

# The Embryonic Stem Cell Research Money Trail

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In the embryonic stem cell research community, there is a battle going on which hasn't received much public scrutiny. It's a battle over patents. It's a battle over money.

James Thomson is a researcher at the University of Wisconsin who became the first researcher in the United States to successfully remove embryonic stem cells from a human embryo (which kills the embryo) and create embryonic stem cell lines. After he did this in 1998, Thomson and the Wisconsin Alumni Research Foundation (WARF) applied for and received patents for the technique Thomson used to create and grow embryonic stem cell lines and on the embryonic stem cell lines he created.<sup>1</sup> Under these patents, every researcher who uses embryonic stem cells in the United States is forced to pay a licensing fee to WARF.

WARF allows non-profit organizations and universities to gain access to its embryonic stem cells for \$500 (the fee used to be \$5,000), but charges for-profit companies around \$125,000 for every batch of stem cells. That fee doesn't include the annual \$40,000 maintenance fee and the cost of potential royalty payments if researchers produce anything which can turn a profit.<sup>2</sup> WARF has also sold licensing fees to at least five companies to develop products using embryonic stem cells. Those fees were between \$200,000 and \$2 million dollars and included clauses that between 1% and 5% of royalties obtained must be given to WARF.<sup>3</sup> If any therapies are ever developed using embryonic stem cells, WARF is in line to receive considerable profits.

WARF's executive director Carl Gulbrandsen has been quoted as saying, "I'm not embarrassed at all to say that I hope the University of Wisconsin will make a whole lot of money from these patents."<sup>4</sup>

Other stem cell researchers aren't too pleased with WARF's patents and how WARF is enforcing them, so they, along with a consumer's rights group, challenged three of the patents at the U.S. Patent and Trademark Office in 2006, claiming Thomson's discovery was "obvious" and the patents are "over-reaching."<sup>5</sup> In March of 2007, the U.S. Patent and Trademark Office preliminarily upheld the challenges to WARF's patents. But the fight over patents is far from over as WARF has vowed to fight for its patents as long as possible. In July of 2007, WARF issued a press release noting how the researchers challenging WARF's patents applied for embryonic stem cell patents themselves.<sup>6</sup> It's obvious that curing patients isn't the only concern of some of these embryonic stem cell researchers.

Some researchers working with adult stem cells acknowledge their colleagues focused on embryonic stem cells have more in mind than merely treating patients.

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Professor Geoffrey Raisman is an English researcher trying to treat spinal cord injuries with stem cells from his patients' own noses. Here's what he told the Guardian, a newspaper in Britain, about his work, "This is not the most popular way of attempting to heal spinal injuries. That would be to produce patented chemicals, which drug companies can make and sell. What we're proposing could be carried out by any very modestly equipped hospital with neurosurgery. There are no patents. It makes it a very unpopular form of research.

"We're producing a procedure where the patient is their own cure. You can't patent a patient's own cells, thank God," Raisman said.<sup>7</sup>

There is more behind the story of why certain researchers want to use embryonic stem cells than merely their hope of treating patients. Adult stem cells and stem cells from umbilical cord blood are successfully treating human patients right now. Embryonic stem cells are currently more useful for patents than they are for patients.

## References

<sup>1</sup> Patent numbers - 7,029,913; 5,843,780; and 6,200,806

<sup>2</sup> Joe Vanden Plas, "WARF says it's ready for a legal challenge on stem cells," Wisconsin Technology Network, April 3, 2006. Available online at <http://wistechnology.com/article.php?id=2832>

<sup>3</sup> David Walberg, "Was stem-cell advance 'obvious'?" The Wisconsin State Journal, October 15, 2006.

<sup>4</sup> "Study: Wisconsin Stem-Cell Patents Hinder Research," Associated Press, March 27, 2006. Available online at <http://www.foxnews.com/story/0,2933,189256,00.html>

<sup>5</sup> Cathy Tran, "WARF stem cell patents challenged," The Scientist, October 10, 2006. Available online at <http://www.the-scientist.com/news/home/25037/>

<sup>6</sup> Kathleen Gallagher, "Stem cell patent skeptics also filed," Milwaukee Journal-Sentinel, July 25, 2007. Available online at <http://www.jsonline.com/story/index.aspx?id=638451>

<sup>7</sup> Sarah Boseley, "The nose cells that may help the paralysed walk again," The Guardian, November 30, 2005. Available online at <http://www.guardian.co.uk/medicine/story/0,11381,1653838,00.html>

(Updated 7/29/09)

