We determined the moment of larva hatching after the incubation of embryos at 25°C and calculated the percentage of the hatched eggs. The results obtained are shown in Table 1.

It was obvious that preserving **Drosophila hydei** eggs at 10°C suppressed almost completely their embryonic development but did not influence the viability of the embryos.

We have used this finding in order to facilitate our experimental work when studying histone modifications in embryos at various stages of development.

**References**: Hedman, S. & B. Krogstad 1963, Proc. Minn. Acad. Sci. 31:78-81; Powsner, L. 1935, Physiol. Zool. 474-530; Ralchev, K.H. & N.T. Harisonava 1985, DIS: this issue.

**Itoh, N., P. Salvaterra and K. Itakura.** Beckman Research Institute (City of Hope), Duarte, California USNA. Construction of an adult Drosophila head cDNA expression library with lambda gt 11.

To isolate neural protein genes, we constructed an adult Drosophila head cDNA library using lambda gt 11 which was shown to be a useful expression vector (Young & Davis 1983). RNA was extracted from frozen adult Drosophila (Canton S) heads by the Urea-LiCl method (Auffray & Rougeon 1980). Poly(A) containing RNA was prepared by oligo (dT) cellulose chromatography (Aviv & Leder 1972), and examined after electrophoresis on agarose gels containing methylmercuric hydroxide (Bailey & Davidson 1976). We did not detect any degradation in the poly(A) containing RNA sample. Double-stranded cDNA was synthesized from 16 µg of the poly(A) containing RNA as a template using AMV reverse transcriptase, E.coli DNA polymerase I (Klenow fragment) and S 1 nuclease (Wickens, Buell & Schimke 1978). The double-stranded cDNA was treated with EcoR1 methylase to protect EcoRI cleavage sites, and treated with E.coli DNA polymerase (Klenow fragment) to increase the number of flush-ended double-stranded cDNA molecules (Huynh, Young & Davis 1985). After ligation to EcoRI linkers, the double-stranded cDNA was digested with EcoRI and fractionated by Sephacryl-S1000 chromatography. Fractions containing double-stranded cDNA 800-5,000 base pairs long were pooled and precipitated by ethanol. Lambda gt 11 DNA was disgested with EcoRI and dephosphorylated by digestion with calf intestinal alkaline phosphatase. The double-stranded cDNA was ligated to dephosphorylated, EcoRI-cut lambda gt 11 DNA with T4 DNA ligase. The ligated lambda gt 11 was packaged, in vitro, using a lambda packaging mixture (from J. Forrest, Beckman Research Institute of the City of Hope). The package library was amplified as plate lysates on agar plates. The library contained $1.3 \times 10^7$ independent phage. Ninety-eight per cent of the phage produced white plaques on agar plates containing X-Gal and IPTG, indicating 98% of the phage were recombinants.

Recently, we have isolated 14 positive recombinant phage clones from the library by immunological screening with a mixture of three different monoclonal antibodies to choline acetyltransferase of Drosophila. The cDNA inserts ranged in size from 1,000 base pairs to 2,400 base pairs. We are currently trying further characterization of the cloned DNA.

**References**: Young, R.A. & R.W. Davis 1980, Proc.Natl.Acad.Sci. 80:1194-1198; Auffray, C. & F. Rougeon 1980, Eur.J.Biochem. 107:303-314; Aviv, H. & P. Leder 1972, Proc.Natl.Acad.Sci. 69:1408-1412; Wickens, M.P., G.N. Buell & R.T. Schimke 1978, J.Biol.Chem. 253:2483-2495; Bailey, J.M. & N. Davidson 1976, Anal.Biochem. 70:75-85; Huynh, T.V., R.A. Young & R.W. Davis 1985, in DNA Cloning: A Practical Approach (D.Glover, ed., IRL Press, Oxford) in press.