13016 Metabolism-Fat-Soluble Vitamins
10063 Biochemical Studies-Vitamins
10066 Biochemical Studies-Lipids
11318 Chordate Body Regions-Extremities (1970-)
12002 Physiology, General and Miscellaneous-General
Biosystematic Codes:
85304 Caudata
Super Taxa:
Animals: Vertebrates: Nonhuman Vertebrates: Amphibians

0015660677 BIOSIS Number: 80075878
DERMO-EPITHELIAL INTERACTIONS DURING THE DEVELOPMENT OF CUTANEOUS GLAND ANLAGEN IN AMPHIBIA: A LIGHT MICROSCOPE AND ELECTRON MICROSCOPE STUDY ON SEVERAL SPECIES WITH SOME CYTOCHEMICAL FINDINGS
DELFINO G; BRIZZI R; CALLONI C
ISTITUTO DI ANATOMIA COMPARATA, BIOLOGIA GENERALE E GENETICA, VIA ROMANA N 17, 50125 FIRENZE, ITALIA.
Z MIKROSKOP-ANAT FORSCH (LEIPZ) 99 (2), 1985. 225-253. CODEN: ZMAFA
Language: ENGLISH
Subfile: BA (Biological Abstracts)
The precocious stages of development of the amphibian cutaneous glands were described in 12 species [*Bombina variegata pachyopus*, *Bufo bufo*, *Discoglossus pictus*, *Hyla arborea*, *Rana graeca*, *R. temporaria*, *Ambystoma mexicanum*, *Euproctus platycephalus*, *Salamandra salamandra*, *Salamandrina* (cont. next page)]



DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302;RRM3202 (C.BIOSIS 1987)

terdigitata, *Triturus alpestris* and *T. cristatus*] (6 Anura and 6 Urodela). During these morphogenetic phases the gland anlagen segregate from epidermis and establish stromal relationships with the dermis. Particular consideration was given to the serous (or granulous) anlagen during the study, since their corresponding fully developed glands present significant morphofunctional differences in the 2 orders. Isolation of the gland buds results not only from proliferation processes and kinesis in their blastocytes, but also from interactions between these cells and connective tissue cells, which, through coordinated processes of synthesis and demolition, remodel the junctional structure at the dermoepithelial interface. The aspects of these interactions are compared with examples of epithelial mesenchymal cooperations described during the morphogenesis of exocrine glands in homeotherm vertebrates. The research was carried out on a wide range of species and emphasizes that the isolation process which meets resistance from a dense layer of dermis proceeds differently in the 2 orders, though they have similar cytological mechanisms at disposition. In the Anura, where proliferative phenomena prevail, isolation is achieved by active invasion into the dermis on the part of the anlagen; in the serous gland buds the process evolves rather slowly and consequently their secretory cytodifferentiation starts within an epidermal microenvironment. Isolation in the Urodela is very rapid: a stromal cleft rises from the dermis within the thickness of the epidermis, following migration of the peripheral gland blastocytes, which converge towards the anlage apex. A still undifferentiated gland bud becomes efficiently segregated from the keratinocytes, although it remains aligned with them, and its serous secretory evolution commences within a stroma-conditioned microenvironment. Since processes of rapid isolation were also observed in other types of anlagen (mucous buds in both orders and mixed, serous-mucous, buds formed in Urodela), the serous units in the Anura represent the sole glandular category in amphibian skin whose secretory differentiation is determined within its original environment. This finding, considered remarkable as regards the ontogenetic characterization of granulous glands in the Anura, is discussed in the light of their complex biosynthetic activity, which follows exocrine as well as neuroendocrine programs.

Descriptors/Keywords: BOMBINA-VARIEGATA-PACHYPUS BUFO-RUFO DISCOGLOSSUS-PICTUS HYLIA-ARBOREA RANA-GRAECA RANA-TEMPORARIA AMBYSTOMA-MEXICANUM EUPROCTUS-PLATYCEPHALUS SALAMANDRA-SALAMANDRA SALAMANDRINA-TERDIGITATA TRITURUS-ALPESTRIS TRITURUS-CRISTATUS STROMAL RELATIONSHIP NEUROENDOCRINE FUNCTION MORPHOFUNCTIONAL DIFFERENCES COMPARISON

Concept Codes:

- *02506 Cytology and Cytochemistry-Animal
- *17002 Endocrine System-General
- *25502 Developmental Biology-Embryology-General and Descriptive
- 01052 Microscopy Techniques-General and Special Techniques
- 01058 Microscopy Techniques-Electron Microscopy

008860

17020 Endocrine System-Neuroendocrinology (1972-)

Biosystematic Codes:
85304 Caudata

Super Taxa:

Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0015659822 BIOSIS Number: 80075023
IN-VITRO DIFFERENTIATION OF NEURONAL PRECURSOR CELLS FROM AMPHIBIAN LATE GASTRULAE MORPHOLOGICAL IMMUNOCYTOCHEMICAL STUDIES BIOSYNTHESIS ACCUMULATION AND UPTAKE OF NEUROTRANSMITTERS

DUPRAT A-M; KAN P; FOULQUIER F; WEBER M

ERA, CNRS 327, LAB. BIOLOGIE GENERALE, UNIV. PAUL SABATIER, 118 ROUTE DE NARBONNE, 31062 TOULOUSE CEDEX, FR.

J EMBRYOL EXP MORPHOL 86 (0). 1985. 71-88. CODEN: JEEMA

Language: ENGLISH

Subfile: BA (Biological Abstracts)

Neuronal differentiation was studied in dissociated cell cultures from early neurulae of *Pleurodeles waltl* and *Ambystoma mexicanum*. Cocultures were prepared from the neural primordium and underlying chordamesoderm. NP and NF cultures were prepared from isolated neural plate and neural folds, respectively. Neuronal precursors in NP and NF cultures had distinctive aggregation properties already evident after 1-2 days in culture. After 10-15 days, mature neurons and synapses were observed by EM in the 3 culture types. The expression of neurofilament polypeptides and tetanus-toxin-binding sites was also present in these cultures. A small percentage of neurons contained cytochemically detectable catecholamine. Many neurons took up tritiated dopamine with a high affinity. Quantitative measurement of [3H]acetylcholine synthesis and storage from [3H]choline were negative at the early neurula stage and in 5 to 15-day-old NF cultures, and remained low in 5-15-day-old NP cultures. Acetylcholine production in cocultures increased linearly with time and was always much higher than in NP cultures. Evidently, at the early neurula stage, some neuronal precursors have acquired the capacity to express a high degree of morphological and biochemical differentiation even in the absence of further chordamesoderm influence. However, the chordamesodermal cells in the cultures increased acetylcholine synthesis.

Descriptors/Keywords: PLEURODELES-WALTII AMBYSTOMA-MEXICANUM CATECHOLAMINE DOPAMINE ACETYLCHOLINE ELECTRON MICROSCOPY

Concept Codes:

- *02506 Cytology and Cytochemistry-Animal
- *11108 Anatomy and Histology, General and Comparative-Microscopic and Ultramicroscopic Anatomy
- *13012 Metabolism-Proteins, Peptides and Amino Acids
- *17020 Endocrine System-Neuroendocrinology (1972-)
- *20504 Nervous System-Physiology and Biochemistry
- *25502 Developmental Biology-Embryology-General and Descriptive
- *25508 Developmental Biology-Embryology-Morphogenesis, (cont. next page)



DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302;RRM3202 (C.BIOSIS 1987)

General
01058 Microscopy Techniques-Electron Microscopy
06504 Radiation-Radiation and Isotope Techniques
10010 Comparative Biochemistry, General
10064 Biochemical Studies-Proteins, Peptides and Amino Acids
12003 Physiology, General and Miscellaneous-Comparative (1970-)
20501 Nervous System-General; Methods
20502 Nervous System-Anatomy
32500 Tissue Culture, Apparatus, Methods and Media
32600 In Vitro Studies, Cellular and Subcellular
34502 Immunology and Immunochimistry-General; Methods
Biosystematic Codes:
85304 Caudata
Super Taxa:
Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0015659807 BIOSIS Number: 80075008
REGENERATION OF AXOLOTL HINDLIMBS BEARING SURGICALLY CREATED DISCONTINUITIES IN THE ANTERIOR-POSTERIOR AXIS
HOLDER N; WEEKES C
DEP. ANATOMY, KING'S COLLEGE LONDON, STRAND, LONDON WC2R 2LS, UK.
J EMBRYOL EXP MORPHOL 86 (0). 1985. 283-310.
CODEN: JEEMA

Language: ENGLISH

Subfile: BA (Biological Abstracts)

The pattern regulation process in amphibian (*Ambystoma mexicanum*) limbs was examined with respect to the presence of discontinuities in the anterior-posterior (a-p) axis. Limbs bearing such discontinuities were surgically created by contralateral exchange of either dorsal or ventral half thighs and these limbs were than amputated immediately after surgery. Apparently, a-p discontinuities lead to the formation of extra limb structures during distal outgrowth in contrast to the mosaic behavior of comparable limb stumps which contain dorsal-ventral (d-v) discontinuities (Holder & Weekes, 1984). Pattern regulation in the transverse limb axes evidently is accomplished by basically different mechanisms. The structure of the limbs in the present study was examined in Victoria-blue-stained wholemounts and serial sections. The results allow some discussion of the basic mechanisms for pattern regulation in the 2 transverse limb axes and the relationship between them.

Descriptors/Keywords: AMBYSTOMA-MEXICANUM

Concept Codes:

- *12502 Pathology, General and Miscellaneous-General
- *25503 Developmental Biology-Embryology-Pathological
- *25504 Developmental Biology-Embryology-Experimental
- *25508 Developmental Biology-Embryology-Morphogenesis, General
- 01056 Microscopy Techniques-Histology and Histochemistry
- 11104 Anatomy and Histology, General and Comparative-Experimental Anatomy

11318 Chordate Body Regions-Extremities (1970-)

Biosystematic Codes:

85304 Caudata

Super Taxa:

Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0015659805 BIOSIS Number: 80075006
NORMAL FATES AND STATES OF SPECIFICATION OF DIFFERENT REGIONS IN THE AXOLOTL AMBYSTOMA-MEXICANUM GASTRULA

CLEINE J H; SLACK J M W

IMPERIAL CANCER RES. FUND, MILL HILL LAB., BURTONHOLE LANE,

LONDON NW7 1AD, UK.

J EMBRYOL EXP MORPHOL 86 (0). 1985. 247-270.

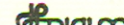
CODEN: JEEMA

Language: ENGLISH

Subfile: BA (Biological Abstracts)

A fate map was constructed for 4 regions of the early gastrula of *A. mexicanum* using orthotopic grafts from donors labeled with FLDx (fluoresceinated-lysinated-dextran). The region around the animal pole gave rise to epidermis only and did not include prospective neural plate. The dorsal marginal zone contributed to cephalic endoderm and to the whole length of the axial mesoderm (notochord and somites), the lateral marginal zone to the lateroventral and somitic mesoderm, and the ventral marginal zone to lateroventral mesoderm. The dorsal marginal zone apparently contributed relatively more to the anterior regions of the mesodermal mantle and the ventral marginal zone more to its posterior parts. The same regions of the gastrula and also vegetal yolk tissue were cultured as explants and labeled with tritiated mannose. Their glycoprotein synthesis pattern was compared to those of the neurula tissues to which they contribute in vivo. Animal pole explants synthesized large amounts of the epidermis-specific marker epimucin. Dorsal marginal zone explants did not synthesize epimucin but did make amounts of S2 and S6 indicative of mesoderm, as well as the notochord-specific markers S2.2 and S3.2. Lateral marginal zone explants showed the same pattern as the dorsal marginal zone including the 2 notochord-specific markers, although they do not contribute to notochord in vivo. Ventral marginal zone explants were more variable in their behavior. Yolk tissue from the vegetal hemisphere of the gastrula of the archenteron floor of the neurula synthesized mainly polydisperse material of high molecular weight rather than discrete glycoproteins. At the early gastrula stage states of specification exist which apparently correspond to the 3 germ layers, ectoderm, mesoderm and endoderm. The ectodermal specification of animal pole explants is quite robust and cannot easily be changed by variation of the culture conditions. However, treatment with a concentrated pellet of vegetalizing factor does induce a change to mesodermal specification, which is clearly detectable in the pattern of glycoprotein synthesis. Similar inductive interactions between different regions of the early embryo are thought to occur during normal development.

(cont. next page)



DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302;RRM3202 (C.BIOSIS 1987)

Descriptors/Keywords: TRITIATED MANNOSE GLYCOPROTEIN SYNTHESIS
EPIMUCIN DEVELOPMENT FATE MAP

Concept Codes:

- *12002 Physiology, General and Miscellaneous-General
- *13004 Metabolism-Carbohydrates
- *13012 Metabolism-Proteins, Peptides and Amino Acids
- *25504 Developmental Biology-Embryology-Experimental
- *25508 Developmental Biology-Embryology-Morphogenesis, General
- 06504 Radiation-Radiation and Isotope Techniques
- 10064 Biochemical Studies-Proteins, Peptides and Amino Acids
- 10068 Biochemical Studies-Carbohydrates
- 10506 Biophysics-Molecular Properties and Macromolecules
- 32600 In Vitro Studies, Cellular and Subcellular

Biosystematic Codes:
85304 Caudata

Super Taxa:

Animals: Vertebrates: Nonhuman Vertebrates: Amphibians

0015657403 BIOSIS Number: 29084067

MEMBRANE CURRENTS IN BIPOLAR CELLS ISOLATED FROM THE AXOLOTL
RETINA RECORDED BY WHOLE-CELL PATCH-CLAMPINGATTWELL D; BEVAN S; MOBBES P; TESSIER-LAVIGNE M; WILSON M
DEP. PHYSIOL. ZOOL., UNIV. COLL. LONDON,
PHYSIOLOGICAL SOCIETY NATIONAL HOSPITAL MEETING, NOV. 9-10,
1984, J. PHYSIOL (LOND) 360 (O), 1985, 19P. CODEN: UPHYA

Language: ENGLISH

Document Type: CONFERENCE PAPER

Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT PHOTORECEPTOR CELL
INTERPLEXIFORM CELL AMACRINE CELL GANGLION CELL HORIZONTAL
CELL BIPOLAR CELL GAMMA AMINOBUTYRIC-ACID

Concept Codes:

- *02506 Cytology and Cytochemistry-Animal
- *10508 Biophysics-Membrane Phenomena
- *20004 Sense Organs, Associated Structures and Functions-Physiology and Biochemistry
- *20504 Nervous System-Physiology and Biochemistry
- 00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals
- 10064 Biochemical Studies-Proteins, Peptides and Amino Acids
- 10504 Biophysics-General Biophysical Techniques
- 20001 Sense Organs, Associated Structures and Functions-General: Methods

Biosystematic Codes:

85304 Caudata

Super Taxa:

Animals: Vertebrates: Nonhuman Vertebrates: Amphibians

0015654678 BIOSIS Number: 29081342

A FLOW-CYTOMETRIC ANALYSIS OF THE DNA CONTENT OF DIPLOID AND
TRIPLOID CELLS OBTAINED FROM THE AXOLOTL AMBYSTOMA-MEXICANUMTANK P W; CHARLTON R K; BURNS E R
DEP. ANAT., UNIV. ARKANSAS MED. SCI., LITTLE ROCK,
ARKANSAS.AMERICAN ASSOCIATION OF ANATOMISTS 98TH ANNUAL MEETING AND
THE ASSOCIATION CANADIENNE DES ANATOMISTES (CANADIAN
ASSOCIATION OF ANATOMISTS) 29TH ANNUAL MEETING, TORONTO, ONT.,
CANADA, MAY 5-9, 1985, ANAT REC 211 (3), 1985, 192A-193A.
CODEN: ANREA

Language: ENGLISH

Document Type: CONFERENCE PAPER

Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT REGENERATION DEVELOPMENT

Concept Codes:

- *01054 Microscopy Techniques-Cytology and Cytochemistry
- *02506 Cytology and Cytochemistry-Animal
- *11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-)
- *13014 Metabolism-Nucleic Acids, Purines and Pyrimidines
- *25508 Developmental Biology-Embryology-Morphogenesis, General
- 00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals
- 10062 Biochemical Studies-Nucleic Acids, Purines and Pyrimidines

Biosystematic Codes:

85304 Caudata

Super Taxa:

Animals: Vertebrates: Nonhuman Vertebrates: Amphibians

0015654385 BIOSIS Number: 29081049

BLASTEMAS ARISING ON AXOLOTL LIMBS LACKING SKELETAL ELEMENTS
SHOW AN ALTERED DISTRIBUTION OF MYOGENIC CELLSHINTERBERGER T J
DEP. ANAT. SCI. AND COLL. MED., UNIV. ILL., URBANA, ILL.,
AMERICAN ASSOCIATION OF ANATOMISTS 98TH ANNUAL MEETING AND
THE ASSOCIATION CANADIENNE DES ANATOMISTES (CANADIAN
ASSOCIATION OF ANATOMISTS) 29TH ANNUAL MEETING, TORONTO, ONT.,
CANADA, MAY 5-9, 1985, ANAT REC 211 (3), 1985, 84A-85A.

CODEN: ANREA

Language: ENGLISH

Document Type: CONFERENCE PAPER

Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT MUSCLE DERIVED CELL MYOTUBE

REGENERATION SORTING OUT LOSS RESPECIFICATION

Concept Codes:

- *11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-
(cont. next page)

008862



INFORMATION SERVICES, INC.

DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302;RRM3202 (C.BIOSIS 1987)

- *17504 Muscle-Physiology and Biochemistry
- *18002 Bones, Joints, Fasciae, Connective and Adipose Tissue-Anatomy
- *18004 Bones, Joints, Fasciae, Connective and Adipose Tissue-Physiology and Biochemistry
- *25504 Developmental Biology-Embryology-Experimental
- *25508 Developmental Biology-Embryology-Morphogenesis, General
- 00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals
- 02506 Cytology and Cytochemistry-Animal
- 11318 Chordata Body Regions-Extremities (1970-)
- 32600 In Vitro Studies, Cellular and Subcellular

Biosystematic Codes:

85304 Caudata

Super Taxa:

Animals: Vertebrates: Nonhuman Vertebrates: Amphibians

0015654244 BIOSIS Number: 29080908

ORGANIZATION OF MOTOR COLUMNS IN THE SPINAL CORD OF
AMBYSTOMA-MEXICANUMCAREY F J
DEP. OF ANATOMY AND CELL BIOLOGY, UNIV. OF MICH., ANN ARBOR,
MICH.AMERICAN ASSOCIATION OF ANATOMISTS 98TH ANNUAL MEETING AND
THE ASSOCIATION CANADIENNE DES ANATOMISTES (CANADIAN
ASSOCIATION OF ANATOMISTS) 29TH ANNUAL MEETING, TORONTO, ONT.,
CANADA, MAY 5-9, 1985, ANAT REC 211 (3), 1985, 33A-34A.

CODEN: ANREA

Language: ENGLISH

Document Type: CONFERENCE PAPER

Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT MOTONEURONS

Concept Codes:

- *02502 Cytology and Cytochemistry-General
- *17502 Muscle-Anatomy
- *20502 Nervous System-Anatomy
- 00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals
- 01056 Microscopy Techniques-Histology and Histochemistry

Biosystematic Codes:

85304 Caudata

Super Taxa:

Animals: Vertebrates: Nonhuman Vertebrates: Amphibians

0015653240 BIOSIS Number: 29079904

FUNCTIONAL MORPHOLOGY OF GILLS IN LARVAL AMPHIBIANS

MCINDOE R; SMITH D G
DEP. ZOOL., MONASH UNIV., CLAYTON, VICTORIA, 3168,
AUSTRALIA.

SEYMOUR, R. S. (ED.), PERSPECTIVES IN VERTEBRATE SCIENCE

VOL. 3, RESPIRATION AND METABOLISM OF EMBRYONIC VERTEBRATES;
SATELLITE SYMPOSIUM OF THE 29TH INTERNATIONAL CONGRESS OF
PHYSIOLOGICAL SCIENCES, SYDNEY, AUSTRALIA, SEPT. 8-10, 1983.
XI+445P. DR W. JUNK PUBLISHERS: DORDRECHT, NETHERLANDS;
BOSTON, MASS., USA. (DIST. BY KLUWER BOSTON, INC.; HINGHAM,
MASS., USA; KLUWER ACADEMIC PUBLISHERS GROUP: DORDRECHT,
NETHERLANDS). ILLUS. ISBN 90-6193-053-7. O (O). 1984 (RECD.
1985). 55-70. CODEN: PVSCD

Language: ENGLISH

Document Type: CONFERENCE PAPER

Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT LITORIA-EWINGI

AMBYSTOMA-MEXICANUM SIMPLE CAPILLARY LOOP GAS EXCHANGE
POISEUILLE RELATION RANDOM ORIENTATION

Concept Codes:

- *10502 Biophysics-General Biophysical Studies
- *11108 Anatomy and Histology, General and Comparative-Microscopic and Ultramicroscopic Anatomy
- *14502 Cardiovascular System-Anatomy
- *14504 Cardiovascular System-Physiology and Biochemistry
- *16002 Respiratory System-Anatomy
- *16004 Respiratory System-Physiology and Biochemistry
- *25502 Developmental Biology-Embryology-General and Descriptive
- 00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals

01058 Microscopy Techniques-Electron Microscopy

04500 Mathematical Biology and Statistical Methods

Biosystematic Codes:

85304 Caudata

85306 Saliientia

Super Taxa:

Animals: Vertebrates: Nonhuman Vertebrates: Amphibians

0015642210 BIOSIS Number: 80065803

A 3-STEP SCHEME FOR GRAY CRESCENT FORMATION IN THE ROTATED
AXOLOTL OOCYTEGAUTIER J; BEETSCHEN J-C
LABORATOIRE DE BIOLOGIE GENERALE, UNITE ASSOCIEE AU CNRS NO.
04675, UNIVERSITE PAUL SABATIER, 118, ROUTE DE NARBONNE, 31062
TOULOUSE CEDEX, FRANCE.

DEV BIOD 110 (1), 1985, 192-199. CODEN: DEBIA

Language: ENGLISH

Subfile: BA (Biological Abstracts)

It has been shown that various inhibitors of protein synthesis can elicit the precocious appearance of a gray crescent (GC) in in vitro maturing, nonactivated Ambystoma mexicanum oocytes. However, evidence has now been obtained that these treatments fail to induce GC formation when the oocytes are enucleated before initiation of maturation. The ability to form a GC is reestablished in enucleated oocytes by the injection of nucleoplasm from a normal oocyte, either

(cont. next page)

DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302;RRM3202 (C.BIOSIS 1987)

before or after the injection of the inhibitor. In the latter case, the GC appears very rapidly, even though protein synthesis is at about 1/10th that of the control enucleated oocyte, after treatment with diphtheria toxin (final concentration 10-8 M) as an inhibitor. One or several nuclear factors, in conjunction with inhibition of protein synthesis, are therefore essential for early symmetrization. The corrective nuclear factor is already present in the germinal vesicle of young oocytes, at the very beginning of vitellogenesis. It is not species specific, since enucleated axolotl oocytes can be symmetrized with Pleurodeles or even Xenopus oocyte nucleoplasm. Moreover, it has been shown that the nuclear-cytoplasmic interaction is possible only when cytoplasmic maturation has been proceeding for at least 10 h after exposure to progesterone (at 18 degree C). A 3-step process as a prerequisite of GC formation in the oocyte is proposed: cytoplasmic maturation must proceed till a reactive state is attained, allowing interactions with nuclear factors; nuclear factor(s) interact(s) with matured cytoplasm; inhibition of protein synthesis triggers GC formation. Sequence of steps 2 and 3 can be experimentally inverted but must always be preceded by step 1. Since a sharp reduction in amino acid incorporation has also been found in normally fertilized eggs just prior to GC formation, it is suggested that the scheme described above could be also applicable to normal symmetrization in this model system.

Descriptors/Keywords: AMBYSTOMA-MEXICANUM PLEURODELES XENOPUS PROTEIN SYNTHESIS INHIBITORS NUCLEOPLASM CYTOPLASMIC MATURATION

Concept Codes:

- *02506 Cytology and Cytochemistry-Animal
- *13012 Metabolism-Proteins, Peptides and Amino Acids
- *16502 Reproductive System-Anatomy
- *16504 Reproductive System-Physiology and Biochemistry
- *25504 Developmental Biology-Embryology-Experimental
- *25508 Developmental Biology-Embryology-Morphogenesis, General
- 10064 Biochemical Studies-Proteins, Peptides and Amino Acids
- 16501 Reproductive System-General; Methods
- 22003 Pharmacology-Drug Metabolism; Metabolic Stimulators

Biosystematic Codes:

- 85304 Caudata
- 85306 Saliencia

Super Taxa:

Animals; Vertebrates; Nonhuman Vertebrates; Amphibians

0015640784 BIOSIS Number: 80064377
HISTOLOGICAL ANALYSIS OF LIMB REGENERATION IN
POSTMETAMORPHIC ADULT AMBYSTOMA
YOUNG H E; BAILEY C F; MARKWALD R R; DALLEY B K
DEP. OF BIOLOGY, CASE WESTERN RESERVE UNIV., CLEVELAND, OHIO
44106.
ANAT REC 212 (2). 1985. 183-194. CODEN: ANREA
Language: ENGLISH

008864

Subfile: BA (Biological Abstracts)

Previous investigation into the regenerative ability of postmetamorphic adult land phase Ambystoma revealed that these species have the capacity to completely regenerate a limb, given optimal environmental conditions, and the gross morphological characteristics of limb regeneration in these species compared favorably with the normal regeneration morphology of aquatic phase forms. The present study concerns a histological and histochemical examination of the regenerating limb tissues and their respective extracellular and intracellular tissue matrices. Postmetamorphic adult Ambystoma were amputated through the forearm, placed within optimal environmental conditions, and allowed to regenerate. The tissues were harvested at designated intervals after amputation and prepared for light microscopic examination. The limb tissues were assayed histologically for similarities to and differences from previously established regeneration morphologies. Specific correlation (i.e., apical epidermal cap formation, bud outgrowth and elongation, palette formation and digit formation) existed between regeneration histologies in these species and those previously reported for the aquatic urodeles, newt, axolotl and larval salamander. By utilizing the histological and histochemical characteristics of the tissue, the regenerate limb was divided into 5 tissue units: epidermal, blastemal, soft, hard and neuro/vascular. Based on the unique morphology of their extracellular matrices and respective histochemical staining patterns, 4 distinct blastemal regions were delineated within the blastemal units: subregenerate epidermal blastema, soft-tissue blastema, hard-tissue blastema and core blastema. Histochemically, changing patterns of highly sulfated, weakly sulfated, and carboxylated polysaccharides and glycosylated compounds were located within both the extra- and intracellular stump and regenerate tissue matrices during regeneration. These patterns of intra- and extracellular macromolecular material correlated to previous reports of similar-type compounds assayed during regeneration in aquatic urodeles. With this in mind, the adult land phase Ambystoma can be considered an appropriate model system for studies concerning normal limb regeneration.

Descriptors/Keywords: URODELE NEWT AXOLOTL LARVAL SALAMANDER APICAL EPIDERMAL CAP FORMATION BUD OUTGROWTH-ELONGATION PALETTE FORMATION DIGIT FORMATION

Concept Codes:

- *01056 Microscopy Techniques-Histology and Histochemistry
- *11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-)
- *11108 Anatomy and Histology, General and Comparative-Microscopic and Ultramicroscopic Anatomy
- *11318 Chordate Body Regions-Extremities (1970-)
- 01052 Microscopy Techniques-General and Special Techniques
- 12003 Physiology, General and Miscellaneous-Comparative (1970-)

Biosystematic Codes:

- 85304 Caudata

(cont. next page)



DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302;RRM3202 (C.BIOSIS 1987)

Super Taxa:

Animals; Vertebrates; Nonhuman Vertebrates; Amphibians

0015633376 BIOSIS Number: 29069207
DISEASES IN THE AMPHIBIAN FACILITY OF THE HUBRECHT
LABORATORY THE NETHERLANDS AMBYSTOMA-MEXICANUM XENOPUS-LAEVIS
DISCOGLOSSUS-PICTUS RANA-PIPIENS RANA-LESSONAE
BOMBINA-ORIENTALIS
VERHOEFF-DE FREMERY R
HUBRECHT LAB.-INTERNATIONAL EMBRYOL. INST., UPPSALAAN
8-3584 CT UTRECHT, NETHERLANDS.
VAGO, C. AND G. MATZ (ED.). COMPTES RENDUS DU PREMIER
COLLOQUE INTERNATIONAL DE PATHOLOGIE DES REPTILES ET DES
AMPHIBIENS; PROCEEDINGS OF THE FIRST INTERNATIONAL COLLOQUIUM
ON PATHOLOGY OF REPTILES AND AMPHIBIANS; MEETING, SEPT.
29-OCT. 2, 1982, ANGERS, FRANCE. X+258P. PRESSES DE
L'UNIVERSITE D'ANGERS; ANGERS, FRANCE. ILLUS. PAPER. ISBN
2-903075-21-7. O (O). 1983 (RECD. 1985). 9-10.
CODEN: 19550
Language: ENGLISH
Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: TRICHOMONAS RHABDIAS PARASITOLGY ANEMIA
EDEMA SALMONELLA INFECTION PSEUDOMONAS INFECTION
AEROMONAS-HYDROPHILA RED-LEG

Concept Codes:

- *12502 Pathology, General and Miscellaneous-General
- *15006 Blood, Blood-Forming Organs and Body Fluids-Blood, Lymphatic and Reticuloendothelial Pathologies
- *15010 Blood, Blood-Forming Organs and Body Fluids-Other Body Fluids
- *36002 Medical and Clinical Microbiology-Bacteriology
- *38004 Veterinary Science-Pathology
- *60502 Parasitology-General
- *64002 Invertebrata, Comparative and Experimental Morphology, Physiology and Pathology-Protozoa
- *64016 Invertebrata, Comparative and Experimental Morphology, Physiology and Pathology-Aschelminthes
- 00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals
- 60504 Parasitology-Medical

Biosystematic Codes:

- 04716 Pseudomonadaceae (1979-)
- 04810 Enterobacteriaceae (1979-)
- 04812 Vibrionaceae (1979-)
- 35200 Flagellata
- 51300 Nematoda
- 85304 Caudata
- 85306 Saliencia

Super Taxa:

Microorganisms; Bacteria; Animals; Invertebrates; Vertebrates; Nonhuman Vertebrates; Amphibians

0015630690 BIOSIS Number: 29066521
RETINOIDS AND THE CONTROL OF PATTERN IN LIMB DEVELOPMENT AND
REGENERATION
MADEN M
DIV. DEV. BIOL., NATL. INST. MED. RES., RIDGEWAY, MILL HILL,
LONDON NW7 1AA, UK.
TRENDS GENET 1 (4). 1985. 103-107. CODEN: TRGEE
Language: ENGLISH
Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: REVIEW CHICK AXOLOTL FROG TOAD VITAMIN A
PATTERN FORMATION

Concept Codes:

- *03506 Genetics and Cytogenetics-Animal
- *11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-)
- *25504 Developmental Biology-Embryology-Experimental
- *25508 Developmental Biology-Embryology-Morphogenesis, General
- 10063 Biochemical Studies-Vitamins
- 11318 Chordate Body Regions-Extremities (1970-)

Biosystematic Codes:

- 85304 Caudata
- 85306 Saliencia
- 85536 Galliformes

Super Taxa:

Animals; Vertebrates; Nonhuman Vertebrates; Amphibians; Birds

0015629078 BIOSIS Number: 80063088
IDENTIFICATION AND LOCALIZATION OF LECTIN IN THE OVIDUCT OF
VARIOUS URODELE AMPHIBIANS
LERIVRAY H; CHESNEL A; JEGO P
LABORATOIRE BIOLOGIE REPRODUCTION, GROUPE RECHERCHES
BIOLOGIE CELLULAIRE REPRODUCTION, LABORATOIRE ASSOCIE C.N.R.S.
NO. 256, CAMPUS BEAULIEU, UNIVERSITE RENNES I, 35042 RENNES
CEDEX, FRANCE.
COMP BIOCHEM PHYSIOL B COMP BIOCHEM 81 (2). 1985.
385-392. CODEN: CBPBB
Language: ENGLISH

Subfile: BA (Biological Abstracts)

A hemagglutination activity was identified in egg jellies of urodeles (Amphibia caudata). The localization of this activity in the oviduct, which secretes the jelly, was different depending on the species. Two groups of urodeles could be distinguished in which hemagglutinin was located in the anterior segment of the oviduct or the most posterior segment. Lectins were identified by saccharide inhibition assays in 4 spp.: Pleurodeles waltlii, Ambystoma mexicanum, Hynobius nebulosus and Notoptthalmus viridescens. In N. viridescens, the lectin activity was inhibited by heparin whereas in the 2 other species the activity was inhibited by D-glucose and derivatives. P. waltlii and A. mexicanum lectins were purified (cont. next page)



DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302:RRM3202 (C.BIOSIS 1987)

by affinity chromatography on epichlorhydrin cross-linked starch. Each of the purified lectins forms a major band on SDS [sodium dodecyl sulfate] gels with MW of 26,000 (P. waltl) and 18,000 (A. mexicanum). The optimal pH of the lectin activity was 7.5 in P. waltl and 7.0 in A. mexicanum. The hemagglutination activity of both lectins required Ca²⁺ and was maximal between 30.degree. and 40.degree. C. The possible functions of these lectins are discussed.

Descriptors/Keywords: AMPHIBIA CAUDATA PLEURODELES-WALTLII
AMBYSTOMA-MEXICANUM HYNDBIUS-NEBULOSUS
NOTOPHTHALMUS-VIRIDESCENS HEPARIN HEMAGGLUTININ EGG JELLY D
GLUCOSE CALCIUM

Concept Codes:
*10010 Comparative Biochemistry, General
*15002 Blood, Blood-Forming Organs and Body Fluids-Blood and Lymph Studies
*15004 Blood, Blood-Forming Organs and Body Fluids-Blood Cell Studies
*16504 Reproductive System-Physiology and Biochemistry
*62512 Chordata, General and Systematic Zoology-Amphibia and Reptilia

02506 Cytology and Cytochemistry-Animal
10064 Biochemical Studies-Proteins, Peptides and Amino Acids
10068 Biochemical Studies-Carbohydrates
10069 Biochemical Studies-Minerals
16501 Reproductive System-General: Methods

Biosystematic Codes:
85304 Caudata
Super Taxa:
Animals: Vertebrates: Nonhuman Vertebrates: Amphibians

001562599 BIOSIS Number: 80059609
CAPILLARY DISTRIBUTION IN THE LATERAL MUSCLE OF AXOLOTL
AMBYSTOMA-MEXICANUM

TOTLAND G K
ZOOLOGICAL LABORATORY, UNIVERSITY OF BERGEN, ALLEGT. 41,
N-5000 BERGEN, NORWAY.
ACTA ZODL (STOCKH) 65 (4). 1984 (1985). 221-226.

CODEN: AZOSA
Language: ENGLISH
Subfile: BA (Biological Abstracts)
The vascular supply of red, intermediate and white fibers in the axial muscle of axolotl (A. mexicanum Shaw) was visualized with Indian ink-injections and quantified with morphometrical methods on semithin sections. Red fibers were surrounded by 1.4 +/- 0.6 capillaries (mean + SD), the intermediate fibers by 1.2 +/- 0.9 capillaries and white fibers by 0.3 +/- 0.6 capillaries. The mean vascularized surface area per unit volume of fiber was 0.0159, and 0.0068 and 0.0007 (.mu.m²/mu.m³) for red, intermediate and white fibers, respectively. A unit volume of mitochondria within each type of fiber was supplied by 0.15, 0.17 and 0.08 .mu.m² vascularized surface for red, intermediate and white fibers, respectively. This indicates that there exists a good balance

008866

between O₂ demand represented by mitochondrial content and O₂ supply represented by the vascularized surface.

Descriptors/Keywords: MITOCHONDRIAL CONTENT OXYGEN DEMAND
MORPHOMETRICS

Concept Codes:
*02506 Cytology and Cytochemistry-Animal
*13003 Metabolism-Energy and Respiratory Metabolism
*14502 Cardiovascular System-Anatomy
*17502 Muscle-Anatomy
*17504 Muscle-Physiology and Biochemistry
*10156 Microscopy Techniques-Histology and Histochemistry
10012 Mathematical Biology and Statistical Methods
10012 Biochemistry-Gases (1970-)
10060 Biochemical Studies-General
22100 Routes of Immunization, Infection and Therapy

Biosystematic Codes:
85304 Caudata
Super Taxa:
Animals: Vertebrates: Nonhuman Vertebrates: Amphibians

0015610601 BIOSIS Number: 29055599
EXTRAGENIC CONTRIBUTION OF SPERM TO EARLY DEVELOPMENT
PRENTIS S
ELSEVIER PUBLICATIONS, CAMBRIDGE, UK.
TRENDS GENET 1 (5). 1985. 125-126. CODEN: TRGEE
Language: ENGLISH
Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: AMBYSTOMA-MEXICANUM CYTOPLASMIC ISLANDS
TEMPERATURE-SENSITIVE MUTANT

Concept Codes:
*02506 Cytology and Cytochemistry-Animal
*03506 Genetics and Cytogenetics-Animal
*11108 Anatomy and Histology, General and Comparative-Microscopic and Ultramicroscopic Anatomy
*25502 Developmental Biology-Embryology-General and Descriptive
*25508 Developmental Biology-Embryology-Morphogenesis, General
10614 External Effects-Temperature as a Primary Variable (1971-)

Biosystematic Codes:
85304 Caudata
Super Taxa:
Animals: Vertebrates: Nonhuman Vertebrates: Amphibians

0015602617 BIOSIS Number: 80047615
PEANUT LECTIN RECEPTORS IN THE EARLY AMPHIBIAN EMBRYO
REGIONAL MARKERS FOR THE STUDY OF EMBRYONIC INDUCTION

SLACK J M W
IMPERIAL CANCER RESEARCH FUND, BURTONHOLE LANE, MILL HILL,
LONDON NW7 1AD, ENGLAND.
(cont. next page)

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DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302:RRM3202 (C.BIOSIS 1987)

CELL 41 (1). 1985. 237-248. CODEN: CELLS
Language: ENGLISH
Subfile: BA (Biological Abstracts)

The regional and temporal specificity of peanut agglutinin [PNA] binding was determined for early amphibian embryos. With the onset of neurulation, a receptor appears on the epidermis, but remains absent from the neural plate. A 2nd type of receptor, largely masked by sialic acid, appears throughout the extracellular matrix. In the axolotl, the epidermal receptor is epimucin and the matrix receptor is fibronectin plus other components. Both receptors are autonomously expressed, on schedule, by appropriate explants of gastrula tissue. Expression of the epidermal receptor is suppressed after exposure to a neural inducing signal. The epidermal PNA receptor is a reliable marker of epidermal character and neural induction affects the program of macromolecular synthesis within hours of the graft.

Descriptors/Keywords: AXOLOTL NEURULATION EPIDERMIS GASTRULA
TISSUE EPIMUCIN FIBRONECTIN SIALIC-ACID

Concept Codes:
*13004 Metabolism-Carbohydrates
*13012 Metabolism-Proteins, Peptides and Amino Acids
*18504 Integumentary System-Physiology and Biochemistry
*20504 Nervous System-Physiology and Biochemistry
*25504 Developmental Biology-Embryology-Experimental
*25508 Developmental Biology-Embryology-Morphogenesis, General
10064 Biochemical Studies-Proteins, Peptides and Amino Acids
10068 Biochemical Studies-Carbohydrates
10506 Biophysics-Molecular Properties and Macromolecules
11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-)

51522 Plant Physiology, Biochemistry and Biophysics-Chemical Constituents
Biosystematic Codes:
85304 Caudata
Super Taxa:
Animals: Vertebrates: Nonhuman Vertebrates: Amphibians

0015584110 BIOSIS Number: 80038275
EYE ENUCLEATION AND REGENERATION OF NEURAL RETINA IN AXOLOTL
LARVAE AMBYSTOMA-MEXICANUM

YEW D T
DEP. ANATOMY, FAC. MED., CHINESE UNIV. HONG KONG, SHATIN,
NEW TERRITORIES, HONG KONG.
ANAT ANZ 158 (3). 1985. 217-229. CODEN: ANANA
Language: ENGLISH
Subfile: BA (Biological Abstracts)

The eyes of axolotl larvae were enucleated at stages 30 and 37. Animals with single dorsomedian eyes resulted in the 1st case (i.e., stage 30). When a piece of pigment epithelium was reimplanted into stage 37 animals at the site of the lesion, limited regeneration was observed when the implant formed a

vesicle, but, when the pigment epithelium remained open, regeneration of the neural retina was extensive. The possible reasons for this difference was discussed.

Descriptors/Keywords: DORSOMEDIAN EYE PIGMENT EPITHELIUM

Concept Codes:
*11104 Anatomy and Histology, General and Comparative-Experimental Anatomy
*11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-)
*20001 Sense Organs, Associated Structures and Functions-General: Methods
*20004 Sense Organs, Associated Structures and Functions-Physiology and Biochemistry
*20504 Nervous System-Physiology and Biochemistry
*25504 Developmental Biology-Embryology-Experimental
*25508 Developmental Biology-Embryology-Morphogenesis, General

Biosystematic Codes:
85304 Caudata
Super Taxa:
Animals: Vertebrates: Nonhuman Vertebrates: Amphibians

0015584005 BIOSIS Number: 80038170
CELLULAR BEHAVIOR IN THE ANTEROPOSTERIOR AXIS OF THE
REGENERATING FORELIMB OF THE AXOLOTL AMBYSTOMA-MEXICANUM
TANK P W; CONNELLY T G; BOOKSTEIN F L
DEP. ANATOMY-510, UNIV. ARKANSAS MED. SCI., 4301 W. MARKHAM,
LITTLE ROCK, ARKANSAS 72205, USA.
DEV BIOL 109 (1). 1985. 215-223. CODEN: DEBIA
Language: ENGLISH
Subfile: BA (Biological Abstracts)

Cellular behavior along the anteroposterior axis of the regenerating axolotl forelimb was studied by use of triploid (3N) tissue grafted into diploid (2N) hosts and by 3-dimensional computer reconstructions. Asymmetrical upper forelimbs were surgically constructed with one half (anterior or posterior) made of 3N and the other half, 2N. Limbs were amputated immediately after grafting, or they were permitted to heal for 5 or 30 days prior to amputation. When regenerates had attained the stage of digital outgrowth, the limbs were harvested and sectioned in the transverse axis for histological analysis. When all limbs bearing anterior grafts were considered as a group, 77% of the regenerates and 23% were observed in the anterior side of the regenerates and 23% were located in the posterior side of the regenerates. When all limbs bearing posterior grafts were considered as a group, 76% of the 3N mesodermal cells were found in the posterior side of the regenerate and 24% had crossed into the anterior side. Healing times of 0, 5 or 30 days prior to amputation had no effect on the experimental outcome. Three-dimensional computer reconstructions revealed that most 3N cells of mesodermal origin underwent short-distance migration from
(cont. next page)

DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302;RRM3202 (C.BIOSIS 1987)

anterior to posterior or from posterior to anterior, and they intermixed with diploid mesodermal cells near the midpoint of the regenerated anteroposterior axis. Some 3N cells were observed at greater distances from the graft-host interface. Labeled epidermal cells from both anterior and posterior grafts exhibited long-distance migration across all surfaces of regenerated limbs. Details of a computer-assisted reconstructive method for studying the 3-dimensional distribution of labeled cells in tissues are presented.

Descriptors/Keywords: MESODERMAL CELLS COMPUTER RECONSTRUCTION

Concept Codes:

- *02506 Cytology and Cytochemistry-Animal
 - *11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-)
 - *25508 Developmental Biology-Embryology-Morphogenesis, General
 - 00530 General Biology-Information, Documentation, Retrieval and Computer Applications
 - 04500 Mathematical Biology and Statistical Methods
 - 11104 Anatomy and Histology, General and Comparative-Experimental Anatomy
 - 11318 Chordate Body Regions-Extremities (1970-)
- Biosystematic Codes:
85304 Caudata
Super Taxa:
Animals; Vertebrates; Nonhuman Vertebrates; Amphibians

0015581315 BIOSIS Number: 29044647
THE MECHANISM BY WHICH ARGININE VASOTOCIN CAUSES GLYCOGENOLYSIS IN AMPHIBIAN LIVER

JANSSENS P A
DEP. ZOOLOGY, AUST. NATL. UNIV., CANBERRA, ACT 2601.
27TH ANNUAL MEETING OF THE ENDOCRINE SOCIETY OF AUSTRALIA, MELBOURNE, VICTORIA, AUSTRALIA, AUG. 26-29, 1984. ENDOCR SOC AUST PROC. 27 (0), 1984 (RECD. 1985). 105. CODEN: ESAUA
Language: ENGLISH
Document Type: CONFERENCE PAPER
Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT AMBYSTOMA-MEXICANUM CYCLIC AMP CONCENTRATION

Concept Codes:

- *02506 Cytology and Cytochemistry-Animal
- *13004 Metabolism-Carbohydrates
- *14004 Digestive System-Physiology and Biochemistry
- *17014 Endocrine System-Pituitary
- *17020 Endocrine System-Neuroendocrinology (1972-)
- *22016 Pharmacology-Endocrine System
- 00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annals
- 10062 Biochemical Studies-Nucleic Acids, Purines and Pyrimidines

10064 Biochemical Studies-Proteins, Peptides and Amino Acids
10068 Biochemical Studies-Carbohydrates
22003 Pharmacology-Drug Metabolism; Metabolic Stimulators
Biosystematic Codes:
85304 Caudata
Super Taxa:
Animals; Vertebrates; Nonhuman Vertebrates; Amphibians

0015572694 BIOSIS Number: 80036026
AN AUTORADIOGRAPHIC ASSAY OF PROLIFERATION OF THE PIGMENT EPITHELIUM CELLS IN THE AXOLOTL RETINA

SVISTUNOV S A; MITASHOV V I
N.K. KOLTSOV INST. DEV. BIOL., ACAD. SCI. USSR, MOSCOW, USSR
ONTOGENEZ 15 (6), 1984 (RECD. 1985). 599-607.
CODEN: ONGZA
Language: RUSSIAN
Subfile: BA (Biological Abstracts)
The proliferative activity of the pigment epithelium cells in the axolotl [*Ambystoma mexicanum*] eyes was studied using 3H-thymidine in 2 experiments: after the removal of lens, iris and retina and upon the cultivation of the pigment epithelium pieces in the cavity of lens-less eye. Irrespective of the operation type, the level of proliferation of the pigment epithelium cells changed regularly with respect to the time of observation. In the intact eye, the level of proliferation of the pigment epithelium cells was not high; the index of labeled nuclei equaled 0.5%, no mitoses were found. The highest values of the index of labeled nuclei (12.6-32.1%) and of the mitotic index (0.54-1.07%) were registered on the 10-20th days after the operation. After 40 days, the indices of proliferative activity of the pigment epithelium cells approached gradually those for the intact eye. The cultivation of pigment epithelium cells in the cavity of a lens-less eye for 50 days did not result in their transdifferentiation into retina cells. The layered retina found in 7.7% of cases after the removal of lens, iris and retina could regenerate either from the cells of the retina growth zone localized in the region of embryonic split, or due to transdifferentiation of the pigment epithelium cells.

Descriptors/Keywords: AMBYSTOMA-MEXICANUM TRANSDIFFERENTIATION EMBRYONIC SPLIT RETINA GROWTH ZONE

Concept Codes:

- *02506 Cytology and Cytochemistry-Animal
- *11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-)
- *20004 Sense Organs, Associated Structures and Functions-Physiology and Biochemistry
- *20504 Nervous System-Physiology and Biochemistry
- 01054 Microscopy Techniques-Cytology and Cytochemistry
- 06504 Radiation-Radiation and Isotope Techniques (cont. next page)

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DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302;RRM3202 (C.BIOSIS 1987)

10504 Biophysics-General Biophysical Techniques
11104 Anatomy and Histology, General and Comparative-Experimental Anatomy
12002 Physiology, General and Miscellaneous-General
Biosystematic Codes:
85304 Caudata
Super Taxa:
Animals; Vertebrates; Nonhuman Vertebrates; Amphibians

0015564369 BIOSIS Number: 80027701
THE CHARACTERISTICS OF LOCAL APPLICATION OF RETINOIC-ACID TO THE REGENERATING AXOLOTL AMBYSTOMA-MEXICANUM LIMB

MADEN M; KEEBLE S; COX R A
DIV. DEV. BIOLOGY, NATL. INST. MED. RES., RIDGEWAY, MILL HILL, LONDON NW7 1AA, GB.
WILHELM ROUX'S ARCH DEV BIOL 194 (4), 1985. 228-235.
CODEN: WRABO

Language: ENGLISH

Subfile: BA (Biological Abstracts)

The effects of local application of retinoic acid to regenerating limb of *Ambystoma mexicanum* administered in silastin blocks was studied. Using it was found that its rate of diffusion into medium was the same as into regenerating limbs and that the curve of percent loss showed a fast rise falling off to a plateau. RA caused specific alterations in the proximodistal axis of the regenerate such that complete limbs could be produced from distal amputation planes. Increasing concentrations of RA caused regeneration to commence from increasingly more proximal levels. The effect of time of administration after amputation on proximodistal duplication was investigated as well as position effects with silastin blocks placed either at the anterior, posterior or dorsal poles of the blastema. An estimate of the absolute amount of RA needed to cause alterations in the proximodistal axis of 2-16 $\mu\text{m.g/limb}$ or 1 ng/cell was made. Supernumerary limbs were also induced by these local implants and here there was a distinct position effect with the dorsal side causing the highest frequency. A possible effect of RA on the anteroposterior axis of regenerating limbs is assumed, but some of these supernumeraries were thought to arise from the irritant action of RA rather than a specific effect on pattern formation. The relevance of these results to those obtained on other systems is discussed.

Descriptors/Keywords: ANTEROPOSTERIOR AXIS PROXIMODISTAL AXIS BLASTEMA SUPERNUMERARY LIMB IRRITANT ACTION

Concept Codes:

- *02506 Cytology and Cytochemistry-Animal
- *11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-)
- *11318 Chordate Body Regions-Extremities (1970-)
- *12002 Physiology, General and Miscellaneous-General
- 06504 Radiation-Radiation and Isotope Techniques
- 10063 Biochemical Studies-Vitamins
- 10504 Biophysics-General Biophysical Techniques

Biosystematic Codes:
85304 Caudata
Super Taxa:
Animals; Vertebrates; Nonhuman Vertebrates; Amphibians

0015550868 BIOSIS Number: 80023367
AQUATIC PREY CAPTURE IN AMBYSTOMATID SALAMANDERS PATTERNS OF VARIATION IN MUSCLE ACTIVITY

SHAFFER H B; LAUDER G V
BIOLOGY DEPARTMENT WHITMAN, UNIVERSITY OF CHICAGO, CHICAGO, ILLINOIS 60637.

J MORPHOL 183 (3), 1985. 273-284. CODEN: JOMOA

Language: ENGLISH

Subfile: BA (Biological Abstracts)

Functional morphologists commonly study feeding behavior in vertebrates by recording electrical activity from head muscles during unrestrained prey capture. Rarely are experiments designed to permit a partitioning of variation in muscle electrical activity patterns. Analysis of muscle activity during aquatic prey capture in 2 morphologically distinct species of salamanders, *Ambystoma dumerilii* and *A. mexicanum*, is conducted to assess variation at 4 levels: between species, among individuals within species, among experiments conducted on different days, and among feedings. Mean correlations among the 11 electromyographic variables measured for each feeding are low and vary considerably among individuals. Many of the variables show significant differences among experimental days. Only 1 variable, the difference in timing between the depressor mandibulae and sternohyoideus muscles, showed significant variation between species. Seven of the 11 variables showed significant variation among individuals within species. Overall, the variation between feedings (trials) was high, and there were some variation between days on which the experiments were conducted. Neither electrode position within the muscle nor satiation contributed to the high trial variance. Apparently, functional analyses of feeding behavior should include an assessment of variation due to individuals, days, and trials, because the amount of variation at these levels may render differences between species nonsignificant.

Descriptors/Keywords: AMBYSTOMA-DUMERILII AMBYSTOMA-MEXICANUM DEPRESSOR MANDIBULAE STERNOHYOIDEUS MUSCLE FEEDING BEHAVIOR

Concept Codes:

- *07003 Behavioral Biology-Animal Behavior
 - *11108 Anatomy and Histology, General and Comparative-Microscopic and Ultramicroscopic Anatomy
 - *12003 Physiology, General and Miscellaneous-Comparative (1970-)
 - *17504 Muscle-Physiology and Biochemistry
 - *21003 Psychiatry-Psychophysiology
 - 01056 Microscopy Techniques-Histology and Histochemistry
 - 11304 Chordate Body Regions-Head (1970-)
- Biosystematic Codes:
(cont. next page)

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DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302;RRM3202 (C.BIOSIS 1987)

85304 Caudata
Super Taxa:

Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0015548622 BIOSIS Number: 80021121
REGULATORY PEPTIDES GLUCAGON SOMATOSTATIN SUBSTANCE P AND
VASOACTIVE INTESTINAL POLYPEPTIDE IN THE BRAIN AND
GASTROINTESTINAL TRACT OF AMBYSTOMA-MEXICANUM
CONLON J M; BALLMANN M; LAMBERTS R
KLINISCHE ARBEITSGRUPPE MPG, GOSSLERSTR. 100, D-3400
GOETTINGEN, W. GER.
GEN COMP ENDOCRINOL 58 (1), 1985, 150-158. CODEN: GCENA
Language: ENGLISH
Subfile: BA (Biological Abstracts)

The concentrations of immunoreactive components of glucagon, somatostatin, substance P, and vasoactive intestinal polypeptide (VIP) in the brain, stomach, and gut of the neotenic Mexican axolotl (*A. mexicanum*) were determined by radioimmunoassay using antibodies of defined regional specificity. The molecular forms of the immunoreactive components were analyzed by high-performance liquid chromatography (HPLC). The concentrations and molecular forms of somatostatin and VIP in axolotl brain were comparable to the concentrations in mammals but the substance P-like immunoreactivity was resolved by HPLC into components with the retention times of physalaemin and substance P together with their oxidized forms. No glucagon-like material was detected in the axolotl brain. The concentrations of substance P and VIP in the *A. mexicanum* digestive tract were appreciably lower than in the mammalian digestive tract and the VIP-like material did not co-elute with porcine VIP. Somatostatin-14 represented the major molecular form in the axolotl stomach and gut. The distribution and molecular properties of the glucagon-like peptides in the axolotl digestive system were markedly different from these parameters in mammalian gut. Glucagon-like material is present only in low amounts in porcine and human stomach and, the concentration of enteroglucagon (N-GLI) in the gut is at least 50-fold greater than pancreatic glucagon (C-GLI) concentrations. The axolotl stomach, in contrast, contains high levels of glucagon-like immunoreactive material and, in both stomach and gut, the levels of C-GLI and N-GLI were comparable. The glucagon-like material was heterogeneous on HPLC and was resolved into 2 major components but no component with the retention time of mammalian glucagon was present. The immunochemical properties of the axolotl glucagon-like peptides indicate that they possess strong homology with mammalian glucagon in the 10-18 and 25-29 regions of the molecule.

Descriptors/Keywords: HUMAN MEXICAN AXOLOTL PORCINE MAMMALIAN
GLUCAGON HOMOLOGY DIGESTIVE TRACT STOMACH GUT
Concept Codes:

- *10010 Comparative Biochemistry, General
- *10064 Biochemical Studies-Proteins, Peptides and Amino Acids
- *12003 Physiology, General and Miscellaneous-Comparative

008870

(1970-)
*13012 Metabolism-Proteins, Peptides and Amino Acids
*14004 Digestive System-Physiology and Biochemistry
*17002 Endocrine System-General
*17008 Endocrine System-Pancreas
*17020 Endocrine System-Neuroendocrinology (1972-)
*20504 Nervous System-Physiology and Biochemistry
*25508 Developmental Biology-Embryology-Morphogenesis, General
10054 Biochemical Methods Proteins, Peptides and Amino Acids
10506 Biophysics-Molecular Properties and Macromolecules
34502 Immunology and Immunochimistry-General; Methods
Biosystematic Codes:
85304 Caudata
85700 Mammalia-Unspecified
85740 Suidae
86215 Hominidae
Super Taxa:
Animals: Vertebrates; Nonhuman Vertebrates; Amphibians; Mammals; Nonhuman Mammals; Primates; Human

0015542984 BIOSIS Number: 29024650
FATE MAPS AND MORPHOGENETIC CELL MOVEMENTS IN AMPHIBIAN
EARLY DEVELOPMENT

KELLER R; LUNDMARK C; DANILCHIK M; GIMLICH R
DEPARTMENT ZOOLOGY, UNIVERSITY CALIFORNIA, BERKELEY CALIF.
94720.

SYMPOSIUM ON MOLECULAR DETERMINANTS OF ANIMAL FORM HELD AT
THE 14TH ANNUAL UCLA (UNIVERSITY OF CALIFORNIA-LOS ANGELES)
SYMPOSIA ON MOLECULAR AND CELLULAR BIOLOGY, MAR. 30-APR. 4,
1985. J CELL BIOCHEM SUPPL 0 (9 PART B), 1985, 257.
CODEN: JCBSD

Language: ENGLISH
Document Type: CONFERENCE PAPER
Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT XENOPUS-LAEVIS
AMBYSTOMA-MEXICANUM NOTOCHORD CIRCUMBLASTOPORAL TENSION
BLASTOPORE GASTRULATION INVOLUTION ELONGATION

Concept Codes:

- *02506 Cytology and Cytochemistry-Animal
- *12003 Physiology, General and Miscellaneous-Comparative (1970-)
- *25502 Developmental Biology-Embryology-General and Descriptive
- *25504 Developmental Biology-Embryology-Experimental
- *25508 Developmental Biology-Embryology-Morphogenesis, General
- 00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals

Biosystematic Codes:
85304 Caudata

(cont. next page)



DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302;RRM3202 (C.BIOSIS 1987)

85306 Sallientia

Super Taxa:

Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0015530348 BIOSIS Number: 80012014
EXOCYTOSIS OF GLYCOGEN DURING MATURATION OF AMPHIBIAN
OOCYTES

TAGHY-SADAK Z; VILAIN J-P
STATION BIOLOGIQUE, 29211 ROSCOFF, FR.
GAMETE RES 11 (3), 1985, 223-236. CODEN: GAMRD
Language: ENGLISH
Subfile: BA (Biological Abstracts)

The repartition and fate of glycogen has been followed during progesterone-induced maturation of amphibian oocytes. The use of specific staining, both at the cytological and ultrastructural level, demonstrates that glycogen tends to be extruded from the oocyte during maturation of the urodeles *Pleurodeles waltl* and *Ambystoma mexicanum*. No such effect of the hormone is observed in *Xenopus laevis*, where only a slight centrifuge migration of the glycogen could be recorded. Stacks of annulate lamellae increase during the early phase of in vitro progesterone-induced maturation (2-9 h after progesterone application). After germinal vesicle breakdown (about 12 h after beginning the progesterone treatment) annulate lamellae have disappeared and numerous masses of vesicles are present in the cytoplasm of *Pleurodeles* and *Ambystoma* measured oocytes. A close relation between the annulate lamellae and these vesicles was never observed.

Descriptors/Keywords: XENOPUS-LAEVIS PLEURODELES-WALTII
AMBYSTOMA-MEXICANUM VESICLE ANNULATE LAMELLA GERMINAL
VESICLE BREAKDOWN PROGESTERONE

Concept Codes:

- *02506 Cytology and Cytochemistry-Animal
- *10508 Biophysics-Membrane Phenomena
- *11108 Anatomy and Histology, General and Comparative-Microscopic and Ultramicroscopic Anatomy
- *12003 Physiology, General and Miscellaneous-Comparative (1970-)
- *13004 Metabolism-Carbohydrates
- *16502 Reproductive System-Anatomy
- *16504 Reproductive System-Physiology and Biochemistry
- *17006 Endocrine System-Gonads and Placenta
- *22003 Pharmacology-Drug Metabolism; Metabolic Stimulators
- *25508 Developmental Biology-Embryology-Morphogenesis, General
- 01054 Microscopy Techniques-Cytology and Cytochemistry
- 12100 Movement (1971-)
- 22016 Pharmacology-Endocrine System
- 22028 Pharmacology-Reproductive System; Implantation Studies

Biosystematic Codes:

85304 Caudata
85306 Sallientia

Super Taxa:

Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0015529344 BIOSIS Number: 80011010
NEURAL FOLD AND NEURAL CREST MOVEMENT IN THE MEXICAN
SALAMANDER AMBYSTOMA-MEXICANUM

BRUN R B

DEP. BIOL., TEX. CHRISTIAN UNIV., FORT WORTH, TEX. 76109, USA.

J EXP ZOO 234 (1), 1985, 57-62. CODEN: JEZOA

Language: ENGLISH

Subfile: BA (Biological Abstracts)

In studies of amphibian neurulation, the terms neural ridge, neural fold and neural crest are sometimes used as synonyms. This has occasionally led to the misconception that grafting of the neural crest is equivalent to grafting of the neural fold. The neural fold is composed of 3 parts: the neural crest, prospective neural tube tissue and epidermis. To investigate how these neural fold components move during neurulation, time-lapse photography, EM and grafting were performed. *Ambystoma mexicanum* embryos were photographed during neurulation at regular intervals. The photographs were analyzed to find the position of those cells at beginning of neurulation that end up on the line of fusion as the neural folds close. Posteriorly, these cells are already on the emerging neural fold. In the anterior neural folds, these cells are located in the lateral epidermis. EM of the neural folds confirms the presence of epidermis. To follow the movement of the cells differentiating into melanophores (neural crest), neural fold parts were grafted into albino hosts. The crest cells differentiating into melanophores following ectopic grafting are located in the flank of the neural fold that is in contact with the neural plate. In grafts from the outside (distal) flank, no melanophores developed. Semithin sections show that the 3rd part of the neural fold consists of apically constricted cells known to differentiate into neural tissue. Because the neural folds consist of epidermis, neural tissue and neural crest, neural fold and neural crest cannot be used as synonyms.

Descriptors/Keywords: NEURAL TUBE EPIDERMIS MELANOPHORES
GRAFTING MICROSCOPY

Concept Codes:

- *02506 Cytology and Cytochemistry-Animal
- *11103 Anatomy and Histology, General and Comparative-Comparative Anatomy (1971-)
- *11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-)
- *20504 Nervous System-Physiology and Biochemistry
- *25502 Developmental Biology-Embryology-General and Descriptive
- *25508 Developmental Biology-Embryology-Morphogenesis, General
- 01012 Methods, Materials and Apparatus, General-Photography

01058 Microscopy Techniques-Electron Microscopy
10504 Biophysics-General Biophysical Techniques
(cont. next page)

DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302;RRM3202 (C.BIOSIS 1987)

11104 Anatomy and Histology, General and Comparative-Experimental Anatomy
12100 Movement (1971-)
20501 Nervous System-General; Methods
Biosystematic Codes:
85304 Caudata
Super Taxa:
Animals; Vertebrates; Nonhuman Vertebrates; Amphibians

0015517622 BIOSIS Number: 80008455
KINETICS OF LIGHT-SENSITIVE CHANNELS IN VERTEBRATE PHOTORECEPTORS
GRAY P; ATTWELL D
DEP. PHARMACOLOGY, UNIV. COLL. LONDON, GOWER ST., LONDON WC1E 6BT, U.K.
PROC R SOC LOND B BIOL SCI 223 (1232), 1985, 379-388.
CODEN: PRLBA
Language: ENGLISH
Subfile: BA (Biological Abstracts)
The ion channels mediating the light response of vertebrate [Ambystoma-mexicanum] rod photoreceptors were studied by analysing fluctuations in the current across the rod membrane using the whole cell patch-clamp technique on rods isolated from the axolotl retina. Light decreases the membrane current fluctuations. Noise analysis reveals 2 components to this decrease: a low frequency component due to biochemical noise in the transduction mechanism and a high frequency component attributed to the random opening and closing of the ion channels in the dark. The probability of any one channel being open in the dark is low. The spectrum of the high frequency component of the current fluctuations indicates that the current through an open channel is 4 times, 10-15 A, that the mean channel open time is 2 ms and that about 10,000 channels are open in each rod in the dark. The effect of light is to reduce the opening rate constant of these channels, with no effect on the closing rate constant.

Descriptors/Keywords: AMBYSTOMA-MEXICANUM ION CHANNEL
Concept Codes:
*02506 Cytology and Cytochemistry-Animal
*10508 Biophysics-Membrane Phenomena
*10604 External Effects-Light and Darkness
*20004 Sense Organs, Associated Structures and Functions-Physiology and Biochemistry
*20504 Nervous System-Physiology and Biochemistry
10069 Biochemical Studies-Minerals
Biosystematic Codes:
85150 Vertebrata-Unspecified
85304 Caudata
Super Taxa:
Animals; Vertebrates; Nonhuman Vertebrates; Amphibians

0015512626 BIOSIS Number: 80003459
BEHAVIOR OF NUCLEI FROM XENOPUS-LAEVIS EMBRYONIC CELLS AND VITELLOGENIC OOCYTES IN THE CYTOPLASM OF AXOLOTL MATURING OOCYTES
NIKITINA L A
N.K. KOLTISOV INST. DEV. BIOL., ACAD. SCI. USSR, MOSCOW, USSR.
ONTOGENEZ 15 (5) 1984, 535-538. CODEN: ONGZA
Language: RUSSIAN
Subfile: BA (Biological Abstracts)
The behavior of the nuclei of the Xenopus laevis vitellogenic oocytes was studied by transplantation into the cytoplasm of axolotl maturing oocytes. After the germinal vesicle breakdown, the transplanted nuclei were located close to each other. A common giant spindle united the chromosomes of all transplanted nuclei. A mosaic spindle sometimes united the chromosomes of the 2 amphibian species. The embryonic nuclei transplanted in the cytoplasm of the maturing oocytes formed, after the nuclear envelope breakdown, individual spindles, sometimes united in multipolar figures. The nuclei of different cell types, embryonic cells and germ cells, behave in a different way in the same environment of the cytoplasm of the maturing oocytes.

Descriptors/Keywords: GERMINAL VESICLE BREAKDOWN NUCLEAR TRANSPLANTATION CHROMOSOME MOSAIC SPINDLE
Concept Codes:
*02506 Cytology and Cytochemistry-Animal
*03506 Genetics and Cytogenetics-Animal
*11108 Anatomy and Histology, General and Comparative-Microscopic and Ultramicroscopic Anatomy
*25508 Developmental Biology-Embryology-Morphogenesis, General
10504 Biophysics-General Biophysical Techniques
12002 Physiology, General and Miscellaneous-General
32500 Tissue Culture, Apparatus, Methods and Media
Biosystematic Codes:
85306 Saliencia
Super Taxa:
Animals; Vertebrates; Nonhuman Vertebrates; Amphibians

0015508707 BIOSIS Number: 29008707
INTERACTIONS BETWEEN CERTAIN COMPONENTS OF OVULAR COVERING MEMBRANES IN AMPHIBIA URODELA
LERIVRAY H; CHESNEL A; JEGO P
LAB. BIOL. DE LA REPRODUCTION, CAMPUS UNIV. DE BEAULIEU, 35042 RENNES CEDEX, FR.
INTERNATIONAL MEETING ON THE ROLE OF CARBOHYDRATES IN CELL RECOGNITION AND ON ENDOGENOUS LECTINS, AUSSOIS, FRANCE, MAR. 18-24, 1984. BIOD CELL 51 (2), 1984 (RECD. 1985), 53A.
CODEN: BCELD
Language: FRENCH
Document Type: CONFERENCE PAPER
Subfile: BARRM (Biological Abstracts/RRM)
(cont. next page)

008872



DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302;RRM3202 (C.BIOSIS 1987)

Descriptors/Keywords: ABSTRACT PLEURODELES-WALTLII
AMBYSTOMA-MEXICANUM HYNIOBIUS-NEBULOSUS
Concept Codes:
*02506 Cytology and Cytochemistry-Animal
*10064 Biochemical Studies-Proteins, Peptides and Amino Acids
*10068 Biochemical Studies-Carbohydrates
*10508 Biophysics-Membrane Phenomena
*16504 Reproductive System-Physiology and Biochemistry
00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals
Biosystematic Codes:
85304 Caudata
Super Taxa:
Animals; Vertebrates; Nonhuman Vertebrates; Amphibians

0015506296 BIOSIS Number: 29006296
RETINOIC-ACID MODIFIES LEVEL SPECIFIC CELL RECOGNITION AND AFFINITY IN REGENERATING AXOLOTL LIMBS
KLEIN K C; STOCUM D L
UNIV. ILL., URBANA.
ANNUAL MEETING OF THE AMERICAN SOCIETY OF ZOOLOGISTS, AMERICAN MICROSCOPICAL SOCIETY, ANIMAL BEHAVIOR SOCIETY, CRUSTACEAN SOCIETY, INTERNATIONAL ASSOCIATION OF ASTACOLOGY, SOCIETY OF SYSTEMATIC ZOOLOGY, AND THE WESTERN SOCIETY OF NATURALISTS, DENVER, COLO., USA, DEC. 27-30, 1984. AM ZOO 4 (3), 1984, 126A. CODEN: AMZOA
Language: ENGLISH
Document Type: CONFERENCE PAPER
Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT
Concept Codes:
*02506 Cytology and Cytochemistry-Animal
*11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-)
*11318 Chordate Body Regions-Extremities (1970-)
*13016 Metabolism-Fat-Soluble Vitamins
*18004 Bones, Joints, Fasciae, Connective and Adipose Tissue-Physiology and Biochemistry
*22003 Pharmacology-Drug Metabolism; Metabolic Stimulators
*22012 Pharmacology-Connective Tissue, Bone and Collagen-Acting Drugs
00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals
10063 Biochemical Studies-Vitamins
10066 Biochemical Studies-Lipids
25508 Developmental Biology-Embryology-Morphogenesis, General
Biosystematic Codes:
85304 Caudata
Super Taxa:
Animals; Vertebrates; Nonhuman Vertebrates; Amphibians

0015506295 BIOSIS Number: 29006295
RETINOIDS POSTERIORIZE POSITIONAL VALUE IN THE ANTERIOPOSTERIOR AXIS OF REGENERATING AXOLOTL LIMBS
KIM W-S; STOCUM D L
UNIV. ILL., URBANA.
ANNUAL MEETING OF THE AMERICAN SOCIETY OF ZOOLOGISTS, AMERICAN MICROSCOPICAL SOCIETY, ANIMAL BEHAVIOR SOCIETY, CRUSTACEAN SOCIETY, INTERNATIONAL ASSOCIATION OF ASTACOLOGY, SOCIETY OF SYSTEMATIC ZOOLOGY, AND THE WESTERN SOCIETY OF NATURALISTS, DENVER, COLO., USA, DEC. 27-30, 1984. AM ZOO 4 (3), 1984, 126A. CODEN: AMZOA
Language: ENGLISH
Document Type: CONFERENCE PAPER
Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT
Concept Codes:
*02506 Cytology and Cytochemistry-Animal
*11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-)
*11318 Chordate Body Regions-Extremities (1970-)
*13016 Metabolism-Fat-Soluble Vitamins
*18004 Bones, Joints, Fasciae, Connective and Adipose Tissue-Physiology and Biochemistry
*22003 Pharmacology-Drug Metabolism; Metabolic Stimulators
*22012 Pharmacology-Connective Tissue, Bone and Collagen-Acting Drugs
00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals
10063 Biochemical Studies-Vitamins
10066 Biochemical Studies-Lipids
25508 Developmental Biology-Embryology-Morphogenesis, General
Biosystematic Codes:
85304 Caudata
Super Taxa:
Animals; Vertebrates; Nonhuman Vertebrates; Amphibians

0015506294 BIOSIS Number: 29006294
THE DISTRIBUTION OF MARKED DERMAL CELLS FROM SMALL LOCALIZED IMPLANTS IN LIMB REGENERATES
DINSMORE C
DEV. BIOL. CENT., UNIV. CALIF., IRVINE.
ANNUAL MEETING OF THE AMERICAN SOCIETY OF ZOOLOGISTS, AMERICAN MICROSCOPICAL SOCIETY, ANIMAL BEHAVIOR SOCIETY, CRUSTACEAN SOCIETY, INTERNATIONAL ASSOCIATION OF ASTACOLOGY, SOCIETY OF SYSTEMATIC ZOOLOGY, AND THE WESTERN SOCIETY OF NATURALISTS, DENVER, COLO., USA, DEC. 27-30, 1984. AM ZOO 4 (3), 1984, 126A. CODEN: AMZOA
Language: ENGLISH
Document Type: CONFERENCE PAPER
Subfile: BARRM (Biological Abstracts/RRM)
(cont. next page)

DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302;RRM3202 (C.BIOSIS 1987)

Descriptors/Keywords: ABSTRACT AXOLOTL
 Concept Codes:
 *02506 Cytology and Cytochemistry-Animal
 *11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-)
 *11318 Chordate Body Regions-Extremities (1970-)
 *18502 Integumentary System-Anatomy
 *18504 Integumentary System-Physiology and Biochemistry
 00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals
 25508 Developmental Biology-Embryology-Morphogenesis, General
 Biosystematic Codes:
 85304 Caudata
 Super Taxa:
 Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0015506192 BIOSIS Number: 29006192
MAPPING THE NEURAL CREST CELLS IN THE MEXICAN SALAMANDER AMBYSTOMA-MEXICANUM
 BRUN R B
 TEXAS CHRISTIAN UNIVERSITY, FORT WORTH, TEX.
 ANNUAL MEETING OF THE AMERICAN SOCIETY OF ZOOLOGISTS, AMERICAN MICROSCOPICAL SOCIETY, ANIMAL BEHAVIOR SOCIETY, CRUSTACEAN SOCIETY, INTERNATIONAL ASSOCIATION OF ASTACOLOGICAL SOCIETY OF SYSTEMATIC ZOOLOGY, AND THE WESTERN SOCIETY OF NATURALISTS, DENVER, COLO., USA, DEC. 27-30, 1984. AM ZOO 4 (3), 1984. 100A. CODEN: AMZOA
 Language: ENGLISH
 Document Type: CONFERENCE PAPER
 Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT EPIDERMIS PROSPECTIVE BRAIN NEURULATION
 Concept Codes:
 *03506 Genetics and Cytogenetics-Animal
 *18504 Integumentary System-Physiology and Biochemistry
 *20504 Nervous System-Physiology and Biochemistry
 *25504 Developmental Biology-Embryology-Experimental
 *25508 Developmental Biology-Embryology-Morphogenesis, General
 00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals
 11104 Anatomy and Histology, General and Comparative-Experimental Anatomy
 11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-)
 Biosystematic Codes:
 85304 Caudata
 Super Taxa:
 Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0015214537 BIOSIS Number: 79104533
DEVELOPMENTAL MUTANTS ISOLATED FROM WILD-CAUGHT XENOPUS-LAEVIS BY GYNOGENESIS AND INBREEDING
 KROTOSKI D M; REINSCHMIDT D C; TOMPKINS R
 DEP. BIOL., TULANE UNIV., NEW ORLEANS, LA 70118.
 J EXP ZOO 233 (3), 1985. 443-450. CODEN: JEZOA
 Language: ENGLISH
 Subfile: BA (Biological Abstracts)
 X. laevis obtained from indigenous African populations are a rich source of mutants affecting development. Gynogenesis and inbreeding were used to isolate mutants affecting development from wild-caught X. laevis females. Fourteen mutants were recovered from 8 females tested. One mutant was recovered from each of 2 females. This load of 1.875 developmental mutants/female is similar to that found in the axolotl (Ambystoma mexicanum), a urodele amphibian, and is only slightly less than the load of mutants with major developmental effects found in Drosophila and man. The anuran amphibian X. laevis, an ancestrally tetraploid species, has undergone extensive diploidization of developmentally important loci and that gynogenesis and inbreeding of wild-caught animals can provide adequate mutants at diploid loci for developmental genetic studies.

Descriptors/Keywords: AMBYSTOMA-MEXICANUM DROSOPHILA
 Concept Codes:
 *03506 Genetics and Cytogenetics-Animal
 *25508 Developmental Biology-Embryology-Morphogenesis, General
 *64076 Invertebrata, Comparative and Experimental Morphology, Physiology and Pathology-Insecta-Physiology
 Biosystematic Codes:
 75314 Diptera
 85304 Caudata
 85306 Salientia
 Super Taxa:
 Animals: Invertebrates; Arthropods; Insects; Vertebrates; Nonhuman Vertebrates; Amphibians

0015213587 BIOSIS Number: 79103583
IMMUNOCYTOCHEMICAL DEMONSTRATIONS OF A CORTICOTROPIN-RELEASING FACTOR-LIKE PEPTIDERGIC SYSTEM IN THE BRAIN OF AMPHIBIANS COMPARISON WITH THE DISTRIBUTION OF THE SOMATOSTATIN SYSTEM
 OLIVEREAU M; VANDESANDE F; BOUCIQUE E; OLLEVIER F; OLIVEREAU J-M
 LAB. PHYSIOL., INST. OCEANOGRAPHIQUE, 195, RUE SAINT-JACQUES, 75005 PARIS.
 C R ACAD SCI SER III SCI VIE 299 (20), 1984 (RECD. 1985). 871-876. CODEN: CRASE
 Language: FRENCH
 Subfile: BA (Biological Abstracts)
 In Pleurodeles waltlii, Ambystoma mexicanum and Rana (cont. next page)

008874



DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302;RRM3202 (C.BIOSIS 1987)

ridibunda, perikarya and nerve fibers reacting with an anti-somatostatin (SRIF) serum are similar to those previously described in other amphibian species. SRIF+ fibers end in the median eminence (EM) bordering the pars distalis. The corticotropin-releasing factor (CRF)-like system is more restricted. CRF-like perikarya are located in the preoptic area and the nucleus interpeduncularis. A nervous tract running along the ventral tuber cinereum ends in the external EM. A dense labeling occurs in the ventral zone, around the portal blood vessels, close to the corticotropin cells. A similar proximity between CRF-like fibers and corticotrophs is observed in teleosts.

Descriptors/Keywords: PLEURODELES-WALTII AMBYSTOMA-MEXICANUM RANA-RIDIBUNDA TESTOST CORTICOTROPH PERIKARYA NERVE FIBER MEDIAN EMINENCE PARS DISTALIS PREDOPTIC AREA NUCLEUS INTERPEDUNCULARIS
 Concept Codes:
 *02506 Cytology and Cytochemistry-Animal
 *10010 Comparative Biochemistry, General
 *12003 Physiology, General and Miscellaneous-Comparative (1970-)
 *17002 Endocrine System-General
 *17020 Endocrine System-Neuroendocrinology (1972-)
 *20502 Nervous System-Anatomy
 *20504 Nervous System-Physiology and Biochemistry
 *34502 Immunology and Immunocytochemistry-General: Methods
 10064 Biochemical Studies-Proteins, Peptides and Amino Acids
 14504 Cardiovascular System-Physiology and Biochemistry
 15002 Blood, Blood-Forming Organs and Body Fluids-Blood and Lymph Studies
 Biosystematic Codes:
 85206 Osteichthyes
 85304 Caudata
 85306 Salientia
 Super Taxa:
 Animals: Vertebrates; Nonhuman Vertebrates; Fish; Amphibian

0015212627 BIOSIS Number: 79102623
THE CELLULAR CONTRIBUTIONS OF BLASTEMA AND STUMP TO 180 DEGREE SUPERNUMERARY LIMBS IN THE AXOLOTL
 MADEN M; MUSTAFA K
 DIV. DEV. BIOL., NATL. INST. MED. RES., RIDGEWAY, MILL HILL, LONDON, 1AA, UK.
 J EMBRYOL EXP MORPHOL 84 (0), 1984 (RECD. 1985). 233-254. CODEN: JEEMA
 Language: ENGLISH
 Subfile: BA (Biological Abstracts)
 By inverting triploid blastemas onto diploid stumps (and vice versa) the cellular contributions to supernumerary limbs generated were assessed. The 4 classes of 180 degree supernumerary limbs each had a different mixture of stump and blastemal cells. The normal supernumerary mesoderm was composed entirely or almost entirely of stump cells and were

always of stump handedness. The mesoderm of symmetrical supernumeraries was of variable composition, it could be mostly stump, mostly blastema or half and half. In part normal/part symmetrical supernumeraries the normal part was usually of stump origin and the aberrant symmetrical part of blastemal origin. In part normal/part inverted supernumeraries the normal part came from the stump and the inverted part from the inverted blastema. The handedness of each part of these supernumeraries corresponded with its cellular origin. The epidermis of the supernumeraries was not of the same relative composition as the mesoderm, it tended to have a larger stump component. The black/white marker was also used and this too tended not to conform to the mesodermal contribution patterns. These results are discussed in terms of rules for generating supernumeraries and with the exception of symmetrical supernumeraries the cellular contributions of stump and blastema determine their structure.

Descriptors/Keywords: MESODERM HANDEDNESS CELLULAR ORIGIN LIMB GENERATION TRIPLOID INDUCTION
 Concept Codes:
 *02506 Cytology and Cytochemistry-Animal
 *03506 Genetics and Cytogenetics-Animal
 *11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-)
 *11108 Anatomy and Histology, General and Comparative-Microscopic and Ultramicroscopic Anatomy
 *25504 Developmental Biology-Embryology-Experimental
 11318 Chordate Body Regions-Extremities (1970-)
 Biosystematic Codes:
 85304 Caudata
 Super Taxa:
 Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0015212626 BIOSIS Number: 79102622
VIALBI CHIMERAS OBTAINED AFTER ASSOCIATION OF 3 PARTS FROM 3 DIFFERENT EMBRYOS OF AMBYSTOMA-MEXICANUM AMPHIBIA URODELA HOUILLOU C
 LAB. BIOL. ANIMALE, UNIV. PIERRE-MARIE-CURIE, 9 QUAI SAINT-BERNARD, 75230 PARIS CEDEX 05.
 C R ACAD SCI SER III SCI VIE 299 (2), 1984. 25-30. CODEN: CRASE
 Language: FRENCH
 Subfile: BA (Biological Abstracts)
 Anterior, middle and posterior portions of albino-type (a) and wild-type (D) axolotl embryos were associated in the combination a.tautm. D.tautm. a or D.tautm. a.tautm. D. twenty-four hours after the operation 49 tri-chimeric embryos displayed satisfactory healing between the 3 parts. Between 5 and 6 mo. after association, 5 tri-chimeras developed the external male character (turgid cloaca) indicating that they had reached sexual maturity. After 9 mo., the animals still appeared healthy. (cont. next page)



DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302;RRM3202 (C.BIOSIS 1987)

Descriptors/Keywords: SEXUAL MATURITY HEALING
Concept Codes:
*11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-)
*16504 Reproductive System-Physiology and Biochemistry
*25504 Developmental Biology-Embryology-Experimental
*25508 Developmental Biology-Embryology-Morphogenesis, General
10504 Biophysics-General Biophysical Techniques
11104 Anatomy and Histology, General and Comparative-Experimental Anatomy
16501 Reproductive System-General: Methods
Biosystematic Codes:
85304 Caudata
Super Taxa:
Animals: Vertebrates: Nonhuman Vertebrates: Amphibians

0015208633 BIOSIS Number: 28107796
VOLTAGE-GATED AND TRANSMITTER-GATED MEMBRANE CURRENTS RECORDED FROM ISOLATED BIPOLAR CELLS OF THE AXOLOTL RETINA
WILSON M., MOBSBS P.; ATTWELL D.; TESSIER-LAVIGNE M.
DEP. ZOOLOGY, UNIV. CALIF., DAVIS, CALIF.
29TH ANNUAL MEETING OF THE BIOPHYSICAL SOCIETY, BALTIMORE, MD., USA, FEB. 24-28, 1985. BIOPHYS J 47 (2 PART 2), 1985.
505A. CODEN: BIOJJA
Language: ENGLISH
Document Type: CONFERENCE PAPER
Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT GLYCINE GLUTAMATE GAMMA AMINOBUTYRIC ACID PHOTORECEPTOR TRANSMITTER ASPARTATE CHLORIDE ION
Concept Codes:

*02506 Cytology and Cytochemistry-Animal
*10502 Biophysics-General Biophysical Studies
*10508 Biophysics-Membrane Phenomena
*20004 Sense Organs, Associated Structures and Functions-Physiology and Biochemistry
*20504 Nervous System-Physiology and Biochemistry
00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals

10064 Biochemical Studies-Proteins, Peptides and Amino Acids
10069 Biochemical Studies-Minerals
10504 Biophysics-General Biophysical Techniques
13010 Metabolism-Minerals
13012 Metabolism-Proteins, Peptides and Amino Acids

Biosystematic Codes:
85304 Caudata
Super Taxa:
Animals: Vertebrates: Nonhuman Vertebrates: Amphibians

0015211146 BIOSIS Number: 79101142
THE RESPONSE OF DENERVATED AXOLOTL ARMS TO DELAYED AMPUTATION
WALLACE H.
DEP. GENETICS, UNIV. BIRMINGHAM, P.O. BOX 363, BIRMINGHAM, B15 2TT, UK.
J EMBRYOL EXP MORPHOL 84 (0), 1984 (RECD. 1985).
303-308. CODEN: JEEMA
Language: ENGLISH
Subfile: BA (Biological Abstracts)
Forearms of juvenile axolotls can be kept denervated for up to 4 wk by deflecting brachial nerves to the flank. A more orthodox 2nd denervation prolongs this state up to a total of 6 wk. The denervated arms are unable to regenerate for the whole period, but eventually become reinnervated and then regenerate normally. These results and analogous experiments on adult newts prompt a partial retraction and reinterpretation of previous work reported on regeneration after prolonged denervation.

Descriptors/Keywords: BRACHIAL NERVE REINNERVATED REGENERATION
Concept Codes:
*11104 Anatomy and Histology, General and Comparative-Experimental Anatomy
*11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-)
*20501 Nervous System-General: Methods
*25508 Developmental Biology-Embryology-Morphogenesis, General
11318 Chordata Body Regions-Extremities (1970-)
Biosystematic Codes:
85304 Caudata
Super Taxa:
Animals: Vertebrates: Nonhuman Vertebrates: Amphibians

0015196673 BIOSIS Number: 79095936
ANCHORING FILAMENTS OF THE AMPHIBIAN EPIDERMAL-DERMAL JUNCTION TRAVERSE THE BASAL LAMINA ENTIRELY FROM THE PLASMA MEMBRANE OF HEMIDESMOSOMES TO THE DERMIS

ELLISON J.; GARROD D R.
CRC MED. ONCOL. UNIT, CF99, SOUTHAMPTON GENERAL HOSP., SOUTHAMPTON, HAMPSHIRE, SO9 4XY, UK.
J CELL SCI 72 (0), 1984 (RECD. 1985). 163-172.
CODEN: JNCSEA
Language: ENGLISH
Subfile: BA (Biological Abstracts)

An EM study of the epidermal-dermal junction in the axolotl and adult Rana pipiens was carried out. Filaments of approx. 12 nm in diameter, known as anchoring filaments, pass from the hemidesmosomes at the base of the epidermal cells across the basal lamina to the dermis. There they may unite to form broader fibers, known as anchoring fibrils, or may simply form bundles. In the axolotl, particularly the anchoring fibrils or (cont. next page)



008876

DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302;RRM3202 (C.BIOSIS 1987)

bundles of anchoring filaments, enmesh with the collagen fibers of the dermis. Removal of the epidermal cells with EDTA results in separation along a plane in the lamina rare of the basal lamina, i.e., between the plasma membrane of the cells and the lamina densa. The anchoring filaments remain inserted into the lamina densa. Hemidesmosomal plaques are no longer visible in regions of the plasma membrane that have been separated from the basal lamina by EDTA, and no evidence was found that plaques are engulfed by the cells. Apparently, the hemidesmosome-anchoring filament system provides a structural link between the collagenous filament system of the dermis and the intracellular cyokeratin filament system of the epidermis, which, in turn, is linked between cells by desmosomes.

Descriptors/Keywords: RANA-PIPIENS AXOLOTL COLLAGEN CYTOKERATIN
Concept Codes:
*02506 Cytology and Cytochemistry-Animal
*10508 Biophysics-Membrane Phenomena
*11108 Anatomy and Histology, General and Comparative-Microscopic and Ultramicroscopic Anatomy
*18501 Integumentary System-General: Methods
*18502 Integumentary System-Anatomy
01058 Microscopy Techniques-Electron Microscopy
10064 Biochemical Studies-Proteins, Peptides and Amino Acids
18001 Bones, Joints, Fasciae, Connective and Adipose Tissue-General: Methods
18002 Bones, Joints, Fasciae, Connective and Adipose Tissue-Anatomy
Biosystematic Codes:
85304 Caudata
85306 Saliientia
Super Taxa:
Animals: Vertebrates: Nonhuman Vertebrates: Amphibians

support a single-locus model with 2 alleles that are expressed codominantly in heterozygotes. There is also evidence for a 3rd, null allele. The pgm gene maps approx. 24 map units from its centromere. The majority of the animals tested produced 4 esterase bands. Possibly, each is controlled by a separate locus. One of the bands, Est-3, is absent in some animals. The results of various crosses support the proposition that these animals are homozygous for a null allele. The est-3 gene is distant from its centromere.

Descriptors/Keywords: MALATE DEHYDROGENASE LACTATE DEHYDROGENASE PHOSPHOGLUCOMUTASE ESTERASE NULL ALLELE
Concept Codes:

*02506 Cytology and Cytochemistry-Animal
*03506 Genetics and Cytogenetics-Animal
*10808 Enzymes-Physiological Studies
10054 Biochemical Methods-Proteins, Peptides and Amino Acids
10064 Biochemical Studies-Proteins, Peptides and Amino Acids
10504 Biophysics-General Biophysical Techniques

Biosystematic Codes:
85304 Caudata
Super Taxa:
Animals: Vertebrates: Nonhuman Vertebrates: Amphibians

0015195866 BIOSIS Number: 79095029
ALLELIC ISOZYME VARIANTS IN THE MEXICAN AXOLOTL AMBYSTOMA-MEXICANUM AS POTENTIAL MARKERS FOR DEVELOPMENTAL EXPERIMENTS
CODPER G M.; ARMSTRONG J B.; GOTTLÖB-MCHUGH S.
DEP. BIOL., UNIV. OTTAWA, OTTAWA, ONTARIO, CAN. K1N 6N5.
DEV GENET 5 (2), 1984 (RECD. 1985). 73-82. CODEN: DGNTD
Language: ENGLISH
Subfile: BA (Biological Abstracts)
Four isozyme systems were surveyed in a laboratory-bred colony of axolotls (A. mexicanum) to determine whether there were electrophoretic variants that could be used as markers in developmental experiments. For malate dehydrogenase (MDH), lactate dehydrogenase (LDH) and phosphoglucomutase (PGM), the best separations were obtained by isoelectric focusing on polyacrylamide slab gels, whereas for soluble esterases (Est), conventional polyacrylamide gel electrophoresis was used. The patterns for both MDH and LDH were consistent with 2-locus models, but no variation was obtained. The results for PGM

0015195551 BIOSIS Number: 79094714
PATTERNS OF VARIATION IN AQUATIC AMBYSTOMATID SALAMANDERS KINEMATICS OF THE FEEDING MECHANISM

SHAFFER H B.; LAUDER G V.
COMMITTEE ON EVOLUTIONARY BIOLOGY, UNIVERSITY OF CHICAGO, CHICAGO, ILLINOIS 60637.
EVOLUTION 39 (1), 1985. 83-92. CODEN: EVOLA
Language: ENGLISH
Subfile: BA (Biological Abstracts)

Patterns of variation in the feeding mechanism of 3 spp. of ambystomatid salamanders (Ambystoma dumerilii, A. mexicanum and A. ordinarium) were studied to provide insight into the nature of variation in kinematic parameters of the jaw mechanism associated with prey capture. A nested analysis of variance design provided an assessment of the amount of variation in 6 kinematic variables (measured from 200 frames/s films of feeding behavior) both among species and among individuals within species. For all 6 variables, a highly significant proportion of the variance was explained at the intraspecific level. Among species, the most robust discriminators were variables associated with movement of the hyoid. The variables reflecting gape and lifting of the head provided no significant discrimination among species and had large error variances. The hyoid apparatus is the most phylogenetically conservative component of the feeding mechanism in lower vertebrates and was the most stereotyped component of feeding behavior within the salamander species studied here.

(cont. next page)



DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302:RRM3202 (C.BIOSIS 1987)

Descriptors/Keywords: AMBYSTOMA-DUMERILII AMBYSTOMA-MEXICANUM
AMBYSTOMA-ORDINARIUM HYOID APPARATUS JAW MECHANISM
PHYLOGENETIC CONSERVATION

Concept Codes:

*01500 Evolution
*07003 Behavioral Biology-Animal Behavior
*18004 Bones, Joints, Fasciae, Connective and Adipose
Tissue-Physiology and Biochemistry
01012 Methods, Materials and Apparatus,
General-Photography
13202 Nutrition-General Studies, Nutritional Status and
Methods
Biosystematic Codes:
85304 Caudata
Super Taxa:
Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

Comparative-Microscopic and Ultramicroscopic Anatomy
*12100 Movement (1971-)
*20504 Nervous System-Physiology and Biochemistry
*25504 Developmental Biology-Embryology-Experimental
01052 Microscopy Techniques-General and Special Techniques
01058 Microscopy Techniques-Electron Microscopy
20501 Nervous System-General; Methods
32600 In Vitro Studies, Cellular and Subcellular
Biosystematic Codes:
85304 Caudata
Super Taxa:
Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0015194298 BIOSIS Number: 79093461
STIMULATION OF INITIAL NEURAL CREST CELL MIGRATION IN THE
AXOLOTL AMBYSTOMA-MEXICANUM EMBRYO BY TISSUE GRAFTS AND
EXTRACELLULAR MATRIX TRANSPORT ON MICROCARRIERS
LOFBERG J, NYNAS-MCCOY A, OLSSON C, JONSSON L, PERRIS R
DEP. ZOOL., UPPSALA UNIV., BOX 561, S 751 22 UPPSALA,
SWEDEN.

DEV BIOD 107 (2). 1985. 442-459. CODEN: DEBIA
Language: ENGLISH
Subfile: BA (Biological Abstracts)
Whether the onset of neural crest cell migration in the
embryonic axolotl trunk is stimulated by surrounding tissues
and their associated extracellular matrix (ECM) was tested.
Tissue grafts, or embryonic ECM adsorbed in vivo onto inert
microcarriers prepared from Nucleopore filters, were placed
close to the premigratory neural crest cells, and the embryos
were then incubated to a specific stage. The experiments were
evaluated with light microscopy, SEM [scanning electron
microscopy] and TEM [transmission electron microscopy]. It was
found that grafts from the dorsal epidermis were especially
effective in locally stimulating initial neural crest cell
migration in the region under the graft. The microcarrier
experiments showed that the subepidermal ECM alone could
initiate neural crest cell migration, implying that the ECM of
the epidermal grafts was the stimulating factor. These results
indicate that the premigratory neural crest cells along the
trunk have migratory capability but that they need to be
triggered from the environment, probably from the surrounding
ECM, to start migration. ECM, as substrate for cell
locomotion, evidently initiates and regulates the onset of
neural crest cell migration.

Descriptors/Keywords: CELL LOCOMOTION MICROSCOPY

Concept Codes:

*02506 Cytology and Cytochemistry-Animal
*11107 Anatomy and Histology, General and
Comparative-Regeneration and Transplantation (1971-
)
*11108 Anatomy and Histology, General and

0015194287 BIOSIS Number: 79093450
ACCUMULATION AND LOCALIZATION OF TROPONIN-T IN DEVELOPING
HEARTS OF AMBYSTOMA-MEXICANUM

FULDNER R A, LIM S-S, GREASER M L, LEMANSKI L F
DEP. ANATOMY, MUSCLE BIOL. LAB., UNIV. WIS., 1300 UNIVERSITY
AVE., MADISON, WIS., 53706, USA.
J EMBRYOL EXP MORPHOL 84 (0). 1984 (RECD. 1985). 1-18.
CODEN: JEEMA

Language: ENGLISH
Subfile: BA (Biological Abstracts)
Troponin T (Tn-T) expression in developing hearts of
axolotls, A mexicanum, was studied with the use of polyclonal
and monoclonal antibodies and SDS [sodium dodecyl
sulfate]-polyacrylamide gel electrophoresis. In precontractile
hearts (stage 32/33), Tn-T was present in addition to myosin,
actin and tropomyosin as evidenced by the presence of the
protein bands in SDS-gels and by indirect immunofluorescence.
Tn-T was localized in amorphous collections at the peripheries
of these precontractile cells. Hearts of normal and cardiac
lethal mutant siblings were also analyzed for Tn-T expression.
No detectable differences in the quality of protein present
was observed by gel electrophoresis or by indirect
immuno-fluorescence. The most striking difference concerned
the localization of the protein. In normal hearts, Tn-T was
primarily localized in the I-bands of organized myofibrils;
however, in mutant cells the Tn-T was localized in amorphous
collections at the cell peripheries suggesting a reduction of
myofibrillar organization in these cells. No differences were
observed in the contractile protein composition between normal
and mutant embryonic hearts by gel electrophoresis
experiments.

Descriptors/Keywords: MYOSIN ACTIN TROPOMYOSIN PROTEIN
COMPOSITION CARDIAC LETHAL MUTANT

Concept Codes:

*02506 Cytology and Cytochemistry-Animal
*03506 Genetics and Cytogenetics-Animal
*11108 Anatomy and Histology, General and
Comparative-Microscopic and Ultramicroscopic Anatomy
*13012 Metabolism-Proteins, Peptides and Amino Acids
*14502 Cardiovascular System-Anatomy
(cont. next page)

008878

 DIALOG
INFORMATION SERVICES, INC.

DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302:RRM3202 (C.BIOSIS 1987)

*14504 Cardiovascular System-Physiology and Biochemistry
*14508 Cardiovascular System-Heart Pathology
*25504 Developmental Biology-Embryology-Experimental
*25508 Developmental Biology-Embryology-Morphogenesis,
General
10054 Biochemical Methods-Proteins, Peptides and Amino
Acids
10064 Biochemical Studies-Proteins, Peptides and Amino
Acids
10504 Biophysics-General Biophysical Techniques
17504 Muscle-Physiology and Biochemistry
34502 Immunology and Immunochemistry-General: Methods
Biosystematic Codes:
85304 Caudata
Super Taxa:
Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0015190218 BIOSIS Number: 28098548
SURGICALLY DISPLACED 8TH NERVE AND 7TH NERVE FOLLOW NORMAL
CENTRAL NERVOUS SYSTEM PATHWAYS TO AN IDENTIFIED TARGET
NEURON

DAVID W S, MODEL P G
DEPT. NEUROSCI., ALBERT EINSTEIN COLL. MED., BRONX, N.Y.
10461.
ABSTRACTS FROM THE 14TH ANNUAL MEETING OF THE SOCIETY FOR
NEUROSCIENCE, PART 2, ANAHEIM, CALIF., USA, OCT. 10-15, 1984.
SOC NEUROSCI ABSTR 10 (2). 1984. 1160. CODEN: ASNEE
Language: ENGLISH
Document Type: CONFERENCE PAPER
Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT AXOLOTL AMBYSTOMA-MEXICANUM
HORSERADISH PEROXIDASE LABELING

Concept Codes:

*02506 Cytology and Cytochemistry-Animal
*10804 Enzymes-Methods
*20501 Nervous System-General: Methods
*20502 Nervous System-Anatomy
*20504 Nervous System-Physiology and Biochemistry
00520 General Biology-Symposia, Transactions and
Proceedings of Conferences, Congresses, Review
Annals
10064 Biochemical Studies-Proteins, Peptides and Amino
Acids
10065 Biochemical Studies-Porphyrins and Bile Pigments
11104 Anatomy and Histology, General and
Comparative-Experimental Anatomy
51518 Plant Physiology, Biochemistry and
Biophysics-Enzymes
Biosystematic Codes:
85408 Sauria
Super Taxa:
Animals: Vertebrates; Nonhuman Vertebrates; Reptiles

0015189930 BIOSIS Number: 28098260
DEGENERATION AND REGENERATION OF VESTIBULAR AXONS IN AXOLOTL
AMBYSTOMA-MEXICANUM LARVAE

COVELL D J, UR, MODEL P G
DEP. NEUROSCI., ALBERT EINSTEIN COLL. MED., BRONX, NY
10461.
ABSTRACTS FROM THE 14TH ANNUAL MEETING OF THE SOCIETY FOR
NEUROSCIENCE, PART 2, ANAHEIM, CALIF., USA, OCT. 10-15, 1984.
SOC NEUROSCI ABSTR 10 (2). 1984. 1086. CODEN: ASNEE
Language: ENGLISH
Document Type: CONFERENCE PAPER
Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT MAUTHNER CELLS

Concept Codes:

*02506 Cytology and Cytochemistry-Animal
*20501 Nervous System-General: Methods
*20504 Nervous System-Physiology and Biochemistry
*25508 Developmental Biology-Embryology-Morphogenesis,
General
00520 General Biology-Symposia, Transactions and
Proceedings of Conferences, Congresses, Review
Annals
10508 Biophysics-Membrane Phenomena
11107 Anatomy and Histology, General and
Comparative-Regeneration and Transplantation (1971-
)
12510 Pathology, General and Miscellaneous-Necrosis (1971-
)
Biosystematic Codes:
85304 Caudata
Super Taxa:
Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0015189673 BIOSIS Number: 28098003
AXON SPROUTING AND NERVE BRANCHING DURING HINDLIMB PLEXUS
FORMATION IN THE AXOLOTL

FREEMAN J M, DAVEY D F
DEP. PHYSIOL., UNIV. SYDNEY, NSW 2006, AUST.
ABSTRACTS FROM THE 14TH ANNUAL MEETING OF THE SOCIETY FOR
NEUROSCIENCE, PART 2, ANAHEIM, CALIF., USA, OCT. 10-15, 1984.
SOC NEUROSCI ABSTR 10 (2). 1984. 1019. CODEN: ASNEE
Language: ENGLISH
Document Type: CONFERENCE PAPER
Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT AMBYSTOMA-MEXICANUM

Concept Codes:

*02506 Cytology and Cytochemistry-Animal
*11107 Anatomy and Histology, General and
Comparative-Regeneration and Transplantation (1971-
)
*20501 Nervous System-General: Methods
*20504 Nervous System-Physiology and Biochemistry
(cont. next page)

DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302:RRM3202 (C.BIOSIS 1987)

00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals

Biosystematic Codes:

85304 Caudata

Super Taxa:

Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0015189380 BIOSIS Number: 28097710
INCREASE OF OUTWARD CURRENTS DURING DIFFERENTIATION OF AMPHIBIAN NEURONS IN-VITRO

BARISH M E

DEP. PHYSIOLOGY, UCLA SCH. MED., LOS ANGELES, CA 90024.
ABSTRACTS FROM THE 14TH ANNUAL MEETING OF THE SOCIETY FOR NEUROSCIENCE, PART 2, ANAHEIM, CALIF. USA, OCT. 10-15, 1984.
SOC NEUROSCI ABSTR 10 (2), 1984, 937. CODEN: ASNEE

Language: ENGLISH

Document Type: CONFERENCE PAPER

Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT AMBYSTOMA-MEXICANUM EMBRYO POTASSIUM MEMBRANE POTENTIAL

Concept Codes:

- *02506 Cytology and Cytochemistry-Animal
- *10508 Biophysics-Membrane Phenomena
- *20504 Nervous System-Physiology and Biochemistry
- *25504 Developmental Biology-Embryology-Experimental
- 00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals
- 10069 Biochemical Studies-Minerals
- 13010 Metabolism-Minerals
- 25508 Developmental Biology-Embryology-Morphogenesis, General
- 32500 Tissue Culture, Apparatus, Methods and Media

Biosystematic Codes:

85304 Caudata

Super Taxa:

Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0015189272 BIOSIS Number: 28097602
NONSYNAPTIC SITES OF CATECHOLAMINE RELEASE

SIMS T J

DEPARTMENT OF NEUROLOGY, STANFORD UNIV. SCH. OF MED., PALO ALTO, CA 94304.

ABSTRACTS FROM THE 14TH ANNUAL MEETING OF THE SOCIETY FOR NEUROSCIENCE, PART 2, ANAHEIM, CALIF., USA, OCT. 10-15, 1984.
SOC NEUROSCI ABSTR 10 (2), 1984, 916. CODEN: ASNEE

Language: ENGLISH

Document Type: CONFERENCE PAPER

Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT AXOLOTL SALAMANDER ESTRADIOL CENTRAL NERVOUS SYSTEM DENSE CORE VESICLES

Concept Codes:

008880

- *17006 Endocrine System-Gonads and Placenta
- *17020 Endocrine System-Neuroendocrinology (1972-)
- *20504 Nervous System-Physiology and Biochemistry
- 00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals

10064 Biochemical Studies-Proteins, Peptides and Amino Acids

10067 Biochemical Studies-Sterols and Steroids

13012 Metabolism-Proteins, Peptides and Amino Acids

22016 Pharmacology-Endocrine System

Biosystematic Codes:

85304 Caudata

Super Taxa:

Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

001518964 BIOSIS Number: 28097294
EFFECTS OF EXCITATORY AMINO-ACID ANTAGONISTS ON AMACRINE AND GANGLION CELLS IN AXOLOTL RETINA

DVORAK D

DEP. BEHAV. BIOL., RSBS, AUST. NATL. UNIV., CANBERRA 2601, AUST.

ABSTRACTS FROM THE 14TH ANNUAL MEETING OF THE SOCIETY FOR NEUROSCIENCE, PART 2, ANAHEIM, CALIF., USA, OCT. 10-15, 1984.
SOC NEUROSCI ABSTR 10 (2), 1984, 837. CODEN: ASNEE

Language: ENGLISH

Document Type: CONFERENCE PAPER

Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT METABOLIC-DRUG LIGHT RESPONSE

Concept Codes:

- *02506 Cytology and Cytochemistry-Animal
- *10508 Biophysics-Membrane Phenomena
- *13012 Metabolism-Proteins, Peptides and Amino Acids
- *20004 Sense Organs, Associated Structures and Functions-Physiology and Biochemistry
- *20504 Nervous System-Physiology and Biochemistry
- *22003 Pharmacology-Drug Metabolism; Metabolic Stimulators
- 00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals
- 04500 Mathematical Biology and Statistical Methods
- 10069 Biochemical Studies-Minerals
- 10502 Biophysics-General Biophysical Studies
- 10506 Biophysics-Molecular Properties and Macromolecules
- 10694 External Effects-Light and Darkness
- 12006 Physiology, General and Miscellaneous-Methods
- 20001 Sense Organs, Associated Structures and Functions-General, Methods
- 20501 Nervous System-General; Methods
- 22024 Pharmacology-Neuropharmacology
- 22031 Pharmacology-Sense Organs, Associated Structures and Functions

Biosystematic Codes:

(cont. next page)



DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302:RRM3202 (C.BIOSIS 1987)

85304 Caudata

Super Taxa:

Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0015170054 BIOSIS Number: 79086847
THE DISTRIBUTION OF MARKED DERMAL CELLS FROM SMALL LOCALIZED IMPLANTS IN LIMB REGENERATES

ROLLMAN-DINSMORE C; BRYANT S V

DEVELOPMENTAL BIOLOGY CENTER, DEP. DEVELOPMENTAL AND CELL BIOLOGY, UNIV. CALIFORNIA, IRVINE, CALIFORNIA 92717

DEV BIOL 106 (2), 1984, 275-281. CODEN: DEBIA

Language: ENGLISH

Subfile: BA (Biological Abstracts)

Numerous experiments have demonstrated that skin has a profound influence on the pattern of limb regeneration in urodeles. In this investigation, the fate during regeneration of marked cells derived from narrow strips of skin inserted into different positions around the limb circumference has been followed. Skin strips were taken from triploid axolotls [*Ambystoma mexicanum*] and transplanted into diploid siblings animals. The distribution of trineucleolate cells was determined at the site of amputation and in the regenerated limb. The results indicate that at the time of amputation marked cells appear to be localized to the graft, whereas in the regenerate marked cells may be found at all proximal-distal levels and at any position around the circumference of the limb. These results are discussed in terms of a possible mechanism for distal outgrowth.

Descriptors/Keywords: AMBYSTOMA-MEXICANUM DISTAL OUTGROWTH TRINEUCLEOLATE CELLS TRIPLOID DIPLOID AMPUTATION

Concept Codes:

- *02506 Cytology and Cytochemistry-Animal
- *11104 Anatomy and Histology, General and Comparative-Experimental Anatomy
- *11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-)
- *11318 Chordate Body Regions-Extremities (1970-)
- *18504 Integumentary System-Physiology and Biochemistry
- *25508 Developmental Biology-Embryology-Morphogenesis, General
- 18501 Integumentary System-General; Methods

Biosystematic Codes:

85304 Caudata

Super Taxa:

Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0015167630 BIOSIS Number: 79084423
EXPERIMENTAL EVIDENCE FOR A PROTEINACEOUS PRESEGMENTAL WAVE REQUIRED FOR MORPHOGENESIS OF AXOLOTL MESODERM

GILLESPIE L L; ARMSTRONG J B; STEINBERG M S

DEP. BIOL., UNIV. OTTAWA, OTTAWA K1N 6N5, CANADA.
DEV BIOL 107 (1), 1985, 220-226. CODEN: DEBIA

Language: ENGLISH

Subfile: BA (Biological Abstracts)

Mesoderm of axolotl embryos at various developmental stages was briefly exposed to a calcium-free 0.01% trypsin solution by temporary removal of the epidermis. This treatment disrupted somite segmentation in a localized region and the pronephric duct was unable to migrate through this region. The affected area, consisting of 3.91 +/- 1.04 somites, traveled through the embryo in synchrony with, and 3.55 +/- 0.69-somite widths ahead of segmentation. Trypsinization in the presence of 340 μ M calcium resulted in normal duct migration while somite segmentation was still affected. A trypsin-sensitive region exists in the somitic mesoderm and the lateral mesoderm of the duct path that travels in advance of somite segmentation and in synchrony with it. The trypsin sensitivity of the duct path is calcium dependent whereas that of the somitic mesoderm is not.

Descriptors/Keywords: TRYPsin SOMITE SEGMENTATION PRONEPHRIC DUCT MIGRATION CALCIUM

Concept Codes:

- *02506 Cytology and Cytochemistry-Animal
- *13010 Metabolism-Minerals
- *13012 Metabolism-Proteins, Peptides and Amino Acids
- *15504 Urinary System and External Secretions-Physiology and Biochemistry
- *25502 Developmental Biology-Embryology-General and Descriptive
- *25508 Developmental Biology-Embryology-Morphogenesis, General
- 10064 Biochemical Studies-Proteins, Peptides and Amino Acids
- 10069 Biochemical Studies-Minerals
- 10504 Biophysics-General Biophysical Techniques
- 12100 Movement (1971-)
- 15501 Urinary System and External Secretions-General; Methods

Biosystematic Codes:

85304 Caudata

Super Taxa:

Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0015167599 BIOSIS Number: 79084392
RESCUE OF BLOCKED CELLS BY REINNERVATION IN DENERVATED FORELIMB STUMPS OF LARVAL AMBYSTOMA-MEXICANUM

OLSEN C L; BARGER P M; TASSAVA R A

MOLECULAR, CELLULAR, AND DEVELOPMENTAL BIOLOGY PROGRAM, DEP. ZOOLOGY, OHIO STATE UNIV., COLUMBUS, OHIO 43210
DEV BIOL 106 (2), 1984, 399-405. CODEN: DEBIA

Language: ENGLISH

Subfile: BA (Biological Abstracts)

Cells of amputated, denervated larval *Ambystoma* forelimbs dedifferentiate and enter the cell cycle but do not subsequently proliferate sufficiently to form a blastema. The denervated limb stump resorbs slowly until reinnervation

(cont. next page)

DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302;RRM3202 (C.BIOSIS 1987)

stimulates regeneration. This system was used to investigate the fate of cells in denervated limbs which undergo early but limited cycling in response to amputation. In Experiment 1, cells were labeled with [3H]thymidine (3H-T) on Day 4 postamputation (PA)/Day 3 postdenervation (PD). Labeled cells were still present on day 7 PA, but were less frequently observed on day 13 PA when the limbs were reinnervated and beginning to regenerate. In experiment 2, one day preamputation was denervated to obtain earlier reinnervation and prevent loss of Day 4 PA labeled cells. Cells labeled with 3H-T on day 4 PA/day 5 PD were present throughout the denervation period and most were still present on day 13 PA. Little or no mitotic activity was found among the labeled cells after the initial round of cycling. The apparent cell cycle block was released upon reinnervation on days 12 and 13 PA when cycling resumed. Labeled mitotic figures were present on day 13 PA, and the mitotic index of the labeled population increase as a result of reinnervation. These results demonstrate that blocked cells are rescued by nerves, re-enter the cell cycle, and thus contribute to the reinnervation blastema.

Descriptors/Keywords: AMPUTATION DEDIFFERENTIATE REGENERATION BLASTEMA CELL CYCLE

Concept Codes:
 *02506 Cytology and Cytochemistry-Animal
 *11104 Anatomy and Histology, General and Comparative-Experimental Anatomy
 *11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-)
 *20504 Nervous System-Physiology and Biochemistry
 *25504 Developmental Biology-Embryology-Experimental
 *25508 Developmental Biology-Embryology-Morphogenesis, General
 07200 Circadian Rhythms and Other Periodic Cycles
 11318 Choroidate Body Regions-Extremities (1970-)
 Biosystematic Codes:
 85304 Caudata
 Super Taxa:
 Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0015163318 BIOSIS Number: 28089278
IS THE RETINAL BIPOLAR CELL TRANSMITTER AN EXCITATORY AMINO-ACID?
 DVORAK D R
 DEPARTMENT BEHAVIORAL BIOLOGY, AUSTRALIAN NATIONAL UNIVERSITY, CANBERRA, ACT 2601
 5TH MEETING OF THE AUSTRALIAN NEUROSCIENCE SOCIETY, ADELAIDE, AUSTRALIA, FEB. 4-6, 1985. NEUROSCI LETT 0 (SUPPL. 19), 1985, 559. CODEN: NELED
 Language: ENGLISH
 Document Type: CONFERENCE PAPER
 Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT AXOLOTL AMACRINE CELL GANGLION

008882

CELL PHOTORECEPTOR CELL SYNAPSE PIPERIDINE DICARBOXYLATE PHARMACOLOGICAL ANTAGONIST GLUTAMATE ASPARTATE MEMBRANE POTENTIAL
 Concept Codes:
 *02506 Cytology and Cytochemistry-Animal
 *10508 Biophysics-Membrane Phenomena
 *13012 Metabolism-Proteins, Peptides and Amino Acids
 *20004 Sense Organs, Associated Structures and Functions-Physiology and Biochemistry
 *20504 Nervous System-Physiology and Biochemistry
 *22003 Pharmacology-Drug Metabolism; Metabolic Stimulators
 *22024 Pharmacology-Neuropharmacology
 *22031 Pharmacology-Sense Organs, Associated Structures and Functions
 00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals
 06504 Radiation-Radiation and Isotope Techniques
 07003 Behavioral Biology-Animal Behavior
 10064 Biochemical Studies-Proteins, Peptides and Amino Acids
 10604 External Effects-Light and Darkness
 20001 Sense Organs, Associated Structures and Functions-General; Methods
 20501 Nervous System-General; Methods
 Biosystematic Codes:
 85304 Caudata
 Super Taxa:
 Animals; Vertebrates; Nonhuman Vertebrates; Amphibians

0015159465 BIOSIS Number: 28085425
IS THE SODIUM POTASSIUM ATPASE SYMMETRICALLY DISTRIBUTED IN THE NEUROEPITHELIUM OF THE VESTIBULAR SYSTEM IN THE AXOLOTL AMBYSTOMA-MEXICANUM
 SOTO E; RUDELLI R; GONZALEZ-ESTRADA M T; BRACHO H
 INSTITUTO DE CIENCIAS DE LA UNIVERSIDAD AUTONOMA DE PUEBLA, APARTADO POSTAL 406, PUEBLA, PUE., MEXICO.
 HEAR RES 16 (2), 1984 (RECD. 1985), 201-203.
 CODEN: HERED
 Language: ENGLISH
 Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: MEMBRANE POTENTIAL OUBABIN
 Concept Codes:

*02508 Cytology and Cytochemistry-Human
 *10508 Biophysics-Membrane Phenomena
 *10808 Enzymes-Physiological Studies
 *20004 Sense Organs, Associated Structures and Functions-Physiology and Biochemistry
 *20504 Nervous System-Physiology and Biochemistry
 10067 Biochemical Studies-Steroids and Steroids
 10068 Biochemical Studies-Carbohydrates
 10069 Biochemical Studies-Minerals
 10510 Biophysics-Bioenergetics: Electron Transport and (cont. next page)



DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302;RRM3202 (C.BIOSIS 1987)

Oxidative Phosphorylation
 22024 Pharmacology-Neuropharmacology
 22031 Pharmacology-Sense Organs, Associated Structures and Functions
 51522 Plant Physiology, Biochemistry and Biophysics-Chemical Constituents
 54000 Pharmacognosy and Pharmaceutical Botany
 Biosystematic Codes:
 85304 Caudata
 Super Taxa:
 Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0015133328 BIOSIS Number: 28069159
INDUCTION OF MYOFIBRILLOGENESIS IN HEARTS OF CARDIAC MUTANT AXOLOTL AMBYSTOMA-MEXICANUM EMBRYOS BY ANTERIOR ENDODERM RNA
 DAVIS L A; LEMANSKI L F
 DEPARTMENT ANATOMY, SUNY UPSTATE MEDICAL CENTER, SYRACUSE, N.Y.
 24TH ANNUAL MEETING OF THE AMERICAN SOCIETY FOR CELL BIOLOGY, KANSAS CITY, MO., USA, NOV. 12-16, 1984. J CELL BIOL 99 (4 PART 2), 1984, 438A. CODEN: JCLBA
 Language: ENGLISH
 Document Type: CONFERENCE PAPER
 Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT CARDIAC MUSCLE DIFFERENTIATION ORGAN CULTURE CONTRACTION SARCOMERIC MYOFIBRILS
 Concept Codes:

*02506 Cytology and Cytochemistry-Animal
 *10062 Biochemical Studies-Nucleic Acids, Purines and Pyrimidines
 *14504 Cardiovascular System-Physiology and Biochemistry
 *17504 Muscle-Physiology and Biochemistry
 *25504 Developmental Biology-Embryology-Experimental
 *25508 Developmental Biology-Embryology-Morphogenesis, General
 00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals
 03506 Genetics and Cytogenetics-Animal
 32500 Tissue Culture, Apparatus, Methods and Media
 Biosystematic Codes:
 85304 Caudata
 Super Taxa:
 Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

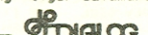
0015111817 BIOSIS Number: 79065982
INDUCTION OF THE SYNTHESIS OF MELANIN AND PTERIDINE IN CELLS ISOLATED FROM THE AXOLOTL AMBYSTOMA-MEXICANUM EMBRYO
 LOVTRUP A; LEHNHOLM A; PERRIS R
 DEP. ZOOHYGIOL., UNIV. UMEA, S-901 87 UMEA, SWED.
 DEV GROWTH DIFFER 26 (5), 1984, 445-450. CODEN: DGDF A
 Language: ENGLISH
 Subfile: BA (Biological Abstracts)
 When LiCl and tyrosine is added to ectodermal cells isolated

from the blastula of *A. mexicanum*, then the synthesis of melanin is initiated in cells not normally engaged in this activity (mesenchyme cells, nerve cells and undifferentiated animal cells). To obtain this effect tyrosine (0.02 mM) has to be present in the culture medium during at least 1 of the first 7 days of culture, thus several days before melanin is produced. The added tyrosine is acting as an inductor of, and not as a substrate for the synthesis of melanin. In the normal cultures it is possible to observe the spontaneous formation of yellow cells, indicating that they have produced pteridine. These cells are spherical, suggesting that they are undifferentiated embryonic cells. GTP is a precursor in the synthesis of pteridine, and in analogy with the observations made with tyrosine it was found that in the presence of LiCl a number of different cell types elaborate pteridine when GTP (0.1 mM) is added to the medium. Also in this case was it possible to show that GTP acts as an inductor, not as a substrate.

Descriptors/Keywords: TYROSINE LITHIUM CHLORIDE GTP BLASTULA
 Concept Codes:

*02506 Cytology and Cytochemistry-Animal
 *13012 Metabolism-Proteins, Peptides and Amino Acids
 *18501 Integumentary System-General; Methods
 *25504 Developmental Biology-Embryology-Experimental
 01056 Microscopy Techniques-Histology and Histochemistry
 10062 Biochemical Studies-Nucleic Acids, Purines and Pyrimidines
 10064 Biochemical Studies-Proteins, Peptides and Amino Acids
 10069 Biochemical Studies-Minerals
 32500 Tissue Culture, Apparatus, Methods and Media
 Biosystematic Codes:
 85304 Caudata
 Super Taxa:
 Animals; Vertebrates; Nonhuman Vertebrates; Amphibians

0015111617 BIOSIS Number: 79065782
EVOLUTION IN A PAEDOMORPHIC LINEAGE 2 ALLOMETRY AND FORM IN THE MEXICAN AMBYSTOMATID SALAMANDERS
 SHAFFER H B
 UNIV. CHIC., COMMITTEE EVOLUTIONARY BIOL., CHICAGO, ILL.
 60637.
 EVOLUTION 38 (6), 1984 (RECD. 1985), 1207-1218.
 CODEN: EVOLA
 Language: ENGLISH
 Subfile: BA (Biological Abstracts)
 Six populations of Mexican ambystomatid salamanders fail to metamorphose, and a 7th (Ambystoma ordinarium) rarely metamorphose. For the 5 populations with known, closely related transforming relatives, 3 (*A. mexicanum*, *A. tigrinum* from Perote and Tecuila) have evolved via retardation of metamorphosis. *A. dumerilii* has deviated markedly from the growth pattern of related transforming tiger salamanders. (cont. next page)



DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302;RRM3202 (C.BIOSIS 1987)

resulting in greatly enlarged head characteristics and a long tail. *A. taylori* has also deviated from the morphology of related transforming taxa. This was accomplished by the accumulation of small changes in many characters as opposed to the major shifts in a few morphological features seen in *A. dumerilii*. Variation in shape among all non-transforming populations is generally concordant with phylogenetic relationships derived from allozyme data. The similarity in shape between *A. dumerilii* and *Ambystoma zacapu* is the sole exception to this generality and may represent convergent evolution in feeding mechanisms between these 2 spp.

Descriptors/Keywords: AMBYSTOMA-ORDINARIUM AMBYSTOMA-MEXICANUM AMBYSTOMA-TIGRINUM AMBYSTOMA-DUMERILII AMBYSTOMA-TAYLORI MORPHOLOGY PHYLOGENY

Concept Codes:

- *01500 Evolution
- *11103 Anatomy and Histology, General and Comparative-Comparative Anatomy (1971-)
- *25508 Developmental Biology-Embryology-Morphogenesis, General
- *62514 Chordata, General and Systematic Zoology-Amphibia
- 11304 Chordate Body Regions-Head (1970-)
- 11318 Chordate Body Regions-Extremities (1970-)

Biosystematic Codes:

85304 Caudata

Super Taxa:

Animals; Vertebrates; Nonhuman Vertebrates; Amphibians

0015102658 BIOSIS Number: 79047656
 REGIONAL DIFFERENCES IN THE DISTRIBUTION OF MYOGENIC AND CHONDROGENIC CELLS IN AXOLOTL AMBYSTOMA-MEXICANUM LIMB BLASTEMAS

CAMERON J A; HINTERBERGER T J
 DEP. ANATOMICAL SCI., UNIV. ILLINOIS, URBANA, ILLINOIS 61801.

J EXP Zool 232 (2), 1984, 269-276. CODEN: JEZ0A
 Language: ENGLISH

Subfile: BA (Biological Abstracts)

Myogenic and chondrogenic cell distribution was determined for axolotl limb blastemas at the medium bud stage, before precartilaginous condensation occurred. Midstylopod (upper) and distal-zeugopod (lower) amputation level blastema myogenic potential, divided into distal, proximal-core and proximal-peripheral regions, was assayed in vitro. Significantly more myonuclei were observed in upper level proximal-periphery cultures than in ones from any of the other regions. Since cartilage cells give rise almost exclusively to cartilage in the regenerate, a heritable cell marker, triploidy, was used to trace chondrogenic cell location in upper level early and medium bud blastema histological sections. Although there was graft cartilage-derived cell and host soft-tissue-derived cell mixing, the previous cartilage cells were found more frequently within the core region at early and medium bud stages. More chondrogenic cells are present in the core from a very early stage and more myogenic

cells are present in the proximal periphery by the medium bud stage. [This study has applications to embryonic vertebrate limb development]

Descriptors/Keywords: MEDIUM BUD STAGE DISTAL REGION PROXIMAL-CORE REGION PROXIMAL-PERIPHERAL REGION TRIPLOIDY MIDSTYLOPOD AMPUTATION LEVEL BLASTEMA MYOGENIC POTENTIAL DISTAL-ZEUGOPOD AMPUTATION LEVEL BLASTEMA MYOGENIC POTENTIAL

Concept Codes:

- *02506 Cytology and Cytochemistry-Animal
- *03506 Genetics and Cytogenetics-Animal
- *11108 Anatomy and Histology, General and Comparative-Microscopic and Ultramicroscopic Anatomy
- *17502 Muscle-Anatomy
- *17504 Muscle-Physiology and Biochemistry
- *18002 Bones, Joints, Fasciae, Connective and Adipose Tissue-Anatomy
- *18004 Bones, Joints, Fasciae, Connective and Adipose Tissue-Physiology and Biochemistry
- *25504 Developmental Biology-Embryology-Experimental
- *25508 Developmental Biology-Embryology-Morphogenesis, General

01054 Microscopy Techniques Cytology and Cytochemistry
 01056 Microscopy Techniques Histology and Histochemistry
 10504 Biophysics-General Biophysical Techniques
 11104 Anatomy and Histology, General and Comparative-Experimental Anatomy
 11318 Chordate Body Regions-Extremities (1970-)
 32500 Tissue Culture, Apparatus, Methods and Media
 32600 In Vitro Studies, Cellular and Subcellular

Biosystematic Codes:

85304 Caudata

Super Taxa:

Animals; Vertebrates; Nonhuman Vertebrates; Amphibians

0015101076 BIOSIS Number: 79046074

REGENERATION OF SURGICALLY CREATED MIXED-HANDED AXOLOTL AMBYSTOMA-MEXICANUM FORELIMBS PATTERN FORMATION IN THE DORSAL-VENTRAL AXIS

HOLDER N; WEEKS C
 ANATOMY DEPARTMENT, KING'S COLLEGE, STRAND, LONDON WC2R 2LS, UK.

J EMBRYOL EXP MORPHOL 82 (0), 1984, 217-240.

Concept Codes:

- Language: ENGLISH
 - Subfile: BA (Biological Abstracts)
- The regeneration of surgically created mixed-handed limb stumps is examined in the axolotl. Operations were performed in the lower arm and upper arm regions and grafts were allowed to heal for approx. 1 mo. prior to amputation or were amputated immediately. In the lower arm group both anterior and posterior limb halves were inverted, whereas only posterior halves were inverted in the upper arm group. Almost

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DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302;RRM3202 (C.BIOSIS 1987)

of the limbs regenerated were normal in the anterior-posterior axis, whereas a range of limb types were found when the dorsal-ventral axis was analyzed using the metacarpal muscle pattern and epidermal Leydig cell number as positional markers. The carpal and forearm muscle patterns were also analyzed in order to assess whether the pattern determined from analysis at the metacarpal level reflected that seen at more proximal levels. The results are discussed in terms of the possible role of cell contribution from the stump to the blastema and the relevance of the study to models of pattern regulation.

Descriptors/Keywords: CARPAL FOREARM MUSCLE AMPUTATION

Concept Codes:

- *11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-)
- *17504 Muscle-Physiology and Biochemistry
- *18004 Bones, Joints, Fasciae, Connective and Adipose Tissue-Physiology and Biochemistry
- 11104 Anatomy and Histology, General and Comparative-Experimental Anatomy
- 11105 Anatomy and Histology, General and Comparative-Surgery

Biosystematic Codes:

85304 Caudata

Super Taxa:

Animals; Vertebrates; Nonhuman Vertebrates; Amphibians

0015090660 BIOSIS Number: 79044825
 CHANGES IN MEMBRANE HYDROGEN AND SODIUM CONDUCTANCES DURING PROGESTERONE-INDUCED MATURATION OF AMBYSTOMA-MEXICANUM OF OOCYTES

BAUD C; BARISH M E
 DEP. PHYSIOL., JERRY LEWIS NEUROMUSCULAR RES. CENT., LOS ANGELES, CALIF. 90024.

DEV BIOL 105 (2), 1984, 423-434. CODEN: DEBIA
 Language: ENGLISH

Subfile: BA (Biological Abstracts)

A voltage-gated hydrogen ion-selective conductance has been previously described in the immature oocyte of the urodele amphibian *Ambystoma*. Changes in membrane voltage and internal pH, as well as in internal Na⁺ concentration, evidently occur during the hormone-induced maturation of oocytes from other amphibians. As activation of membrane currents might mediate changes in internal ion concentrations in addition to altering the membrane voltage, microelectrode recording techniques were employed to examine changes in membrane conductances which occur during maturation of *Ambystoma* oocytes. During the first 5 h of maturation the magnitude of the H⁺ conductance gradually decreased, and subsequently there was an increase in the amplitude of a voltage-dependent noninactivating Na⁺ conductance. After 6-7 h, after the loss of the hydrogen conductance and at about the time of germinal vesicle breakdown, the resting potential of the oocyte spontaneously shifted from approx. -10 mV to approx. +30 mV where it

remained until at least 24 h after the initiation of maturation. This voltage transition was due to the appearance of mechanisms generating inward current in the oocyte membrane; part of this inward current was due to the tonic activation of the Na⁺ conductance. Changes in internal pH and internal Na⁺ concentration occurred during maturation, as judged from shifts in the reversal potentials of both hydrogen and Na⁺ currents. A gradual decrease in internal H⁺ concentration was observed up until the time of disappearance of the hydrogen conductance (change in internal pH from approx. 7.15 in immature oocytes to approx. 7.40 by 3 h after application of progesterone). This was followed, as Na⁺ conductance increased, by an apparent rise in the internal Na⁺ concentration (from approx. 6 mM to approx. 17 mM by 10 h postprogesterone).

Descriptors/Keywords: GERMINAL VESICLE BREAKDOWN PH

Concept Codes:

- *02506 Cytology and Cytochemistry-Animal
- *10508 Biophysics-Membrane Phenomena
- *13010 Metabolism-Minerals
- *16504 Reproductive System-Physiology and Biochemistry
- *17004 Endocrine System-Adrenals
- *17006 Endocrine System-Gonads and Placenta
- 10060 Biochemical Studies-General
- 10067 Biochemical Studies-Steroids and Steroids
- 10069 Biochemical Studies-Minerals
- 10504 Biophysics-General Biophysical Techniques
- 12004 Physiology, General and Miscellaneous-Instrumentation
- 12100 Movement (1971-)
- 13008 Metabolism-Steroids and Steroids
- 16501 Reproductive System-General; Methods
- 22016 Pharmacology-Endocrine System

Biosystematic Codes:

85304 Caudata

Super Taxa:

Animals; Vertebrates; Nonhuman Vertebrates; Amphibians

0015085307 BIOSIS Number: 79039472

DIFFERENCE OF THE IN-VIVO RESPONSIVENESS TO THYROTROPIN STIMULATION BETWEEN THE NEOTENIC AND METAMORPHOSED AXOLOTL AMBYSTOMA-MEXICANUM FAILURE OF PROLACTIN TO BLOCK THE THYROTROPIN-INDUCED THYROXINE RELEASE

DARRAS V M; KUHN E R
 CATHOLIC UNIV. LEUVEN, ZOOLOGICAL INST., LAB. COMPARATIVE ENDOCRINOLOGY, NAMSESTR. 61, B-3000 LEUVEN, BELG.

GEN COMP ENDOCRINOL 56 (2), 1984, 321-325. CODEN: GCENA
 Language: ENGLISH

Subfile: BA (Biological Abstracts)

Basal and TSH-Induced plasma concentrations of T4 [thyroxine] have been measured by radioimmunoassay in the neotenic and metamorphosed male axolotl *A. mexicanum* both before and after an ovine prolactin pretreatment. All

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DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302;RRM3202 (C.BIOSIS 1987)

injections are made into the vena abdominalis. Basal levels of T4 are low in neotenes (85 +/- 19 pg/ml) and somewhat higher in metamorphosed Ambystoma (171 +/- 39 pg/ml), but are increased during metamorphosis (1094 +/- 138 pg/ml). Following injection of 5 mU bovine TSH circulating levels of T4 are raised about 4 times in neotenes, but more than 50 times in metamorphosed animals. Three i.v. injections, each of 640 mU prolactin and given, respectively, 24 and 13 h before and simultaneously with 5 mU TSH, do not inhibit the TSH-induced release in both experimental groups. In the metamorphosed Ambystoma again a > 50-fold T4 increase is present, whereas in neotenes a 10-fold TSH-induced T4 release is seen, which is more pronounced than before the prolactin treatment. In A. mexicanum ovine prolactin does not block a TSH-induced T4 release. Any antagonistic action with thyroid hormones is not mediated through the thyroid gland.

Descriptors/Keywords: THYROID HORMONE ANTAGONISTIC INTERACTION
Concept Codes:

- *10010 Comparative Biochemistry, General
 - *13010 Metabolism-Minerals
 - *13012 Metabolism-Proteins, Peptides and Amino Acids
 - *17002 Endocrine System-General
 - *17014 Endocrine System-Pituitary
 - *17018 Endocrine System-Thyroid
 - *22003 Pharmacology-Drug Metabolism; Metabolic Stimulators
 - *25502 Developmental Biology-Embryology-General and Descriptive
 - *25508 Developmental Biology-Embryology-Morphogenesis, General
 - 10054 Biochemical Methods-Proteins, Peptides and Amino Acids
 - 10064 Biochemical Studies-Proteins, Peptides and Amino Acids
 - 10068 Biochemical Studies-Carbohydrates
 - 10069 Biochemical Studies-Minerals
 - 15002 Blood, Blood-Forming Organs and Body Fluids-Blood and Lymph Studies
 - 22016 Pharmacology-Endocrine System
- Biosystematic Codes:
85304 Caudata
- Super Taxa:
Animals; Vertebrates; Nonhuman Vertebrates; Amphibians

0015080691 BIOSIS Number: 28044023
PIGMENTS AND PIGMENT CELLS IN DEVELOPING AXOLOTLS WILD TYPE AND MUTANT

EPP L G; FROST S K
MOUNT UNION COLLEGE, ALLIANCE, OHIO.
12TH INTERNATIONAL PIGMENT CELL CONFERENCE, GIESSEN, WEST GERMANY, SEPT. 18-23, 1983. YALE J BIOL MED 57 (3) 1984 356-357. CODEN: YUBMA
Language: ENGLISH
Document Type: CONFERENCE PAPER
Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT AMBYSTOMA-MEXICANUM PTERIDINE PIGMENT PIGMENT GENE CHROMATOPHORE SYSTEM MUTANT PHENOTYPE ALBINO PHENOTYPE MELANOID PHENOTYPE AXANTHIC PHENOTYPE
Concept Codes:

- *02506 Cytology and Cytochemistry-Animal
 - *03506 Genetics and Cytogenetics-Animal
 - *10062 Biochemical Studies-Nucleic Acids, Purines and Pyrimidines
 - *11108 Anatomy and Histology, General and Comparative-Microscopic and Ultramicroscopic Anatomy
 - *18504 Integumentary System-Physiology and Biochemistry
 - *25508 Developmental Biology-Embryology-Morphogenesis, General
 - 00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals
 - 18501 Integumentary System-General: Methods
- Biosystematic Codes:
85304 Caudata
- Super Taxa:
Animals; Vertebrates; Nonhuman Vertebrates; Amphibians

0015079476 BIOSIS Number: 28042808
CELLULAR CONTRIBUTION TO SUPERNUMERARY LIMBS OF DEVELOPING AND REGENERATING LIMBS IN THE AXOLOTL

MUNEOKA K
DEV. BIOL. CENT., UNIV. CALIF., IRVINE, CALIF. 92717, USA.
EUROPEAN DEVELOPMENTAL BIOLOGY CONGRESS, SOUTHAMPTON, ENGLAND, SEPT. 2-7, 1984. J EMBRYOL EXP MORPHOL 82 (SUPPL.), 1984. 176. CODEN: JEEMA
Language: ENGLISH
Document Type: CONFERENCE PAPER
Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT BLASTEMA DORSAL-VENTRAL AXIS PIGMENT CELL POSITION
Concept Codes:

- *02506 Cytology and Cytochemistry-Animal
 - *11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-)
 - *25502 Developmental Biology-Embryology-General and Descriptive
 - *25508 Developmental Biology-Embryology-Morphogenesis, General
 - 00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals
- Biosystematic Codes:
85304 Caudata
- Super Taxa:
Animals; Vertebrates; Nonhuman Vertebrates; Amphibians

Biosystematic Codes:
85304 Caudata

Super Taxa:
Animals; Vertebrates; Nonhuman Vertebrates; Amphibians



008886

DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302;RRM3202 (C.BIOSIS 1987)

0015079471 BIOSIS Number: 28042803
STUDIES ON VITAMIN A-INDUCED PATTERN DUPLICATION IN THE REGENERATING AXOLOTL LIMB

KEEBLE S; MADEN W
NATL. INST. MED. RES., MILL HILL, LONDON NW7 1AA.
EUROPEAN DEVELOPMENTAL BIOLOGY CONGRESS, SOUTHAMPTON, ENGLAND, SEPT. 2-7, 1984. J EMBRYOL EXP MORPHOL 82 (SUPPL.), 1984. 173. CODEN: JEEMA
Language: ENGLISH
Document Type: CONFERENCE PAPER
Subfile: BARRM (Biological Abstracts/RRM)

Proceedings of Conferences, Congresses, Review Annuals

- 18501 Integumentary System-General: Methods
 - 18502 Integumentary System-Anatomy
- Biosystematic Codes:
85304 Caudata
- Super Taxa:
Animals; Vertebrates; Nonhuman Vertebrates; Amphibians

Descriptors/Keywords: ABSTRACT BLASTEMAL CELL MESODERM PROXIMODISTAL AXIS CELL CLUMPING
Concept Codes:

- *02506 Cytology and Cytochemistry-Animal
 - *10063 Biochemical Studies-Vitamins
 - *10066 Biochemical Studies-Lipids
 - *11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-)
 - *25508 Developmental Biology-Embryology-Morphogenesis, General
 - 00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals
 - 11318 Chordate Body Regions-Extremities (1970-)
- Biosystematic Codes:
85304 Caudata
- Super Taxa:
Animals; Vertebrates; Nonhuman Vertebrates; Amphibians

0015079434 BIOSIS Number: 28042766
A 3-STEP SCHEME OF EARLY GRAY CRESCENT FORMATION IN THE AXOLOTL OOCYTE

GAUTIER J; BEETSCHEN J C
LAB. BIOLOGIE GENERALE, UNIV. PAUL SABATIER, 31062 TOULOUSE, FR.
EUROPEAN DEVELOPMENTAL BIOLOGY CONGRESS, SOUTHAMPTON, ENGLAND, SEPT. 2-7, 1984. J EMBRYOL EXP MORPHOL 82 (SUPPL.), 1984. 154. CODEN: JEEMA
Language: ENGLISH
Document Type: CONFERENCE PAPER
Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT FERTILIZED EGG PROTEIN SYNTHESIS
Concept Codes:

- *02506 Cytology and Cytochemistry-Animal
 - *13012 Metabolism-Proteins, Peptides and Amino Acids
 - *18504 Reproductive System-Physiology and Biochemistry
 - *25502 Developmental Biology-Embryology-General and Descriptive
 - 00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals
 - 10064 Biochemical Studies-Proteins, Peptides and Amino Acids
 - 10618 External Effects-Temperature as a Primary Variable-Hot (1971-)
 - 10804 Enzymes-Methods
 - 32600 In Vitro Studies, Cellular and Subcellular
- Biosystematic Codes:
85304 Caudata
- Super Taxa:
Animals; Vertebrates; Nonhuman Vertebrates; Amphibians

0015079462 BIOSIS Number: 28042794
INITIATION OF THE PIGMENT PATTERN IN THE AXOLOTL LARVA

EPPERLEIN H H; LOEFBERG J
DEP. ANAT., FREIBURG UNIV., D-7800 FREIBURG, W. GER.
EUROPEAN DEVELOPMENTAL BIOLOGY CONGRESS, SOUTHAMPTON, ENGLAND, SEPT. 2-7, 1984. J EMBRYOL EXP MORPHOL 82 (SUPPL.), 1984. 169. CODEN: JEEMA
Language: ENGLISH
Document Type: CONFERENCE PAPER
Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT NEURAL CREST CELL EMBRYO MIGRATION DIFFERENTIATION ARRANGEMENT XANTHOPHORE MELANOPHORE BLACK BARS
Concept Codes:

- *02506 Cytology and Cytochemistry-Animal
- *11108 Anatomy and Histology, General and Comparative-Microscopic and Ultramicroscopic Anatomy
- *18504 Integumentary System-Physiology and Biochemistry
- *25502 Developmental Biology-Embryology-General and Descriptive
- *25508 Developmental Biology-Embryology-Morphogenesis, General
- 00520 General Biology-Symposia, Transactions and

0015079413 BIOSIS Number: 28042745
ISOLATION AND PARTIAL PURIFICATION OF THE MESSENGER RNA CODING FOR AXOLOTL DNA LIGASE 8S AND ITS CELL-FREE TRANSLATION

THIEBAUD P; LEFRESNE J; SIGNORET J; DAVID J C
LAB. BIOCHIMIE DEV., UNIV. RENNES I, CAMPUS DE BEAULIEU, 35042 RENNES, FR.
EUROPEAN DEVELOPMENTAL BIOLOGY CONGRESS, SOUTHAMPTON, ENGLAND, SEPT. 2-7, 1984. J EMBRYOL EXP MORPHOL 82 (SUPPL.), 1984. 142. CODEN: JEEMA
(cont. next page)



DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302:RRM3202 (C.BIOSIS 1987)

Language: ENGLISH
 Document Type: CONFERENCE PAPER
 Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT
 Concept Codes:
 *03506 Genetics and Cytogenetics-Animal
 *10300 Replication, Transcription, Translation
 *10806 Enzymes-Chemical and Physical
 *10808 Enzymes-Physiological Studies
 *13014 Metabolism-Nucleic Acids, Purines and Pyrimidines
 *25502 Developmental Biology-Embryology-General and Descriptive
 00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals
 06504 Radiation-Radiation and Isotope Techniques
 10062 Biochemical Studies-Nucleic Acids, Purines and Pyrimidines
 10506 Biophysics-Molecular Properties and Macromolecules
 32600 In Vitro Studies, Cellular and Subcellular
 34502 Immunology and Immunochemistry-General: Methods
 Biosystematic Codes:
 85304 Caudata
 Super Taxa:
 Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0015079400 BIOSIS Number: 28042732
EXPRESSION OF DNA LIGASE GENES BY RAM SPERMATID NUCLEI IMPLANTED IN AMPHIBIAN EGGS
 LOIR M; LEFRESNE J; SIGNORET J; DAVID J C
 LAB. PHYSIOLOGIE POISSONS, INRA, CAMPUS DE BEAULIEU, RENNES, FR.

EUROPEAN DEVELOPMENTAL BIOLOGY CONGRESS, SOUTHAMPTON, ENGLAND, SEPT. 2-7, 1984. J EMBRYOL EXP MORPHOL 82 (SUPPL.). 1984. 136. CODEN: JEEMA
 Language: ENGLISH
 Document Type: CONFERENCE PAPER
 Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT PLEURODELES AXOLOTL SPERMATOCYTES
 Concept Codes:
 *02506 Cytology and Cytochemistry-Animal
 *03506 Genetics and Cytogenetics-Animal
 *10806 Enzymes-Chemical and Physical
 *10808 Enzymes-Physiological Studies
 *16504 Reproductive System-Physiology and Biochemistry
 *25502 Developmental Biology-Embryology-General and Descriptive
 *25504 Developmental Biology-Embryology-Experimental
 00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals
 10062 Biochemical Studies-Nucleic Acids, Purines and Pyrimidines

10064 Biochemical Studies Proteins, Peptides and Amino Acids
 Biosystematic Codes:
 85304 Caudata
 Super Taxa:
 Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0015079399 BIOSIS Number: 28042731
CHANGES IN THE PATTERN OF RIBOSOMAL DNA SPACER LENGTHS IN ONTOGENESIS OF TRITURUS-VULGARIS
 KRAUS K; LOHMANN K
 INST. BIOLOGIE I, UNIV. FREIBURG, ALBERTSTR. 21A, D-7800 FREIBURG, W. GER.

EUROPEAN DEVELOPMENTAL BIOLOGY CONGRESS, SOUTHAMPTON, ENGLAND, SEPT. 2-7, 1984. J EMBRYOL EXP MORPHOL 82 (SUPPL.). 1984. 135. CODEN: JEEMA
 Language: ENGLISH
 Document Type: CONFERENCE PAPER
 Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT TRITURUS-HELVETICUS XENOPUS AMBYSTOMA-MEXICANUM
 Concept Codes:
 *01500 Evolution
 *03506 Genetics and Cytogenetics-Animal
 *10010 Comparative Biochemistry, General
 *10062 Biochemical Studies-Nucleic Acids, Purines and Pyrimidines
 *10506 Biophysics-Molecular Properties and Macromolecules
 *25502 Developmental Biology-Embryology-General and Descriptive
 *62514 Chordata, General and Systematic Zoology-Amphibia
 00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals
 Biosystematic Codes:
 85304 Caudata
 85706 Sallientia
 Super Taxa:
 Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0015079388 BIOSIS Number: 28042720
EFFECT OF TEMPERATURE ON THE EXPRESSION OF GENES FOR DNA LIGASE IN AXOLOTL DEVELOPMENT
 ANDEOL Y; DAVID J C; SIGNORET J
 LAB. BIOLOGIE DEV., UNIV. CAEN, 14032 CAEN, FR.

EUROPEAN DEVELOPMENTAL BIOLOGY CONGRESS, SOUTHAMPTON, ENGLAND, SEPT. 2-7, 1984. J EMBRYOL EXP MORPHOL 82 (SUPPL.). 1984. 130. CODEN: JEEMA
 Language: ENGLISH
 Document Type: CONFERENCE PAPER
 Subfile: BARRM (Biological Abstracts/RRM)

(cont. next page)



008888

DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302:RRM3202 (C.BIOSIS 1987)

Descriptors/Keywords: ABSTRACT PLEURODELES
 Concept Codes:
 *03506 Genetics and Cytogenetics-Animal
 *10614 External Effects-Temperature as a Primary Variable (1971-)
 *10806 Enzymes-Chemical and Physical
 *10808 Enzymes-Physiological Studies
 *25502 Developmental Biology-Embryology-General and Descriptive
 *25504 Developmental Biology-Embryology-Experimental
 00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals
 10064 Biochemical Studies-Proteins, Peptides and Amino Acids
 Biosystematic Codes:
 85304 Caudata
 Super Taxa:
 Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0015079369 BIOSIS Number: 28042701
STIMULATION OF NEURAL CREST CELL MIGRATION IN THE AXOLOTL EMBRYO BY TISSUE GRAFTS AND TRANSPLANTED EXTRACELLULAR MATRIX
 LOFBERG J; NYNAS-MCCOY A; JONSSON L; PERRIS R; EPPERLEIN H H
 DEP. OF ZOOL., UPPSALA UNIV., UPPSALA, SWED.

EUROPEAN DEVELOPMENTAL BIOLOGY CONGRESS, SOUTHAMPTON, ENGLAND, SEPT. 2-7, 1984. J EMBRYOL EXP MORPHOL 82 (SUPPL.). 1984. 119. CODEN: JEEMA
 Language: ENGLISH
 Document Type: CONFERENCE PAPER
 Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT EPIDERMIS
 Concept Codes:
 *02506 Cytology and Cytochemistry-Animal
 *11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-)
 *12100 Movement (1971-)
 *18504 Integumentary System-Physiology and Biochemistry
 *20504 Nervous System-Physiology and Biochemistry
 *25502 Developmental Biology-Embryology-General and Descriptive
 *25504 Developmental Biology-Embryology-Experimental
 00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals
 01054 Microscopy Techniques-Cytology and Cytochemistry
 01058 Microscopy Techniques-Electron Microscopy
 32500 Tissue Culture, Apparatus, Methods and Media
 Biosystematic Codes:
 85304 Caudata
 Super Taxa:
 Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0015079204 BIOSIS Number: 28042536
EMBRYONIC EXTRACELLULAR MATRIX ADSORBED IN-VITRO MICROCARRIERS INDUCES PHENOTYPIC EXPRESSION IN CULTURED NEURAL CREST CELLS
 PERRIS R; LOFBERG J
 DEP. ZOOL., UPPSALA UNIV., S-751 22 UPPSALA, SWED.

EUROPEAN DEVELOPMENTAL BIOLOGY CONGRESS, SOUTHAMPTON, ENGLAND, SEPT. 2-7, 1984. J EMBRYOL EXP MORPHOL 82 (SUPPL.). 1984. 33. CODEN: JEEMA
 Language: ENGLISH
 Document Type: CONFERENCE PAPER
 Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: ABSTRACT AXOLOTL XANTHOPHORE EXPRESSION MELANOPHORE PREMIGRATORY STRAINING
 Concept Codes:
 *02506 Cytology and Cytochemistry-Animal
 *03506 Genetics and Cytogenetics-Animal
 *20504 Nervous System-Physiology and Biochemistry
 *25504 Developmental Biology-Embryology-Experimental
 *25508 Developmental Biology-Embryology-Morphogenesis, General
 00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals
 Biosystematic Codes:
 85304 Caudata
 Super Taxa:
 Animals: Vertebrates; Nonhuman Vertebrates; Amphibians

0015074024 BIOSIS Number: 28037356
ACTIVITY AND SUBSTRATE-INHIBITING PROPERTIES OF CHOLINESTERASES FROM DEVELOPING EMBRYOS OF VARIOUS ANIMALS
 SEMENOVA M N; TURPAEV T M
 KH. S. KOSHTOYANTS LAB. PHYSIOL., N. K. KOL'TSOV INST. DEV. BIOL. ACAD. SCI., USSR, MOSCOW.

J. EVOL. BIOCHEM. PHYSIOL. (ENGL. TRANSL. ZH. EVOL. BIOKHM. FIZIOL.) 19 (4), 1983 (1984), 299-303. CODEN: JEBPA
 Language: ENGLISH
 Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: BOMBYX-MORI STRONGYLOCENTROTUS-INTERMEDIUS STRONGYLOCENTROTUS-NUDUS AMBYSTOMA-MEXICANUM MAMMAL ACETYLCHOLINESTERASE MOTOR APPARATUS SUBSTRATE-INHIBITORY SPECIFICITY
 Concept Codes:
 *10506 Biophysics-Molecular Properties and Macromolecules
 *10808 Enzymes-Physiological Studies
 *17504 Muscle-Physiology and Biochemistry
 *20504 Nervous System-Physiology and Biochemistry
 *25502 Developmental Biology-Embryology-General and Descriptive
 *25508 Developmental Biology-Embryology-Morphogenesis, General
 (cont. next page)

DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302;RRM3202 (C.BIOSIS 1987)

*64076 Invertebrata, Comparative and Experimental Morphology, Physiology and Pathology-Insecta-Physiology
07517 Ecology: Environmental Biology-Water Research and Fishery Biology (1969-1984)
10064 Biochemical Studies-Proteins, Peptides and Amino Acids
12003 Physiology, General and Miscellaneous-Comparative (1970-)
17501 Muscle-General: Methods
20501 Nervous System-General: Methods
Biosystematic Codes:
75330 Lepidoptera
83300 Echinoidea
85304 Caudata
Super Taxa:
Animals: Invertebrates: Arthropods; Insects: Vertebrates: Nonhuman Vertebrates: Amphibians

0015074021 BIOSIS Number: 28037353
HENRY KOCH AND CHEMICAL EMBRYOLOGY
BRACHET J
UNIV. LIBRE DE BRUXELLES, CYTOL. EMBRYOL. MOL., 67 RUE DES CHEVAUX, 1640 RHODE-SAINT-GENESE, BELG.
ANN SOC R ZOOL BELG 113 (SUPPL. 1), 1983 (RECD 1984), 215-220. CODEN: ARZBA
Language: FRENCH
Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: AMOEBIA-PROTEUS AXOLOTL LINDERSTROM LANG APPARATUS OXYGEN CONSUMPTION

Concept Codes:
*00522 General Biology-History and Archaeology
*10012 Biochemistry-Gases (1970-)
*15001 Respiratory System-General: Methods
*16004 Respiratory System-Physiology and Biochemistry
*25502 Developmental Biology-Embryology-General and Descriptive
*64002 Invertebrata, Comparative and Experimental Morphology, Physiology and Pathology-Protozoa
07517 Ecology: Environmental Biology-Water Research and Fishery Biology (1969-1984)
10504 Biophysics-General Biophysical Techniques
12004 Physiology, General and Miscellaneous-Instrumentation
Biosystematic Codes:
35300 Sarcodina
85304 Caudata
Super Taxa:
Microorganisms: Animals: Invertebrates: Vertebrates: Nonhuman Vertebrates: Amphibians

0015065949 BIOSIS Number: 79029281
AMPHIBIAN GASTRULATION AS SEEN BY SCANNING ELECTRON MICROSCOPY

LUNDMARK C; SHIH J; TIBBETTS P; KELLER R
DEP. ZOOL., UNIV. CALIF., BERKELEY, CALIF., 94720.
SCANNING ELECTRON MICROSC 1984 (3), 1984, 1289-1300.
CODEN: SEMIB

Language: ENGLISH
Subfile: BA (Biological Abstracts)
The salient events of amphibian gastrulation are readily seen in scanning electron micrographs of dissected *Xenopus laevis* embryos. Bottle cell formation, involving apical constriction and radial elongation of epithelial cells, initiates blastoporal groove formation first on the dorsal side of the embryo, then laterally and finally ventrally. As bottle cells form in the superficial epithelium, deep cells begin to involute over an internal blastoporal lip, carrying the superficial layer inside to form the archenteron. While material involutes over the blastoporal lip, the blastopore moves toward the vegetal pole as a result of thinning and spreading of the outer layers (epiboly) as well as extension in the dorsal marginal zone. Extension and convergence in the dorsal marginal zone can be accounted for by rearrangement of several layers of deep cells into 1 layer. These same deep cells are those that then turn over the internal blastoporal lip, migrate toward the animal pole to form the archenteron and ultimately form mesodermal structures. The superficial endoderm is carried inside by the deep cells to line the archenteron. Mesoderm is never found in the superficial layer of *Xenopus*, but in *Ambystoma mexicanum* mesoderm makes up the roof of the archenteron for a time. This implies that gastrulation may vary significantly in different amphibians.

Descriptors/Keywords: XENOPUS-LAEVIS AMBYSTOMA-MEXICANUM BLASTOPHORE EPITHELIAL CELL

Concept Codes:
*02506 Cytology and Cytochemistry-Animal
*10508 Biophysics-Membrane Phenomena
*11108 Anatomy and Histology, General and Comparative-Microscopic and Ultramicroscopic Anatomy
*25502 Developmental Biology-Embryology-General and Descriptive
*25508 Developmental Biology-Embryology-Morphogenesis, General
01056 Microscopy Techniques-Electron Microscopy
16501 Reproductive System-General: Methods
Biosystematic Codes:
85304 Caudata
85306 Salientia
Super Taxa:
Animals: Vertebrates: Nonhuman Vertebrates: Amphibians

008890



DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302;RRM3202 (C.BIOSIS 1987)

0015064362 BIOSIS Number: 79027694
CELLULAR CONTRIBUTION TO SUPERNUMERARY LIMBS IN THE AXOLOTL AMBYSTOMA-MEXICANUM
MUNEOKA K; BRYANT S V
DEV. BIOL. CENTER, UNIV. CALIF., IRVINE, CA 92717.
DEV BIOL 105 (1), 1984, 166-178. CODEN: DEBIA
Language: ENGLISH
Subfile: BA (Biological Abstracts)

Using the triploid cell marker, the cellular contribution from graft and stump to the supernumerary limbs which result from contralateral grafts of limb buds and regeneration blastemas in the axolotl was analyzed. Grafts were made so as to appose anterior and posterior limb positions. The contribution from graft and stump tissue was approximately equal although the position of the boundary between the two was variable from limb to limb. This result is consistent with models which suggest that intercalary regeneration is the driving force for patterning of the vertebrate limb. The pattern of cellular contribution to supernumerary limbs was consistently asymmetrical in the dorsal-ventral axis. Posterior limb tissue predominantly contributed cells to the posterior and dorsal part of the supernumerary limb; anterior limb tissue predominantly contributed cells to the anterior and ventral part of the supernumerary limb. The reason for this asymmetrical pattern remains unknown, but it might result from a directional bias in intercalary regeneration, similar to that observed during intercalation in the proximal-distal axis of the urodele limb. Using the triploid cell marker in conjunction with a black/white pigmentation marker, the relationship between the cellular contribution boundary and the pigmentation boundary in supernumerary limbs also was analyzed. The positions of the 2 boundaries do not coincide, a result which suggests that the eventual location of pigment cells is a good indicator of the location of nonpigment cells derived from graft and stump.

Descriptors/Keywords: URODELE VERTEBRATE REGENERATION BLAEMTA LIMB BUD GRAFT INTERCALARY REGENERATION PATTERN FORMATION PIGMENT CELL TRIPLOID CELL MARKER

Concept Codes:
*02506 Cytology and Cytochemistry-Animal
*11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-)
*12003 Physiology, General and Miscellaneous-Comparative (1970-)
*25508 Developmental Biology-Embryology-Morphogenesis, General
03506 Genetics and Cytogenetics-Animal
11104 Anatomy and Histology, General and Comparative-Experimental Anatomy
11318 Chordate Body Regions-Extremities (1970-)
18504 Integumentary System-Physiology and Biochemistry
Biosystematic Codes:
85150 Vertebrata-Unspecified
85304 Caudata
Super Taxa:

Animals: Vertebrates: Nonhuman Vertebrates: Amphibians
0015052009 BIOSIS Number: 79024508
OFF-PATHWAY SYNAPTIC TRANSMISSION IN THE OUTER RETINA OF THE AXOLOTL AMBYSTOMA-MEXICANUM IS MEDIATED BY A KAINIC-ACID-PREFERRING RECEPTOR

DVORAK D
DEP. OF BEHAVIOURAL BIOL., RES. SCH. OF BIOLOGICAL SCI., AUSTRALIAN NATIONAL UNIV., P.O. BOX 475, CANBERRA CITY, A.C.T. 2601, AUSTRALIA.
NEUROSCI LETT 50 (1-3), 1984, 7-12. CODEN: NELED
Language: ENGLISH
Subfile: BA (Biological Abstracts)

Intracellular recordings were made from OFF-center bipolar cells and horizontal cells in the superfused axolotl retina eyecup preparation. Bath-applied (L-)-cis-2,3-piperidine dicarboxylic acid (PDA), gamma-D-glutamylglycine (DGG), L-glutamic acid diethyl ester (GDEE), (L-)-2-amino-5-phosphonopivalic acid (2-APV) and Mg²⁺ were assessed as antagonists of the actions of the photoreceptor transmitter. The rank order of antagonist efficacy was PDA > DGG > 2-APV = GDEE = Mg²⁺. Transmission at OFF-pathway synapses in the outer retina of the axolotl is mediated by a kainic acid-preferring receptor.

Descriptors/Keywords: CIS-2 3 PIPERIDINEDICARBOXYLIC-ACID GAMMA-D GLUTAMYLGLYCINE L GLUTAMIC ACID DIETHYLESTER 2 AMINO-5-PHOSPHONVALERIC-ACID MAGNESIUM PHOTORECEPTOR TRANSMITTER ANTAGONISTS

Concept Codes:
*02506 Cytology and Cytochemistry-Animal
*10508 Biophysics-Membrane Phenomena
*20004 Sense Organs, Associated Structures and Functions-Physiology and Biochemistry
*20501 Nervous System-General: Methods
*20504 Nervous System-Physiology and Biochemistry
*22501 Toxicology-General: Methods and Experimental
01056 Microscopy Techniques-Histology and Histochemistry
10064 Biochemical Studies-Proteins, Peptides and Amino Acids
10069 Biochemical Studies-Minerals
13010 Metabolism-Minerals
13012 Metabolism-Proteins, Peptides and Amino Acids
51522 Plant Physiology, Biochemistry and Biophysics-Chemical Constituents
54000 Pharmacognosy and Pharmaceutical Botany
Biosystematic Codes:
85304 Caudata
Super Taxa:
Animals: Vertebrates: Nonhuman Vertebrates: Amphibians

0015051791 BIOSIS Number: 79024290
AXIAL CHARACTERISTICS OF NERVE INDUCED SUPERNUMERARY LIMBS IN THE AXOLOTL AMBYSTOMA-MEXICANUM
MADEN M; HOLDER N

(cont. next page)



DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302:RRM3202 (C.BIOSIS 1987)

DIV. DEVELOPMENTAL BIOL., NATL. INST. MED. RES., RIDGEWAY,
MILL HILL, LONDON NW7 1AA, GREAT BRITAIN.
WILHELM ROUX'S ARCH DEV BIOL 193 (6), 1984. 394-401.
CODEN: WRABD

Language: ENGLISH
Subfile: BA (Biological Abstracts)
Supernumerary limbs were produced by deviating the sciatic nerve to the surface of the axolotl hindlimb either alone or in combination with small skin grafts from specific limb positions. With no skin grafts a very low frequency of good supernumeraries were produced. However, when associated with skin grafts, this frequency was significantly increased. The pattern of skeletal elements and muscles were analyzed in the supernumeraries which formed at each location. In both the anterior-posterior and dorsal-ventral axes specific anatomical features were found which correlated with their position of origin on the host limb. Characteristic features were also observed with respect to the proximal-distal axis of the outgrowths. These phenomena are discussed in relation to the current understanding of the rules of pattern regulation in the regenerating limb.

Descriptors/Keywords: SKIN GRAFT SCIATIC NERVE DEVIATION
PATTERN FORMATION

Concept Codes:
*11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-)
*11108 Anatomy and Histology, General and Comparative-Microscopic and Ultramicroscopic Anatomy
*18504 Integumentary System-Physiology and Biochemistry
*20504 Nervous System-Physiology and Biochemistry
11104 Anatomy and Histology, General and Comparative-Experimental Anatomy
11318 Chordate Body Regions-Extremities (1970-)
15004 Blood, Blood-Forming Organs and Body Fluids-Blood Cell Studies
17504 Muscle-Physiology and Biochemistry
20501 Nervous System-General: Methods
Biosystematic Codes:
85304 Caudata
Super Taxa:
Animals: Vertebrates: Nonhuman Vertebrates: Amphibians

0015047545 BIOSIS Number: 79020044
XANTHOPHORES IN CHROMATOPHORE GROUPS OF THE PREMIGRATORY NEURAL CREST INITIATE THE PIGMENT PATTERN OF THE AXOLOTL AMBYSTOMA-MEXICANUM LARVA
EPPERLEIN H W, LOFBERG J
ANATOMISCHES INST., UNIV. FREIBURG, ALBERTSTR. 17, 7800 FREIBURG, FED. REP. GER.
WILHELM ROUX'S ARCH DEV BIOL 193 (6), 1984. 357-369.
CODEN: WRABD
Language: ENGLISH
Subfile: BA (Biological Abstracts)
The barred pigment pattern (Lehman 1957) of the axolotl

larva is best observed from stage 41 onwards, where it already consists of alternating transverse bands of melanophores and xanthophores along the dorsal side of the trunk. The present study investigates when the 2 populations of neural crest derived chromatophores, melanophores and xanthophores become determined and how they interact to create the barred pigment pattern. The presence of phenol oxidase (tyrosinase) in melanophores (revealed by dopa incubation) and pteridines in xanthophores (visualized by fluorescence) were used as markers for cell differentiation in order to recognize melanophores and xanthophores before they became externally visible. Melanophores and xanthophores were already determined in the premigratory neural crest, at stages 30/31 and 35-36, respectively. Between stages 35-36 and 38 they were arranged in a prepattern of several distinct, mixed chromatophore groups along the dorsal trunk, morphologically correlated in the scanning electron microscope with humps on the original crest cell string. While the occurrence of xanthophores was restricted to the chromatophore groups and around them, melanophores were already uniformly distributed in the dorsolateral flank area, having migrated from trunk neural crest portions including the groups. The bar component of the pigment pattern was subsequently initiated by xanthophores, which caused melanophores in and around the chromatophore groups to fade or become invisible. The barred pattern was established by the formation of alternating clusters of like cells, melanophores and xanthophores.

Descriptors/Keywords: CELL DIFFERENTIATION MELANOPHORE PHENOL OXIDASE ELECTRON MICROSCOPY

Concept Codes:
*10806 Enzymes-Chemical and Physical
*11108 Anatomy and Histology, General and Comparative-Microscopic and Ultramicroscopic Anatomy
*13012 Metabolism-Proteins, Peptides and Amino Acids
*20504 Nervous System-Physiology and Biochemistry
*25502 Developmental Biology-Embryology-General and Descriptive
*25508 Developmental Biology-Embryology-Morphogenesis, General
01058 Microscopy Techniques-Electron Microscopy
02506 Cytology and Cytochemistry-Animal
06504 Radiation-Radiation and Isotope Techniques
10064 Biochemical Studies-Proteins, Peptides and Amino Acids
Biosystematic Codes:
85304 Caudata
Super Taxa:
Animals: Vertebrates: Nonhuman Vertebrates: Amphibians

0015039939 BIOSIS Number: 28021605
RETINOID AS PROBES FOR INVESTIGATING THE MOLECULAR BASIS OF PATTERN FORMATION
MADEN M
(cont. next page)

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008892

DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302:RRM3202 (C.BIOSIS 1987)

DEVELOPMENTAL BIOL. DIV., NATL. INST. MED. RESEARCH, MILL HILL, LONDON NW7 1AA, UNITED KINGDOM.
MALACINSKI, G. M. AND S. V. BRYANT (ED.). PATTERN FORMATION: A PRIMER IN DEVELOPMENTAL BIOLOGY. XXVII+626P. MACMILLAN PUBLISHING CO: NEW YORK, N.Y., USA; COLLIER MACMILLAN PUBLISHERS: LONDON, ENGLAND. ILLUS. ISBN 0-02-949480-X. 0 (O), 1984. 539-556. CODEN: 18232

Language: ENGLISH
Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: AXOLOTL RANA-TEMPORARIA VITAMIN A LIMB REGENERATION

Concept Codes:
*02506 Cytology and Cytochemistry-Animal
*11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-)
*25502 Developmental Biology-Embryology-General and Descriptive
*25508 Developmental Biology-Embryology-Morphogenesis, General
10063 Biochemical Studies-Vitamins
10066 Biochemical Studies-Lipids
11318 Chordate Body Regions-Extremities (1970-)
Biosystematic Codes:
85304 Caudata
85306 Saliientia
Super Taxa:
Animals: Vertebrates: Nonhuman Vertebrates: Amphibians

0015039938 BIOSIS Number: 28021604
REGENERATION OF THE AXOLOTL LIMB PATTERNS AND POLAR COORDINATES
HOLDER N
DEP. ANATOMY, KING'S COLL. LONDON, STRAND, LONDON WC2R 2LS, UNITED KINGDOM.
MALACINSKI, G. M. AND S. V. BRYANT (ED.). PATTERN FORMATION: A PRIMER IN DEVELOPMENTAL BIOLOGY. XXVII+626P. MACMILLAN PUBLISHING CO: NEW YORK, N.Y., USA; COLLIER MACMILLAN PUBLISHERS: LONDON, ENGLAND. ILLUS. ISBN 0-02-949480-X. 0 (O), 1984. 521-538. CODEN: 18232

Language: ENGLISH
Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: CELL-TO-CELL CONTACT BLASTEMAL SHAPE DISTAL OUTGROWTH MODEL

Concept Codes:
*10515 Biophysics-Biocybernetics (1972-)
*11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-)
*25502 Developmental Biology-Embryology-General and Descriptive
*25504 Developmental Biology-Embryology-Experimental
*25508 Developmental Biology-Embryology-Morphogenesis, General

Biosystematic Codes:
85304 Caudata

Super Taxa:
Animals: Vertebrates: Nonhuman Vertebrates: Amphibians

0015039560 BIOSIS Number: 28021226
PROLIFERATIVE ACTIVITY OF THE CELLS OF THE PIGMENT EPITHELIUM AND REGENERATING RETINA IN AMBYSTOMA-MEXICANUM SVISTUNOV S A; MITASHOV V I
N. K. KOL'TSOV INST. DEV. BIOL., ACAD. SCI. USSR, MOSCOW, SOV J DEV BIOL (ENGL TRANSL ONTOGENEZ) 14 (6), 1983 (1984). 359-365. CODEN: SUDBA
Language: ENGLISH
Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: AMBYSTOMA-MACULATUM AMBYSTOMA-PUNCTATUM TRITIUM-LABELED THYMIDINE

Concept Codes:
*11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-)
*13004 Metabolism-Carbohydrates
*13012 Metabolism-Proteins, Peptides and Amino Acids
*13014 Metabolism-Nucleic Acids, Purines and Pyrimidines
*20001 Sense Organs, Associated Structures and Functions-General: Methods
*20004 Sense Organs, Associated Structures and Functions-Physiology and Biochemistry
*25508 Developmental Biology-Embryology-Morphogenesis, General
01012 Methods, Materials and Apparatus, General-Photography
06504 Radiation-Radiation and Isotope Techniques
10062 Biochemical Studies-Nucleic Acids, Purines and Pyrimidines
10064 Biochemical Studies-Proteins, Peptides and Amino Acids
10068 Biochemical Studies-Carbohydrates
Biosystematic Codes:
85304 Caudata
Super Taxa:
Animals: Vertebrates: Nonhuman Vertebrates: Amphibians

0015036720 BIOSIS Number: 28018386
LOCAL ACTION OF VITAMIN A ON AMPHIBIAN LIMB REGENERATION
WALLACE H; MADEN M
DEP. GENET., UNIV. BIRMINGHAM, POB 363, BIRMINGHAM B15 2TT, ENGL.
EXPERIENTIA (BASEL) 40 (9), 1984. 985-986. CODEN: EXPEA
Language: ENGLISH
Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: AMBYSTOMA-MEXICANUM VITAMIN-DRUG
(cont. next page)

DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302;RRM3202 (C.BIOSIS 1987)

BLASTEMA

Concept Codes:

- *02506 Cytology and Cytochemistry-Animal
- *11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-)
- *13006 Metabolism-Lipids
- *13016 Metabolism-Fat-Soluble Vitamins
- *22003 Pharmacology-Drug Metabolism: Metabolic Stimulators
- *25508 Developmental Biology-Embryology-Morphogenesis, General
- 10063 Biochemical Studies-Vitamins
- 10066 Biochemical Studies-Lipids
- 11318 Chordate Body Regions-Extremities (1970-)

Biosystematic Codes:

85304 Caudata

Super Taxa:

Animals: Vertebrates: Nonhuman Vertebrates: Amphibians

- *25504 Developmental Biology-Embryology-Experimental
- *25508 Developmental Biology-Embryology-Morphogenesis, General
- 03506 Genetics and Cytogenetics-Animal
- 11104 Anatomy and Histology, General and Comparative-Experimental Anatomy

Biosystematic Codes:

85304 Caudata

Super Taxa:

Animals: Vertebrates: Nonhuman Vertebrates: Amphibians

0015012713 BIOSIS Number: 79003546

NUCLEAR DIFFERENTIATION REVISITED STABILIZED EXPRESSION OF THE GENES CODING FOR DNA-LIGASE IN TRANSFERRED NUCLEI

SIGNORET J; LEFRESNE J; DAVID J-C
LAB. BIOL. DEV., UNIV. CAEN, ESPLANADE DE LE PAIX, F-14032
CAEN CEDEX, FR.DIFFERENTIATION 26 (3), 1984, 235-240. CODEN: DFFNA
Language: ENGLISH

Subfile: BA (Biological Abstracts)

Early nuclear transplantation studies focused on whether nuclear modification was correlated with cell differentiation. The results, established in the 1960s, were expressed in terms of totipotency, pluripotency or limited potencies of the nucleus, and constituted a significant step in understanding how genes undergo selective regulation in development and how they control developmental events. Injection experiments involving purified genes, other molecules or cell components have been prominent. Amphibian eggs and oocytes provide an extraordinarily efficient test system for replicating and transcribing DNA, translating mRNA, processing RNA precursors or expressing purified genes. Injection of whole nuclei eggs on oocytes offers an opportunity for studying the activated or inactivated state of a gene in order to analyze the processes of activation and inactivation. Such gene regulation is lost when a gene is introduced as purified DNA. Most often, injected nuclei conform to the pattern of gene expression characteristic of the recipient cell. A significant exception is offered by the oocyte-type 55 genes of *Xenopus*, which are normally active in oocyte and inactive in somatic cells. These genes remain inactive when nuclei are injected into oocytes of certain non-activating females. Other activating females provide oocytes that spontaneously activate the oocyte-type 55 genes of injected somatic nuclei, in accordance with most nuclear injection experiments. The regulation of the gene for the heavy form of DNA ligase (faster migrating on sucrose gradient, 8S in axolotl) that retains its regulated state after nuclear transplantation is described. This system constitutes a unique model for experimental study of the process of gene activation and inactivation.

Descriptors/Keywords: AMPHIBIA XENOPUS AXOLOTL NUCLEAR POTENCY OOCYTE-TYPE 55 GENE ACTIVATION MESSENGER RNA REPLICATION TRANSCRIPTION DEVELOPMENT TRANSPLANTATION
(cont. next page)

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CELLULAR CONTRIBUTION TO SUPERNUMERARY LIMBS RESULTING FROM THE INTERACTION BETWEEN DEVELOPING AND REGENERATING TISSUES IN THE AXOLOTL

MUNEOKA K; BRYANT S V
DEV. BIOL. CENTER, UNIV. CALIF., IRVINE, CA 92717.
DEV BIOL 105 (1), 1984, 179-187. CODEN: DEBIA

Language: ENGLISH

Subfile: BA (Biological Abstracts)

Relationship between limb development and limb regeneration is considered with regard to the mechanisms by which pattern is established during limb outgrowth. Previously, the interaction between cells from the developing limb bud and the regenerating limb blastema was found to result in the production of organized supernumerary limb structures. Here, the relative cellular contribution from developing and regenerating cells to supernumerary limbs resulting from contralateral grafts between limb buds and blastemas was analyzed using the triploid cell marker in the axolotl. Results show that there is substantial participation from both developing and regenerating limb cells to all supernumerary limbs analyzed. Apparently, developing and regenerating limbs utilize the same patterning mechanisms during limb outgrowth. This conclusion is discussed in terms of patterning models for developing and regenerating limbs. Apparently, the rules of the polar coordinate model can best explain the behavior of cells during limb development and limb regeneration.

Descriptors/Keywords: PATTERN MECHANISMS POLAR COORDINATE MODEL

Concept Codes:

- *02506 Cytology and Cytochemistry-Animal
- *11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-)
- *11318 Chordate Body Regions-Extremities (1970-)
- *12002 Physiology, General and Miscellaneous-General

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DIALOG File 55: BIOSIS PREVIEWS 81-87/JAN BA8302;RRM3202 (C.BIOSIS 1987)

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- *10300 Replication, Transcription, Translation
- *10506 Biophysics-Molecular Properties and Macromolecules
- *10808 Enzymes-Physiological Studies
- *13014 Metabolism-Nucleic Acids, Purines and Pyrimidines
- *16504 Reproductive System-Physiology and Biochemistry
- *25508 Developmental Biology-Embryology-Morphogenesis, General
- 10062 Biochemical Studies-Nucleic Acids, Purines and Pyrimidines
- 10064 Biochemical Studies-Proteins, Peptides and Amino Acids
- 10504 Biophysics-General Biophysical Techniques
- 12100 Movement (1971-)

Biosystematic Codes:

85304 Caudata

85306 Sallientia

Super Taxa:

Animals: Vertebrates: Nonhuman Vertebrates: Amphibians

0015000697 BIOSIS Number: 28000697

IMPROVED TECHNIQUES FOR USE OF THE TRIPLOID CELL MARKER IN THE AXOLOTL AMBYSTOMA-MEXICANUM

MUNEOKA K; WISE L D; FOX W F; BRYANT S V
DEV. BIOL. CENTER., UNIV. CALIF., IRVINE, CA 92717.
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Subfile: BARRM (Biological Abstracts/RRM)

Descriptors/Keywords: CELL LINEAGE LIMB REGENERATION NUCLEOLI

Concept Codes:

- *02506 Cytology and Cytochemistry-Animal
- *03506 Genetics and Cytogenetics-Animal
- *11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-)
- *11318 Chordate Body Regions-Extremities (1970-)
- *25504 Developmental Biology-Embryology-Experimental
- *25508 Developmental Biology-Embryology-Morphogenesis, General
- *32500 Tissue Culture, Apparatus, Methods and Media
- 04500 Mathematical Biology and Statistical Methods
- 32600 In Vitro Studies, Cellular and Subcellular

Biosystematic Codes:

85304 Caudata

Super Taxa:

Animals: Vertebrates: Nonhuman Vertebrates: Amphibians