

Rachel Hays

Department Editor

A Nematode as a Model Organism: The Genetics of Programmed Death. 1996. Cogito Learning Media, Inc. (20 Exchange Pl., 44th floor, New York, NY 10005-3201; phone (212) 361-6330, <http://www.cogitomedia.com>. Purchases and previews are handled by Coutts Library Services at 1-800-772-4304.) VHS. 30 min. Purchase: \$125 video, \$9.95 resource book.



Who thought a lowly worm that is barely visible to the unaided eye would be a "hot item" among biologists in the 1990s? *Caenorhabditis elegans* has captured the hearts of developmental biologists and geneticists wishing to view the intricacies of cell differentiation. This 1996 documentary-style video, narrated by H. Robert Horvitz of the Howard Hughes Medical Center, details the use of *C. elegans* as a research model for cell development and apoptosis (programmed cell death).

The video provides excellent background about how *C. elegans* was adopted by the scientific community as a representative organism for studying developmental biology. Point-by-point it presents the general rationale for selecting research models to study systems at the cellular level. The first 10 minutes of the video instructs about the techniques used by comparative

biologists and introduces many concepts related to apoptosis, conservation of traits, and phylogenetics. It then goes on to the *C. elegans* research being done to study the cellular basis of neoplastic and degenerative diseases of humans.

A recurrent theme of the video is the use of model organisms in biology. Using this theme and current research on *C. elegans*, the video presents detailed information about apoptosis and induction of carcinogenesis. Topics such as cell lineage studies, cellular microsurgery, genomic analysis, mutational analysis, and transgenic studies are discussed.

Included with the video is an excellently written instructor's guide. It provides information about the biology and study of *C. elegans*. The guide also supplies questions for discussion and instructions for using *C. elegans* in classroom experiments. At the end of the guides are lists of nematode resources and current references.

This video is recommended for introductory college-level biology classes. The information provides excellent technical background about cell studies and reinforces the use of the scientific method to answer questions. Students need a background in cell structure, genetics and metabolism. The excellent graphics and good pedagogical aides make it a worthwhile classroom resource.

Brian R. Shmaefsky
Kingwood College
Kingwood, TX 77325

The Mouse as an Experimental Organism: Knocking Out Genes To Study Gene Function. 1996. Cogito Learning Media, Inc. (20 Exchange Pl., 44th floor, New York, NY 10005-3201; phone (212) 361-6330, <http://www.cogitomedia.com>. Purchases and previews are handled by Coutts Library Services at 1-800-772-4304.) VHS. 30 min. Purchase: \$125 video, \$9.95 resource book.



In recent years, geneticists have had, and continue to have, extraordinary success enhancing our basic knowledge and understanding of what genes are and how they function in living systems. Although much of this research is done on non-human experimental organisms, the knowledge gained is often translatable into effective treatments for human diseases and defects. How is this possible?

In this brief but concept-packed video, one of five in a series of videos on the use of nonhuman experimental organisms to study genetics, we learn why the mouse is a superb organism for use in genetics research, how artificially created defective genes are introduced into the mouse genome by homologous recombination ("crossing over") so that gene function can be studied, and how this information can be used to enhance our understanding of human genetics and human genetic diseases.

Although the video is extremely well prepared and presented, some of the more technical concepts may be quite difficult for high school and introductory level college biology students to comprehend. However, the overall message, presented by the men and women who are engaged in the research projects, is made quite clear. Students will also find the extraordinary cinematography and microcinematography of the laboratory procedures fascinating and engaging.

Accompanying the film is an easily understandable and concise teacher's guide. This guide should be read by the instructor prior to a class showing of the video to be well prepared for the student questions that are certain to arise. This is an excellent film appropriate for biology classes both at the high school and college level.

Nathan Dubowsky
Westchester Community College
Valhalla, NY 10595

Rachel Hays is the editor of the Audio Visual Reviews section of *ABT*. She holds a Ph.D. in botany from the University of California, Davis, and has taught courses at the college level. With a B.S. from San Diego State University, Hays went on to the University of California, Davis, for her M.S. degree. For several years, Hays has done research for the Natural Resources Ecology Laboratory at Fort Collins, CO, studying nutrient cycling and soil organisms. She has published articles in several popular and scientific periodicals. Her address is: **6921 Buckhorn Ct., Loveland, CO 80537.**