



### **New project to advance platelet-based therapeutics for patients**

*CCRM and GE Healthcare Life Sciences develop proprietary media formulations for Platelet BioGenesis*

January 28, 2020 (Toronto, ON, Marlborough, MA) – There is a chronic global shortage of platelets to treat patients who are actively bleeding due to trauma or surgery, those undergoing treatments for cancer, or those with low platelet counts due to a variety of conditions – essentially anyone who needs to prevent life-threatening bleeding. Platelet BioGenesis (PBG) is working with CCRM and GE Healthcare Life Sciences to develop customized media formulations that will enable efficient differentiation of stem cells to platelet-based therapeutics, thereby avoiding the reliance on blood donors in the future.

PBG, a leader in stem cell-derived, on-demand human platelets (PLTs+™) and genetically engineered platelet-based therapeutics, seeks to extend the healing and therapeutic power of platelets by advancing and commercializing the science of making functional human platelets from induced pluripotent stem cells (iPSCs). PBG's PLTs+ are produced in its patented bioreactor, which provides conditions similar to those found inside a blood vessel through a combination of shear stress and cell culture media environment.

CCRM, a leader in developing and commercializing regenerative medicine-based technologies and cell and gene therapies, and GE Healthcare Life Sciences, a leading provider of tools and technologies for the biopharmaceutical and advanced therapy industries, have developed customized high-throughput screening assays for proprietary media formulations to make PBG's process of differentiating stem cells into platelet-based therapeutics more defined and scalable.

"It's exciting to see our work with GE Healthcare Life Sciences having a tangible impact for a therapy developer and knowing that it will later benefit patients," says Michael May, President and CEO of CCRM. "Collaboratively we've created custom, defined, animal component-free media for Platelet BioGenesis' process and we can use this model in the future to assist other developers. Fit-for-purpose, defined media can lower costs and risk, and maintain productivity. Through our collaborations, we are able to help companies get their life-saving products into the hands of people who need them."

"The platform and approach we have developed here is exceptional in the world of media development," explains Gary Pigeau, GEHC Director of the Centre for Advanced Therapeutic Cell Technologies at CCRM. "With our advanced automation and top-down, discovery approach, we are able to test and iterate the solution space in a way that is not possible through traditional means."

CCRM and GE Healthcare Life Sciences have developed a cell culture media development platform incorporating advanced liquid and cell handling, integrated tissue culture and analytics, coupled with advanced offline proteomics, metabolomics and flow cytometry-based analytics. This platform is capable of creating and screening thousands of formulation permutations that are linked to advanced statistical experimental design methodologies to define the solution

space, allowing for iterative optimization of the composition of cell culture and differentiation media.

“Not only does this project validate the approach that GEHC and CCRM have undertaken to address the rapidly changing needs of the cell and gene therapy industry, it also serves as a case study on how transformative therapies can be enabled through these types of multi-stakeholder collaborations,” says Phil Vanek, General Manager Cell Therapy Growth Strategy at GE Healthcare Life Sciences. “We’re delighted to be teamed up with CCRM and Platelet BioGenesis in the advancement of this new cell technology.”

“The advanced technology and expertise from CCRM and GEHC make tackling the complicated and multifaceted challenge of media formulation more efficient for us,” confirms Brad Dykstra, a PBG scientist who is co-leading the work. “This is an exciting partnership for us as we continue to refine our processes and bring platelet-based therapeutics closer to the clinic.”

The Centre for Advanced Therapeutic Cell Technologies (CATCT) is a partnership between CCRM and GE Healthcare Life Sciences, with funding from the Federal Economic Development Agency for Southern Ontario (FedDev Ontario) to accelerate the development and adoption of cell manufacturing technologies for novel regenerative medicine-based therapies. CATCT’s 10,000 ft<sup>2</sup> (~930 m<sup>2</sup>) development facility is located in the MaRS Discovery District, next to Toronto’s world-leading hospitals and the University of Toronto.

### **About CCRM**

CCRM, a Canadian not-for-profit organization funded by the Government of Canada, the Province of Ontario, and leading academic and industry partners, supports the development of regenerative medicines and associated enabling technologies, with a specific focus on cell and gene therapy. A network of researchers, leading companies, strategic investors and entrepreneurs, CCRM accelerates the translation of scientific discovery into new companies and marketable products for patients, with specialized teams, funding, and infrastructure. CCRM is the commercialization partner of the Ontario Institute for Regenerative Medicine and the University of Toronto’s Medicine by Design. CCRM is hosted by the University of Toronto. Visit us at [ccrm.ca](https://ccrm.ca).

### **About GE Healthcare Life Sciences**

GE Healthcare Life Sciences helps therapy innovators, researchers and healthcare providers accelerate how precision diagnostics and therapies are invented, made and used. Our products enable biological analysis, research, development and the manufacture of advanced therapies and vaccines. Life Sciences is part of the \$19.8 billion healthcare business of GE (NYSE: GE). With over 100 years of experience in the healthcare industry and more than 50,000 employees globally, GE Healthcare helps efficiently improve outcomes for patients, healthcare providers, researchers, and life sciences companies around the world. Visit our website <https://www.gelifesciences.com/about-us> for more information.

### **About Platelet BioGenesis**

Platelet BioGenesis (PBG) has created the only platform that can generate human platelets at scale. The stem cell-derived, on-demand platelets will be the first donor-independent source of platelets to address the chronic shortage worldwide. The company is also developing genetically engineered platelet-based therapeutics, a new treatment modality for cancer and other life-threatening diseases. PBG’s platform is patented and cGMP-compliant. The company was spun out of Harvard University and has received venture funding from Qiming Venture

Partners USA and Ziff Capital Partners among other investors, and obtained grant funding from the Biomedical Advanced Research and Development Authority (BARDA) and the U.S. Department of Defense, as well as an award from the Medical Technology Enterprise Consortium (MTEC). Learn more at [www.plateletbiogenesis.com](http://www.plateletbiogenesis.com) and follow us on Twitter [@plateletbio](https://twitter.com/plateletbio).

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