pluripotent stem cells (iPSCs). These iPSCs are adult cells reprogrammed to an embryonic stem-cell-like state by being forced to express factors important for maintaining the “stemness” of ESCs. Human iPSCs express stem cell markers and are capable of generating cells characteristic of all three germ layers.

These studies are opening new avenues for understanding a range of health conditions, including developmental disorders, neurodegenerative diseases, and cancer. The knowledge gained through this research is also laying the groundwork for the design of regenerative therapies, which exploit some of the properties of stem cells to replenish tissues that have been lost or destroyed by illness or injury.