



ASCO SUPPORTS INCREASED OPPORTUNITIES FOR FEDERALLY FUNDED EMBRYONIC STEM CELL RESEARCH

Embryonic stem cell research holds tremendous potential for impacting cancer treatment.

- **Studying the molecular mechanisms that regulate the growth of embryonic stem cells may help scientists understand cancer stem cells.** Accumulating scientific evidence supports the theory that the growth of cancer is driven in part by cancer stem cells. Unless these stem cells are completely eliminated, the cancer will continue to grow, despite the fact that the tumor has become smaller or undetectable following treatment.
- **Understanding the molecular mechanisms of embryonic stem cells may help identify new targets for cancer therapy.** Cancer therapy needs to be targeted at elimination of the cancer stem cells. Increased understanding of embryonic stem cells will facilitate identification of novel therapeutic targets that occur primarily or exclusively in cancer stem cells.
- **Embryonic stem cells offer the best promise for regenerative medicine.** Cells derived from embryonic stem cells may one day be used to replace cells damaged by disease processes, including cancer, and their treatments.
- **Studying embryonic stem cell growth will provide greater understanding of cellular growth and differentiation and how cancer develops.** This may allow development of the means to identify pre-cancerous activity and new diagnostic tests and treatments that may be effective in diagnosing and halting cancer at the earliest stages.
- **Embryonic stem cells would allow creation of human models for diseases that do not have animal models.**

We are missing opportunities under the Bush Administration stem cell policy.

- **Continuing to rely entirely on the existing human embryonic stem cell lines eligible for Federal funding is problematic.** Certain genetic changes in the existing lines help promote their growth, and therefore these mutations become more pronounced over time and are not representative of cancer growth in humans. Thus, studies of these lines could produce inaccurate or misleading data.
- **Only 21 cell lines are available for research.** Hundreds of new lines have been created since the policy's August 9, 2001, effective date, but are unavailable to federally funded researchers.
- **Existing lines have become contaminated.** The available lines are grown on mouse feeder cells, so they are considered less than ideal for research.

The Stem Cell Research Enhancement Act (H.R. 810) expands federal embryonic stem cell research opportunities in a responsible and balanced way and ensures that NIH asserts a leadership role in this promising area of research.