

SmartCella enters agreement to advance Professor Johan Ericson's research on cell replacement therapies for Parkinson's disease

SmartCella Holding AB ("SmartCella") today announces entering an agreement with Professor Johan Ericson from the Department of Cell and Molecular Biology at Karolinska Institutet on his research around cell replacement therapies for Parkinson's disease. Under the terms of the agreement, SmartCella acquires exclusive rights to advance this research into clinical development and commercialization.

Parkinson's disease (PD) is a chronic, progressive neurodegenerative movement disorder affecting over ten million people worldwide. PD is caused by the selective degeneration and death of nerve cell producing dopamine, a neurotransmitter important for the regulation of movement and coordination. Common symptoms include tremors, muscle stiffness, and slowness of movement, as well as problems with balance and coordination. As dopamine-producing neurons are progressively lost, the symptoms of the disease gradually worsen, and existing symptomatic treatments lose their effectiveness with disease progression.

PD represents a promising target for stem cell-based restorative therapies, primarily due to the focal degeneration of mesencephalic dopamine (mDA) neurons in the brain. Cell therapies offer a potential regenerative treatment for PD by replacing lost mDA neurons with neurons derived from pluripotent stem cells. There are a few clinical studies ongoing in Japan, Europe and North America with the aim to find ways to slow or even reverse the progression of PD. However, existing protocols are associated with notable limitations, including the very low proportional yield of therapeutic mDA neurons after transplantation, and most cells in transplants instead constitute undesired, non-therapeutic off-target cell types.

Professor Johan Ericson has, together with Dr. Zjanna Alekseenko, developed a novel and innovative pluripotent stem cell-based technology for treatment of PD. Grafted cell preparations have shown exceptional therapeutic performance in preclinical transplantation studies, suggesting potential to become a best-in-class cell product. The technology substantially increases the yield of therapeutic mDA neurons after transplantation and concomitantly reducing undesired and potentially harmful cells, resulting in small transplants that are highly enriched for mDA neurons exhibiting hallmark characteristics of gold-standard endogenous neurons.

Johan Ericson comments: "The pre-clinical results we have so far are truly encouraging and we are confident that our translational approach holds great promise for the establishment of a competitive and therapeutically high-effective cell product to treat Parkinson's disease in the future. We have also adapted the cell manufacturing process into a scalable format with xeno-free materials, and with the process development, scale up capabilities and knowledge of SmartCella, we will be able to accelerate the path towards clinical studies in humans."

Niklas Prager, SmartCella CEO comments: "The agreement with Johan Ericson is an important addition to our project pipeline within regenerative medicines. Johan's research around dopamine producing neurons shows a clear improvement compared to existing methods. By combining Johan's protocol, which has better results and efficacy, with our GMP manufacturing and process development capabilities we will have an advantage in bridging the gap between labs and clinics. The prospect of delivering allogeneic innovative and safe therapies to Parkinson's disease patients, with the potential to transform their lives, is both groundbreaking and increasingly within reach."

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About SmartCella

SmartCella is a global biotech company pioneering the future of targeted therapies through delivery solutions and advanced therapy development. Founded in 2014, the company is built on globally renowned science and research from Karolinska Institutet in Sweden.

SmartCella combines novel delivery platforms, such as the Extruder® (an endovascular delivery device that enables direct injection to hard-to-reach organs and tumors), with cutting-edge development and manufacturing of cell-mediated therapies. The company operates in two business segments: Targeted Deliveries and Regenerative Medicines.

The international team consists of scientists, visionary innovators, and experienced business leaders, all dedicated to shaping the future of targeted therapies and delivering life-changing treatments to patients.

Read more on www.smartcella.com

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