

June 10, 2005- STATEMENT ON H.R. 810 "THE STEM CELL RESEARCH ENHANCEMENT ACT OF 2005

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Mr. Chairman, I rise today in strong support of H.R. 810, the Stem Cell Research Enhancement Act of 2005.

Stem cells have tremendous promise to treat a myriad of devastating diseases and disorders.

Embryonic stem cells can become any cell type in the body, and their promise lies in the ability to tailor-make cellular treatments, heart muscle for heart disease, pancreas cells for diabetes, or nervous system cells for spinal cord injury.

Stem cells are relatively new on the research scene; it was only in 1998 that the techniques were developed to isolate stem cells from humans, and we have a lot to learn about how to make the cells develop in the ways that will be essential for therapeutic application.

Today, I would like to highlight how the Reeve-Irvine Research Center has made significant head way in making the promise of embryonic stem cells a reality.

Work recently published by Dr. Hans Keirstead and his group has shown that they are able to turn human embryonic stem cells into a clinically useful cell type.

To use embryonic stem cells for therapy, it is critical to devise ways to cause them to turn into particular cell types. If undifferentiated stem cells are transplanted into the brain or spinal cord, they may become a teratoma, a tumor made of many different cells like bone, muscle, and hair.

So, to be useful for therapy, embryonic stem cells must be "restricted" to differentiate into the desired cell types. That is, they must be told what specific cell type to turn into as they mature.

Dr. Keirstead's group has developed a unique method to create these differentiated cells.

Moreover, as report in Journal of Neuroscience, his group has been successful in transplanting these cells into an acute

spinal cord injury.

Once transplanted, these cells have been able to survive in a living organism, move to areas where they are needed, and do what they are supposed to.

The result is a significant improvement in walking ability, at least at an early time point post injury. This finding is proof of principle that human embryonic stem cells can be a viable therapeutic agent.

Dr. Keirstead's cells are on the federally approved list. They are among the very few lines that are actually usable, and he is among the very few who have had access to human embryonic stem cells.

Dr. Keirstead's progress since 2001 when he received the cells has been remarkable. His group has learned how to maintain the embryonic stem cells, no small feat in itself. They have learned how to transform the cells into differentiated cells, they have learned how to use the cells to treat new spinal cord injury in animals.

All this in less than 4 years, and in one lab. Imagine the progress that could have been made with 100 labs working with embryonic stem cells on not only spinal cord injury but Alzheimer's, Parkinson's, diabetes, and so many others.

The Reeve-Irvine Research Center is one of a handful of places in the US that has the know-how to use embryonic stem cells.

With more lines available, we could readily address issues related to paralysis by developing new cell populations, like motor neurons, or by testing the therapeutic quality of other lines.

In addition, more researchers would be able to devote their talents to this area of research.

My father is suffering from Alzheimer's. I know that my family would do anything to find a cure for this horribly degenerative disease. I would ask my colleagues, would your family do any differently? Would the families of your constituents do any differently?

The Stem Cell Research Enhancement Act of 2005 before Congress today, if passed, would open the door to our country's brightest scientists to find the treatments that Dr. Keirstead's work suggests are really there waiting to be discovered.

I urge my colleagues to support this research and to vote for H.R. 810. I yield back the balance of my time.