

Progress Towards Cloning *mab-10*, a Heterochronic Gene Required for the Proper Timing of the L4/Adult Transition in Males

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The study of heterochronic mutants has revealed a complex genetic pathway that regulates the timing of many developmental events in *C. elegans*. Mutations that disrupt this pathway fall into two classes: precocious mutants, which cause the premature expression of developmental fates, and retarded mutants, which cause the reiteration of developmental fates. One abnormality often associated with the retarded heterochronic mutant phenotype is the execution of supernumerary molts. For example, supernumerary molts are observed in strains with loss-of-function mutations in *let-7* or *lin-29*. In an attempt to further our understanding of the regulation of developmental timing, we are extending the characterization of *mab-10(e1248)*, a mutation that confers a male-specific supernumerary molt.

mab-10(e1248) was identified by Jonathan Hodgkin in a screen for mating-defective males¹. *mab-10* mutant males have a swollen bursa, are mating-defective and undergo a highly penetrant supernumerary molt approximately 18 hours after the L4-to-adult transition. While *mab-10* hermaphrodites do not undergo an additional molt, they are slightly Pvl at 20 degrees C and often burst from the vulva as young adults when raised at 25 degrees C. Initial mapping performed by Chris Link placed *mab-10* to the right of the gene cluster on linkage group II, between *unc-4* and *rol-1*².

By following the Pvl phenotype, we have mapped *mab-10* to a 70 kb region using a combination of deficiency and polymorphism mapping. Currently, we are attempting rescue experiments using cosmids that span this interval. Additionally, we are performing further phenotypic characterization of *mab-10* males and *mab-10* hermaphrodites.

¹Hodgkin J (1983) Male Phenotypes and Mating Efficiency in *Caenorhabditis elegans*. Genetics 103: 43-64.

²Link CD (1988) Observations on *mab-10*. Worm Breeder's Gazette 10: 92.

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