Axolotl Genomic Library

A genomic library from the axolotl has been prepared in the bacteriophage lambda replacement vector EMBL4 using the partial repair method of Zabarovsky and Allikmets [Gene 42:119-123 (1986)]. Axolotl genomic DNA was isolated from whole blood. Approximately 500,000 primary plaque forming units were obtained. The library was determined to have about 60% inserts by the isolation of nine random clones which were then digested with the restriction enzyme Eco RI. The size of the inserts ranged from 12 to 20 Kb, with the majority greater than 15 Kb. The library has been amplified once by preparing plate lysates on nunc bioassay plates.

Anyone interested in using this library should contact Mary Whiteley or John Armstrong, Department of Biology, University of Ottawa, Ottawa, Ontario K1N 6N5. Phone: (613) 564-4283

Ambystoma Embryo Development after Cold Storage

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We have found that Ambystoma embryos from the Axolotl Colony may be stored at 1°C for nearly four weeks without significant insult to their ability to develop. In this procedure, embryos received at the blastula stage are transferred, in the water in which they arrive, to a large (600-800 ml) beaker, which then is covered lightly with a petri dish and placed in a 1°C refrigerator. When growth is desired, a few embryos are transferred to a 100mm Petri dish and covered with some of the cold water in which they have been kept. The dish is covered with its lid and immediately placed in an 18°C incubator. incubation at 18°C with no cold storage, an average of 92% of the embryos develop normally to hatching. After one to three weeks cold storage, this average has not changed significantly (90% in weeks 1 and 2; 89% in week 3). The first significant decline in fraction of embryos developing normally is seen in those refrigerated for 27 days; the average for days 27 to 35 is 59%. This decreases still further with longer storage; the average for weeks 6 and 7 is 37%. A slight (1-2 days) lengthening of the average time to hatching is also seen in those stored longer than four weeks.

Because our studies use axolotl larvae only until about twenty days post-hatching, it is not known whether cold storage has any effect upon later development.