November 16, 2011

Fate Therapeutics Strengthens its iPSC Platform

Secures U.S. Patent to Novel Small Molecule Modulator of Pluripotent Stem Cells

San Diego, California, November 16, 2011 – Fate Therapeutics, Inc. announced today that the United States Patent and Trademark Office has granted a patent covering the novel stem cell modulator commonly known as Thiazovivin. U.S. Patent No. 8,044,201 entitled "Stem Cell Cultures" claims Thiazovivin, a small molecule Rho- associated kinase (ROCK) inhibitor, as well as compositions and cell culture media comprising Thiazovivin. Thiazovivin is crucial to the efficient generation of human induced pluripotent stem cells (iPSCs), and the survival of human embryonic stem cells (hESCs), in culture. Fate Therapeutics holds an exclusive license from The Scripps Research Institute (TSRI) to the patent in all commercial fields.

"The generation, survival and expansion of pluripotent stem cells – without compromise to their self-renewal capacity and ultimate differentiation potential – remains critical to realizing the potential of stem cell biology-based therapeutics," said Dr. John Mendlein, Executive Chairman of Fate Therapeutics. "We believe that our industrialized iPSC product engine, including our high throughput methods of reprogramming, cell selection, characterization and single-cell passaging, offers a powerful opportunity for stem cell research and drug discovery, and for the potential development of iPSC-derived cell therapies."

The importance of Thiazovivin in enabling an industrialized iPSC product platform was first elucidated by Sheng Ding, Ph.D., a scientific founder of Fate Therapeutics, while at TSRI. Under a research collaboration between TSRI and Fate Therapeutics, Dr. Ding and his team of TSRI scientists first demonstrated that Thiazovivin, in combination with other small molecules, dramatically improves the reprogramming of human fibroblasts by 200-fold as compared to non-chemically enhanced methods of iPSC generation (Lin, T., et al, Nature Methods 6, 805 – 808 (2009)), and that Thiazovivin promotes the survival of hESCs after single-cell dissociation (Xu, Y., et al, PNAS 107(18): 8129-8134). Thiazovivin is believed to be a critical factor in maintaining the stem cell niche during conditions that might otherwise be detrimental to cell viability.