



For Release

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### Beta-O2 Receives Grant from JDRF to Advance Clinical Development of the $\beta$ Air Bio-artificial Pancreas as a Potential Cure for Type 1 Diabetes

Rosh Ha-ayin Israel, September 10, 2014 --- Beta-O2 announced today that it has received a \$500K grant from JDRF. The grant will be used to help fund a \$1M pilot human study of Beta-O2's  $\beta$ Air bio-artificial pancreas, in development as a treatment and potential cure for type 1 diabetes (T1D). The two-year study, which will enroll eight participants at Uppsala University Hospital in Sweden, will evaluate the safety, survival and function of implanted human islets of Langerhans in the system. Islets of Langerhans, also known as pancreatic endocrine cells, control the insulin production in the body. Insulin is a hormone that is needed to convert sugar, starches and other food into energy needed for daily life. In type 1 diabetes, the body does not produce insulin. Approximately 3 million people have T1D in the U.S.

As stated on the JDRF website, "The dream for everyone with type 1 diabetes (T1D) is to permanently restore their body's lost ability to produce insulin.... JDRF is partnering with Beta-O2 in order to speed up the testing of  $\beta$ Air, an implantable macroencapsulation system composed of an immune protection unit (about two and a half inches across) connected to ports through which oxygen can be periodically injected to support the survival of the enclosed beta cells or islets. Ensuring an adequate oxygen supply for encapsulated cells remains one of the biggest challenges for macroencapsulation devices. Balancing the need for immune protection with the need for an adequate oxygen supply is a tall order for most encapsulation device designs. The Beta-O2 approach may represent an ingenious solution."

Extensive pre-clinical studies demonstrated significantly strong results.  $\beta$ Air has also experienced early success in the clinic. A 63-year-old patient in Europe with (T1D) received the implant and was followed for 10 months. Persistent graft function in the device was demonstrated, with regulated insulin secretion and preservation of islet morphology and function without any immunosuppressive therapy.

Dr. Dan Gelvan, chairman of the board of Beta-O2 and managing director of life sciences at Aurum Ventures said, “Imagine if those with type 1 diabetes no longer had to worry about insulin injections or glucose levels. They could eat what they wanted, exercise as they wished and need not measure every step they took. This is the future that Beta-O2 envisions βAir will help to create.”

Dr. Gelvan continued, “There are two key factors that make βAir different from other bio-artificial pancreases in development. βAir provides very effective protection from the host immune system, thus eliminating the need for immunosuppressive therapy and preventing what could otherwise be a fatal immune response of the patient to the transplanted cells. βAir is also the *only* system that *actively* supplies oxygen and in more than sufficient quantities to the islet cells, one of the biggest consumers of oxygen in the body. Once every 24 hours, those with the implant are required to refill the air in the tiny device using a replenishing system which includes a dedicated injector. In addition, βAir is able to support *any* type of cell source, which widens treatment possibilities.”

### **About JDRF**

JDRF is the leading global organization focused on type 1 diabetes (T1D) research. JDRF’s goal is to progressively remove the impact of T1D from people’s lives until we achieve a world without T1D. JDRF collaborates with a wide spectrum of partners and is the only organization with the scientific resources, regulatory influence and a working plan to bring life-changing therapies from the lab to the community. As the largest charitable supporter of T1D research, JDRF is currently sponsoring \$568 million in charitable research in 17 countries. For more information, please visit [www.jdrf.org](http://www.jdrf.org)

### **About Beta-O2 Technologies Ltd.**

Beta-O2 Technologies Ltd. is a biomedical company developing a proprietary implantable bioreactor, the βAir, for the treatment and potential cure of type 1 diabetes (T1D). βAir is designed to address the main problems of the otherwise successful procedures in which islets of Langerhans (i.e. pancreatic endocrine cells) are transplanted in diabetic patients, such as the need for life-long immunosuppressive pharmacological treatment and limited functionality of the transplanted islets over time due to an insufficient oxygen supply. Beta-O2 investors include SCP Vitalife Partners, Aurum Ventures, Pitango Venture Capital and Saints Capital. For more information, please visit [www.beta-o2.com](http://www.beta-o2.com).

### **About Uppsala University Hospital**

Uppsala University Hospital is a referral hospital for more than 2 million inhabitants in Sweden. Its Center of Excellence in T1D is today one of the world-leading centers for interventional treatments in T1D, and includes the human islet isolation center for the Nordic countries. Regulatory approval for an investigator-driven βAir trial has been obtained from the Swedish authorities, and study participants are currently recruited for the trial. For more information, please visit [www.akademiska.se/en/CoE/Typ1Diabetes](http://www.akademiska.se/en/CoE/Typ1Diabetes) and <http://nordicislets.medscinet.com>