

# Potent Biology: Stem Cells, Cloning, and Regeneration

By Douglas A. Melton and Nadia Rosenthal

Reviewed by Michalis Hadjimarcou, Cyprus

Say 'stem cells' and you can guarantee some strong opinions and heated debate. The potential to regenerate tissues and organs by using stem cells and cloning is one of the hottest scientific topics of the moment, but how much about it does the average layperson really understand? What's the difference between regeneration and wound healing, for example, and which diseases could potentially be cured by the use of stem cells? What's the correlation between the aging process and stem cell function, and how does cloning by nuclear transfer work?

*Potent biology: stem cells, cloning and regeneration* – a DVD produced by The Howard Hughes Medical Institute as part of its Holiday Lectures on Science programme – addresses some of these issues with four one-hour presentations: Understanding Embryonic Stem Cells, Adult Stem Cells and Regeneration, Coaxing Embryonic Stem Cells, and Stem Cells and the End of Aging. Presented to a high-school audience by two experts in the field, Dr Douglas A. Melton and Dr Nadia Rosenthal, the lectures are understandable by anyone with a basic knowledge of biology. They start with very basic information on what development means in an organism, and cover such topics as the usefulness of stem cells derived from umbilical cord blood, regenera-

tion in animals, and descriptions of some of the key experiments that drive stem cell research. During the lectures, the speakers interact with the audience and respond to their questions, making the presentations lively.

The two-disc set also contains a variety of features, animations, video clips and biographies of the lecturers and some of the younger scientists in their labs. In addition, specific topics are covered, such as how deer antlers can be shed and re-grown every year. There's even some inside information regarding the 'fountain of youth'. One highlight is the discussion session between the speakers, two ethics specialists and the students, on the politics and ethics of stem cell research. Finally, a short video gives the overall picture of the current worldwide status of stem cell research and policies restricting it.

The *Potent biology* DVD is easy to use, with a menu organised by scientific topic and with direct access to the various special features. Particularly useful to the teacher-viewer is the presentation with simple instructions and ideas on how to use the DVD in the classroom, suggesting potential discussion topics including the discovery of cures using embryonic stem cells versus respect for life, at which stage in development does a human become a human with all the legal rights and protection of a person, who

has the right to create life and for what purpose, and the morality of experimentation on animals.

## Details

Publisher: Howard Hughes Medical Institute

Release year: 2006

