

Molecular Biology of the Axolotl

As is pointed out in Malcolm Maden's review of *Developmental Biology of the Axolotl* (reprinted in this issue), the axolotl has thus far largely "missed out on the molecular biology of development." It is our subjective impression here at the IU Axolotl Colony, however, that there is a strong interest in molecular approaches to development using the axolotl, although the necessary tools are still scarce. Nevertheless, a few genomic libraries for the axolotl have been made (cf., Whiteley, M. *Biochem. Cell. Biol.* vol 68, in press), and there is a strong interest in cDNA libraries.

One obstacle to the preparation of genomic DNA libraries is the large genome size of Urodeles. This difficulty has been overcome for the newt. Jeremy Brockes of the Ludwig Institute for Cancer Research, London, kindly sent the following information about newt (*Notophthalmus viridescens*) libraries constructed in his laboratory.

1. Genomic library in EMBL 3. Size selected DNA in the 15-20 kB range derived from the liver of a single individual. Used to isolate genes for cardiovascular myosin, NvHBox-1, retinoic acid receptor, actin.
2. Forelimb blastema (midbud) cDNA in lambda gt10. Used to isolate cDNAs in 0.5-3.0 kB range coding for myosin, HBox-1, keratin, retinoic acid receptor, and others.

3. Forelimb blastema (midbud) cDNA in lambda gt11. Used to isolate cDNAs for HBox-1, keratin, and retinoic acid receptor by antibody screening.
4. Tail blastema cDNA in gt11. Size selected inserts. HBox-1 isolated.
5. Normal tail cDNA in lambda zap with R1 adaptors. Used for alpha and delta retinoic acid receptors.

For references to the construction and use of the above please see:

1. Casimir et al. 1988. *J. Mol. Biol.* 202:287-296.
2. Casimir et al. 1988. *Development* 104:657-668.
3. Savard et al. 1988. *EMBO J.* 7:4275-4282.
4. Ragsdale et al. 1989. *Nature* 341:654-657.

At the axolotl colony we would like to do what we can to promote the development of cDNA and genomic libraries for the axolotl. To that end we are willing to supply adult animals or tissue samples (frozen) to anyone interested in constructing libraries. We will also willingly entertain suggestions you might have for other ways that the axolotl colony can facilitate research on the molecular biology of the axolotl.