

April 23, 2009

ProteomTech, Inc. and Collaborators Make Major Breakthrough in Stem Cell Research

-“Generation of Induced Pluripotent Stem Cells Using Recombinant Proteins” Published Online in *Cell Stem Cell*-

COSTA MESA, Calif.--(BUSINESS WIRE)--ProteomTech, Inc. (www.proteomtech-inc.com) announced today that the Company and its collaborators have successfully generated induced pluripotent stem (iPS) cells from somatic cells using recombinant proteins, thereby creating an economical and expeditious way to generate stem cells while simultaneously eliminating any risk of modifying the target cell genome. It was the first study ever to report that iPS cells can be generated without the use of any form of exogenous genetic material. The study was published online today in the journal *Cell Stem Cell*.

In 2006, Dr. Shinya Yamanaka and colleagues discovered that fibroblast cells could be reprogrammed to become iPS cells through the transduction of four transcription factor genes, ushering in a new era of stem cell research. “Dr. Yamanaka and other scientists carried out this work with the dream that one day, doctors would be able to take somatic cells from a patient, turn those cells into stem cells, and use those stem cells to develop a personalized, immune-rejection-free cure for the disease afflicting that individual,” commented Jun Bao, CEO of ProteomTech. “Today, we have made a significant step towards realizing that dream,” Bao said.

One major hurdle preventing the use of iPS cells in a clinical setting is the risk of changing the genetic information in the target cells. Previously, all the techniques creating an iPS cell involve introducing new genetic information into the cell, whether the genetic materials are delivered by virus or plasmids.

Based on its expertise and years of experience in protein refolding, following its own successful example of engineering a cell-permeating, active p53 protein, ProteomTech has produced modified versions of the four transcription factor proteins that are capable of penetrating the cell membrane and activating their target genes in the cell nucleus. The current study shows that the four proteins can transform somatic cells into iPS cells while leaving the target cell genome undisturbed. Moreover, using recombinant proteins to make iPS cells is simpler, faster, and cheaper than the currently used methods, making the iPS technology more practical, economical, and possible to commercialize.

“We are excited to be part of the team that made this great contribution to the area of stem cell research and therapy,” commented Jun Bao. “Our company will make all of these proteins available for the stem cell research community,” Bao said.

The study was led by Dr. Sheng Ding’s group from the Scripps Research Institute. Other collaborators included researchers from Max Planck Institute for Molecular Biomedicine and LD Biopharma.

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