

PLATELET BIOGENESIS AWARDED \$1.5 MILLION SBIR GRANT FROM THE NIH TO COMMERCIALIZE HUMAN PLATELET BIOREACTOR

CAMBRIDGE, Mass. (May 4, 2016) – [Platelet BioGenesis](#), a biotech startup developing a method for producing life-saving platelets without the need for human blood-bank donations, announced today that it has received a Small Business Innovation Research (SBIR) grant valued at \$1.5 million from the National Heart, Lung, and Blood Institute (NHLBI). This highly competitive award from an agency of the National Institutes of Health (NIH) will fund Investigational New Drug (IND)-enabling preclinical development of the company's proprietary human platelet bioreactor. Platelets are the 'Band-Aids' of the bloodstream and platelet transfusions are critical to stop bleeding and for wound healing following major accidents and during surgery, transplants, and chemotherapy.

"Platelet BioGenesis has developed a unique method of triggering platelet production from human pluripotent (donor independent) stem cells in the bone marrow by mimicking physiology outside of the human body, inside a microfluidic device. This major advancement supports the scalable production of human platelets that can be produced on demand when they are needed," said Jonathan N. Thon, Ph.D., Assistant Professor at Brigham and Women's Hospital and inventor of Platelet BioGenesis' patented bioreactor. Co-founder and Principal Investigator Sven Karlsson added, "Our platelets have an added advantage in that they are free from the risk of bacterial or viral contamination inherent in the donor-derived platelets our health-care system relies on today. The SBIR grant will help us tackle our next challenge, which is to demonstrate functional platelet production from cell lines that can be advanced for clinical use, and further scale our yields to meet future clinical need."

Low platelet count is a significant consequence of cancer treatment, transplant, and surgery, for which platelets are a critical first-line therapy to prevent death from uncontrolled bleeding. Platelet units comprising 3×10^{11} platelets per 200-400 mL are at present derived exclusively from human volunteer donors, and must be stored at or above 22°C to avoid irreversible temperature-related activation/aggregation. Risk of bacterial growth during room-temperature storage limits shelf life to five days, two of which are consumed by bacterial screening, and one by transport. As a result, blood centers typically do not have more than a two-day platelet inventory available for transfusion, which is rapidly depleted in emergencies. By transitioning to a donor-independent system, patients will have access to safer platelets and will no longer be dependent on volunteer donors.

About Platelet BioGenesis (www.plateletbiogenesis.com; twitter @plateletbiogen)

Platelet BioGenesis is a pre-clinical stage biotech company that was spun out of Harvard in 2014 to produce donor-independent human platelets from pluripotent stem cells. Platelet BioGenesis has developed and patented a microfluidic bioreactor, and shown that functional platelets can be generated from human stem cell cultures at scale. The company was selected to participate in [MassCONNECT](#) (run by [MassBio](#)), was a 2014 [MassChallenge](#) Finalist, a [2016 BioSciKin](#) business competition winner, and has received support from the [Massachusetts Life Sciences Center](#).

Dr. Thon acknowledges the [Boston Biomedical Innovation Center](#) and the [Biomedical Research Institute](#) at Brigham and Women's Hospital for providing translational research funding and resources which helped move his research from the academic lab onto a successful commercialization path.

About NIH/NHLBI SBIR / STTR Program

The Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs are one of the largest sources of early-stage capital for U.S. small business, acting as engines of innovation for developing and commercializing novel technologies and products to promote the prevention, diagnosis, and treatment of heart, lung, blood, and sleep diseases and disorders. The NHLBI provides grant and contract funding opportunities and resources to support small businesses performing research and development on technologies related to the [mission of NHLBI](#).

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