



## Methods For Producing Insulin-Secreting Beta Cells From Human Pluripotent Stem Cells

[View U.S. Patent No. 9,540,613 in PDF format.](#)

**WARF: P130235US02**

Inventors: Jon Odorico, Xiaofang Xu, Melisa Wittkowske

---

### The Invention

A method of culturing human pluripotent stem cells to produce pancreatic lineage, the method comprising the steps of (a) culturing the stem cells in the presence of a chemically defined medium comprising an effective amount of FGF, Activin A, and BMP; (b) culturing the cells from step (a) in the presence of a chemically defined medium comprising an effective amount of insulin, transferrin, and selenium (ITS), and FGF; (c) culturing the cells from step (b) in the presence of a chemically defined medium comprising an effective amount of insulin, transferrin, and selenium (ITS), and Noggin-Nicotinamide-Retinoic acid; and (d) culturing the cells from step (c) in the presence of a serum free chemically defined medium (ITSFINE and Noggin) comprising an effective amount of ITS, FGF7, islet neogenesis associated peptide (INGAP), nicotinamide, and Exendin-4, wherein pancreatic lineage cells are produced, wherein the pancreatic lineage cells are insulin+ cells.

### Additional Information

#### For More Information About the Inventors

- [Jon Odorico](#)

#### Tech Fields

- [Pluripotent Stem Cells : Differentiation](#)

For current licensing status, please contact Andy DeTienne at [adetienne@warf.org](mailto:adetienne@warf.org) or 608-960-9857