

May 23, 2005

## **Politics is Often Full of Rhetoric. Science Need Not Be.**

Dear Colleague:

Proponents of using federal funding for the destruction of human embryos have recently circulated “three undisputed scientific facts” about stem cell research. Although billed as an attempt to “set the record straight,” these arguments continue in the pattern of deception that has characterized this debate since its inception.

**ESC Proponents claim: “Because of the limitations of the current restrictive stem cell policy...it is therefore premature to conclude that embryonic stem cells are proven to be less effective.”**

### **WRONG.**

- (1) Embryonic stem cell research is fully legal in this country, and NIH alone has spent over \$60 million since 2001 on human embryo stem cell research.
- (2) Private foundations, universities, and states such as California and New Jersey are spending more money each year on human embryo stem cell research than the NIH spends yearly on adult stem cell research.
- (3) Research on mouse embryonic stem cells began in 1981; research using mouse embryonic stem cells in regenerative medicine began in 1996, around the SAME TIME AS ADULT STEM CELLS BEGAN TO BE USED IN REGENERATIVE MEDICINE. **Yet not even one clinical trial has begun using embryonic stem cells.**
- (4) In the prestigious scientific journal *Nature*, scientists recently cited private PATENT and LICENSING FEES as “the greatest roadblock to the development of human embryonic stem cell research in the U.S.” (*Nature*, May 19, 2005).

**ESC Proponents claim: “It is simply not true that adult stem cells can differentiate into a greater variety of tissues. Many recent studies have disproved claims that adult stem cells could differentiate into a wide variety of tissues.”**

### **WRONG.**

- (1) By 2002 alone, over 50 studies had been published indicating that adult stem cells might be able to turn into a variety of different tissue types.
- (2) Note this statement by ESC and cloning proponent Robert Lanza in 2003, after some scientists claimed they had “disproven” the flexibility of adult stem cells: ***“there is ample scientific evidence that adult stem cells can be used to repair damaged heart or brain tissue...if it works, it works, regardless of the mechanism.”*** A similar statement was made by Alan Trounson, written in a review of an international meeting of the top stem cell researchers in 2004: **“it is apparent that some adult stem cells...have a greater plasticity than others and are able to contribute to a wide range of different tissues.”**

- (3) In the two years since the studies were published that supposedly “disproved claims that adult stem cells could differentiate into a wide variety of tissues,” several studies have been published that continue to show the remarkable flexibility of adult stem cells, including neural stem cells (Murrell, et al 2005), bone marrow stem cells (Yoon, et al 2005), and umbilical cord blood cells (Kogler, et al 2004).

**ESC Proponents claim: “Embryonic stem cells are viable and effective.”**

**SO ARE ADULT STEM CELLS.** What this statement ignores are the problems researchers have observed with embryonic stem cells.

- (1) Embryonic stem cells from IVF embryos will face **immune rejection** when transplanted into patients because they will not be a genetic match with the patient. Adult stem cells can often be isolated from the same patient that will be treated.
- (2) Embryonic stem cells **form tumors**. This has been observed in almost all of the animal models used to test human embryonic stem cells, and is due to the inherent ability of embryonic stem cells to grow quickly and indefinitely, a property common to cancerous tumors. Many of the supposed successes of human embryo stem cells in animal models cannot be transferred to human patients because the animals died of tumors caused by the embryonic stem cells.
- (3) Even ACT researcher Robert Lanza said, citing two recent studies noting the cancerous nature of stem cells, "Both these papers reinforce the potential danger of using stem cells. They underscore the need for extensive safety testing before any type of stem cell is used for medical therapy." (So much for cures being right around the corner as so many ESC proponents claim).

Sincerely,

/s/

Dave Weldon, M.D.  
Member of Congress