Genetic and molecular analyses of ced-8, which controls the time of appearance of cell corpses

BD Galvin, HR Horvitz
HHMI, Dept. Biology, MIT, Cambridge, MA 02139, USA

In C. elegans development, the timing of programmed cell deaths in the soma is essentially invariant. The molecular mechanisms that control this timing are poorly understood. Mutations in ced-8 result in the delayed appearance of cell corpses. These mutations were originally identified in screens for mutations that cause the presence of cell corpses in late-stage embryos. ced-8 has been cloned (G.Stanfield, M. Hengartner, and Bob Horvitz; 1995 International Worm Meeting abstract 486) and appears to encode a multiple-pass transmembrane protein.

To determine the role that ced-8 plays in programmed cell death, we intend to use both genetic and molecular approaches. We will screen for suppressors of the ced-8 phenotype. Specifically, using a sem-4; ced-8 mutant background, we will screen for F2 bags that contain F3 embryos wild-type in the timing of cell deaths. This screen may elucidate the role of ced-8 in programmed cell death and identify additional genes involved in cell-death execution. We also will generate antibodies for immunohistochemistry and perform biochemical assays to address the function of CED-8.