

## [Towards a physiological treatment for Type 1 diabetes](#)

### [A new fund raising round for Defymed, to allow the entry into clinical phase of its ExOlin® device](#)

Specialized in the design and development of innovative medical devices to deliver therapeutic treatments, French Medtech company [Defymed](#), led by [Séverine Sigrist](#), announces that it has secured the necessary funding to undertake the first stage of the clinical trials for ExOlin®, its medical device for the physiological delivery of insulin.

This round of 1.8 million euros, a combination of both public and private funds ([Cap Innov Est](#) pledged 1 million euros, and BPI France 800,000 euros), complements Defymed's most recent public and private fundraising rounds (in France, Europe, and beyond), bringing the total to 10 million euros investment since the start-up was founded in 2011.

This initial phase of clinical trials, estimated to last for 12 to 18 months, aims **to validate the significant benefit** of peritoneal insulin delivery for diabetic patients and to **evaluate the safety and tolerability of this new device**.

#### **Improved glycemic control with peritoneal insulin delivery**

The ExOlin® medical device, designed for an estimated lifetime of 4 to 6 years, is implanted in the patient's abdomen and then allows exogenous insulin delivery by simple injection through the skin.

If the patient continues to administer insulin sub-cutaneously using an external pump, insulin uptake through ExOlin® should significantly improve (as already shown in the pre-clinical phases) their treatment due to insulin initially passing through the liver, unlike the subcutaneous injections practiced until now. As a result, the insulin acts much more effectively and the patient should therefore benefit from greater glycemic stability.

The purpose of the ExOlin® device is to offer patients an **improved care for their disease** and thus a better quality of life, while maintaining their normal habits. It promises better uptake of the injected hormone and a **considerable decrease in complications related to diabetes**.



#### **A collaboration between Defymed and the University Hospitals of Strasbourg**

The cohort, comprising a dozen patients, will be selected by Prof. Nathalie Jeandidier, head of endocrinology and diabetology at CHRU Strasbourg, principal investigator of this clinical study.

*“The concept of physiologically administering insulin through the portal vein is a proven success, particularly with the pumps implanted in diabetic patients with high glycemic instability. ExOlin® is an innovative approach to this concept, which should offer patients greater autonomy. Encouraging preclinical data should now be clinically confirmed to allow these patients to quickly benefit from this innovation.”*

Prof. Nathalie Jeandidier  
Head of endocrinology and diabetology - CHRU Strasbourg

#### **Type 1 diabetes, a chronic autoimmune disease with multiple consequences**

Insulin-dependent diabetes, known as “Type 1 diabetes”, is an autoimmune disease caused by the destruction of cells in the pancreas, causing the patient the inability to secrete insulin. The subsequent pathology causes an increased level of sugar in the blood.

The insulin delivery systems currently available on the market do not meet patients' needs effectively, with only 25.3% of diabetic men and 36.4% of diabetic women able to correctly control their blood sugar levels. Poor management of diabetes has harmful effects on the organs and complications which mainly affect the heart and blood vessels, which are the first to suffer from excessive and permanent concentration of glucose in the blood.

Looking ahead, Defymed plans to apply for the CE mark within around 3 years (2023) and for commercial release through licensing to a large group specializing in medical devices, after receiving regulatory approval.

#### **About Defymed**

*Defymed is a medtech company founded in March 2011, based in Strasbourg, and specialized in the design and development of innovative medical devices for delivery of therapeutic treatments. From the beginning Defymed's purpose has been to provide therapeutic solutions to improve drug delivery and thus the quality of life of patients suffering from chronic diseases such as diabetes. The company, led by Séverine Sigrist, is supported by a team of a dozen employees and over 30 collaborations worldwide.*

*Defymed initially focused on the application for the treatment of Type 1 diabetes. Its strength lies in its network of national and international partners.*

*The first product designed was MailPan<sup>®</sup>, an implantable bioartificial pancreas created to reestablish normal insulin production in Type 1 diabetes patients. The second product developed by Defymed was ExOlin<sup>®</sup>, a medical device for the physiological delivery of insulin. Today, Defymed looks to apply its skills for the treatment of other pathologies such as cancer, hemophilia, and obesity.*

*[www.defymed.com](http://www.defymed.com)*