

Defymed Enters Partnership with Semma Therapeutics

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STRASBOURG, France--(BUSINESS WIRE)--Defymed, a Strasbourg biotech company specializing in the development of bio-artificial organs, announces a strategic collaboration with Semma Therapeutics, an American biotechnology company specializing in the development of cell therapies for the treatment of diabetes, with the goal of developing of an innovative solution for treating type-1 diabetes.

“Semma Therapeutics’ expertise could represent a major new source for cells usable in our medical device”

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The collaboration is aimed at pre-clinical validation of the MAILPAN® bio-artificial pancreas, a device developed by Defymed, in combination with stem-cell derived differentiated insulin-secreting cells developed by Semma Therapeutics. The combination will be evaluated for effectiveness and safety, at first in vitro and then in an animal model.

MAILPAN® is a medical device in the form of a pouch made of bio-compatible polymer comprised of semi-permeable membranes that allow glucose, nutrients and oxygen to pass through and reach the pancreatic cells contained in the device, delivering the insulin required to regulate the patient’s blood-sugar level. The membranes are impermeable to the immune system and its antibodies, thereby protecting the patient from rejection of the implanted cells.

If successful, the collaboration could be an important step in the fight against the global epidemic of diabetes. Diabetes affects more than 420 million people globally, accounting for around \$700 billion in healthcare spending. Type 1 diabetes alone accounts for \$14.9 billion in healthcare costs in the U.S., with 1.25M patients on insulin therapy for the disease. In France, it is estimated that 300,000 people have type-1 diabetes, and 2,000 new cases are diagnosed each year.

This therapy would potentially offer the patient an unlimited source of insulin-secreting cells, unlike pancreatic islets which are limited by their availability. Additionally, the device should obviate the need for immuno-suppression treatment, as its membranes are expected to protect the encapsulated cells from any risk of rejection. The patient would no longer have to think about multiple insulin injections each day, as the MAILPAN® combined with Semma’s cells should deliver the right amount of insulin. Defymed’s autonomous and long-lasting medical device thereby is hoped to substantially reduce the complications connected with diabetes.

“Semma Therapeutics’ expertise could represent a major new source for cells usable in our medical device,” said Dr. Séverine Sigrist, founding president of Defymed. “It is vital in Defymed’s strategy to validate our medical device with what are currently the most promising cells. We believe the approach developed by Semma is the most advanced worldwide. Everything points to our collaboration being a great success. So I welcome this partnership, which looks very promising indeed!”

“Defymed offers one of the most promising options available today in terms of a third party immunoprotective device,” said Robert Millman, CEO of Semma Therapeutics. “We’re excited for the collaboration and look forward to the results.”

This exemplary cooperation was recognized as “Best innovative trial design leading to a quicker and better therapeutic outcome” at the MedStartup - Galien Award event on October 27, 2016 in New York.

For Defymed, the collaboration follows just six months after concluding a financial agreement for half a million dollars with the [JRDF](#), a global foundation that funds research into treatment for type-1 diabetes. Defymed also has the support and accompaniment of Business France for its development in the United States. The Strasbourg biotech company is keen to become established in this important market in the very near future.

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