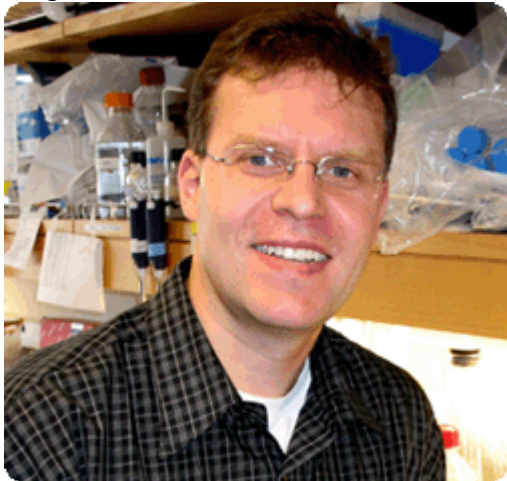


## Diabetes Center's Matthias Hebrok to Lead International Beta Cell Regeneration Team

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Diabetes Center researcher and stem cell expert Dr. Matthias Hebrok, PhD has been picked to help lead an international "dream team" of researchers that will search for ways of coaxing beta cells to regenerate themselves.

In type 1 diabetes, beta cells located in the pancreas are destroyed by autoimmune processes, leading to a loss of insulin production and the need for insulin therapy that is characteristic of type 1 diabetes. Islet transplantation represents one method of replacing these cells in order to restore type 1 diabetes patients' ability to respond to changes in blood glucose levels, using beta cells (which are found in the islets) derived from donors. Rather than relying upon donor cells, some believe that a more effective and practical means of replacing beta cells is to directly encourage their re-growth within the pancreas.

The concept of beta cell regeneration is now on the fast-track, thanks to the Juvenile Diabetes Research Foundation (JDRF ? [www.jdrf.org](http://www.jdrf.org) [1]). Their new international team of 16 scientists from 13 universities and medical centers from five countries will work across multiple scientific disciplines in a cooperative effort to further understand how beta cells regenerate and develop new, potentially curative therapies.

Hebrok, Diabetes Center Associate Professor of Medicine and one of the world's foremost experts on pancreatic development, will serve as Principal Investigator of a team focused on the expansion of human beta cells. His team will be testing a series of small chemical compounds for their ability to coax human beta cells into dividing. The initial goal of the group will be to identify new drugs for use outside the body to grow increased numbers of donor beta cells that could be used for transplantation. Ultimately, Hebrok and his team hope to identify therapies for type 1 diabetes that entice the pancreas to replace its own beta cells, with no surgery required.

Other members of Hebrok's own dream-team include co-principal investigator Shimon Efrat of Tel Aviv University (Israel), Alberto Hayek of UC San Diego and Sheng Ding of Scripps

Research Institute (San Diego).

In his five years at the Diabetes Center at UCSF, Dr. Hebrok has established himself as one of the world's experts on pancreatic development. By studying complex signaling pathways in the embryonic pancreas, not only is he able to better understand how pancreatic beta cells develop and grow, his research may also provide novel ways to stop pancreatic cancer from spreading.

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**Source URL:** <http://diabetes.ucsf.edu/news/diabetes-centers-matthias-hebrok-lead-international-beta-cell-regeneration-team>

**Links:**

[1] <http://www.jdrf.org/>