

Director's Note

Call for Participation

Enhancement of urodeles as true model systems for genome era biology will require the development of one or another type of transgenic procedure. That is, a method needs to be devised which will permit the introduction of a foreign gene into urodele embryos, adult tissues, or--best of all--the germ line. With such methods several "next level" experiments will be possible, and imagination (rather than technical virtuosity) will once again be the norm for urodele research. Hypothesis-driven research will return to the forefront of research with axolotls and other laboratory urodeles.

A second necessary development for elevating urodele research to the "next level" will of course be serious explorations into the nature of the typical urodele (e.g., axolotl) genome. Recall, the typical urodele is famous for several reasons that go beyond its mere usefulness as a laboratory organism: its remarkable capacity for regeneration (especially of appendages); and its extraordinarily large genome size.

In this issue two research groups have generously provided reports that deal with those matters. The report by Ghosh, et al brings us up to date on studies that use either vaccinia or lentiviral vectors for gene delivery to axolotl cells. The success is encouraging! We welcome other research groups to join those efforts. The I.U. Axolotl Colony is always eager to supply experimental material to interested labs.

The report by Voss and Parichy summarizes efforts to initiate genetic and genomic analyses of urodeles, including the axolotl. Their first goal is to develop a genome map with ESTs (expressed sequence tags). Accomplishing that task will set the stage for comparative studies with other genomes, including many which are already sequenced. The axolotl genome is likely to harbor some secrets, and treasure hunters are encouraged to get involved!

State of the I.U. Axolotl Colony

All goes well at the Colony. Sandi Borland directs the operation, and is assisted by Meg Newberry (who has included in this issue a report on treating sick animals). In addition to the regular activities of the Colony, they are collaborating with faculty from the School of Education to develop an outreach program. Axolotls provide numerous advantages for use in public school classrooms. Their efforts are being devoted to developing "axolotl kits" for various grade levels.

-George Malacinski

Curator's Note

I am happy to report that the Axolotl Colony continues to do well. Our axolotl population is healthy under the watchful eye of the assistant curator, Meg Newberry. Breeding success has never been so high, thanks to Meg and the careful pairings of graduate student Henry Wakhungu. We have had a steady supply of embryos throughout the year due to their efforts. In addition, we stepped up our raising program in order to supply larger larvae, juveniles and even adults more reliably and on demand. Now the colony can better serve all areas of axolotl research without putting the task of raising animals to researchers with limited budgets and time.

The Axolotl Colony also provides embryos services for labs that need to initiate studies at a stage earlier than we can get the material to them (we can't usually get embryos delivered before stage 8 – mid/full blastula). We can also provide some of the technical services that are time consuming for research labs. We are used to handling embryos so have the technical expertise and material on hand. Below you will find the services pricelist. Please email us (axolotl@indiana.edu) if you need assistance with any other procedures, we may be able to help you!

Dejellied eggs	\$25/50 eggs
Microinjected eggs	\$100/50 eggs
Lithium treated eggs	\$75/50 eggs
Retanoic Acid-Treated eggs	\$75/50 eggs
UV treated eggs	\$75/50 eggs
Fixed staged embryos	\$50/50 embryos
Fixed, frozen staged embryos	\$60/50 embryos

We have been expanding the information provided in the Research Tools section of the colony website (<http://www.indiana.edu/~axolotl/>). You can now find the following:

- Embryo staging pictures and descriptions
- Limb development series (courtesy of H. Nye and J. Cameron, University of Illinois at Urbana-Champaigne)
- Access to other labs' on-line information
- Search tools for colony databases to get information on spawns and individual animals
- A listing of antibodies that work for axolotls and details about obtaining them.
- Protocols for embryo solutions, procedures and treatments.

I would like to thank our advisory committee for its support and counsel: Susan Bryant, University of California Irvine; Linda Barlow, University of Colorado Health Sciences Center; Randall Voss, Colorado State University at Fort Collins; and David Stocum, Indiana University Purdue University Indianapolis.

-Sandra Borland