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Diabetes Center post-doctoral scholar to develop lineage tracing technique

BY KATHLEEN JAY

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SAN FRANCISCO (Feb. 10, 2015) -- This month, the Swedish Research Council (Vetenskapsrådet [1]) announced that UCSF Diabetes Center [2] researcher Malin Akerblom, PhD, received a 2015 International Postdoc Award to develop a novel technique for tracing stem cell lineage in the brain.

Administered by Lund University [3] in the southern city of Lund, Sweden, this prestigious grant -- for which 41 of 239 leading scientists were selected -- will enable her to continue her research in the McManus Lab [4] in the Diabetes Center for the next two years.

"I am interested in how brain cells are related to each other and also what makes them unique," Dr. Akerblom said. "Lineage tracing is the identification of progeny of a single cell -- a method widely used in stem cell biology."
Our bodies contain trillions of cells that all originate from a single fertilized egg cell -- this presents an incredibly complex problem for biologists who struggle to understand the process. Dr. Akerblom added. The McManus laboratory has developed cutting-edge research tools that will be used to create a lineage tracer at the individual cell level. For the first time, we will be able to comprehensively map cell lineages in extremely complicated tissues, including cells of the brain.

Malin is an outstanding scientist working on a fundamental project related to understanding the complexity of multicellular development, Michael McManus, PhD, said.

Malin is helping to create a veritable family tree for cell lineages using a cutting-edge technology that promises to impact our understanding of human development and disease, including pancreatic and neuronal development -- two important targets of metabolic disease, McManus added.

Being part of the team developing and applying this novel technique will give me the necessary tools to answer my research interests in such a way that it cannot be achieved anywhere else, Dr. Akerblom said. I will be able to map how brain cells are related to each other and these results will generate a broad impact by contributing to novel regenerative strategies for the treatment of human diseases.

"The Diabetes Center is thrilled to have Malin join our team," Matthias Hebrok, director of the Diabetes Center, said. "Her innovative research will provide novel insights into how progenitor cells differentiate into distinct functional cells, information that is will help to better understand the heritage of cells and how diseases might affect this process."

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