

## Stem cell therapies could treat diabetes by helping the body boost insulin production

Each year, 40,000 people in the United States are diagnosed with type 1 diabetes, an autoimmune disease that wipes out insulin-producing pancreatic beta cells and raises blood glucose to dangerously high levels.

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In recent years, advances in the lab have drawn attention to an alternative approach. Perhaps most dramatically, in 2014, a research group at Harvard University reported using insulin-producing cells derived from human embryonic stem cells (ESCs) and induced pluripotent stem cells (iPSCs) to lower blood glucose levels in mice.

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Spurred by such successes, numerous labs now are exploiting rapid progress in human stem cell technology to develop functional equivalents of beta cells.

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Semma, which was launched in 2014 to commercialize the Harvard group's work and counts Novartis among its backers, describes its cells as fully mature, meaning that they are completely differentiated into beta or other cells before transplantation. "Our cells are virtually indistinguishable from the ones you would isolate from donors," says Semma chief executive officer [Bastiano Sanna](#).

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Eventually, all three firms hope to extend their work to treat some of the 400 million people worldwide with type 2 diabetes, many of whom eventually benefit from insulin injections.

**Read full, original post:** [Biotechs Race to Develop Stem Cell Treatments for Diabetes](#)