

## Large-scale platelet production from stem cells: Challenges and updates

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The demand for platelet transfusion has been yearly increasing in the United States and other countries. The process of obtaining platelets is lengthy, costly, depends exclusively on volunteer donors and is limited by the fact that platelets can only be stored for a few days. All these factors contribute for the constant shortage of platelet units for clinical use faced by hospital and blood centers. There is great interest in the possibility of using stem cells to large-scale produce platelets for clinical use. However, mimicking and reproducing the highly effective bone marrow platelet production process has been a challenging task. Some advances and discoveries have been made on deciphering the intricate process of platelet production in the bone marrow. Understanding the exact process and identifying the genes involved in megakaryocyte differentiation, polyploidization and proplatelet formation is crucial to the success of large-scale platelet production.

### Biography

Mauro P. Avanzi has completed his medical degree (MD) in 2004 from Campinas University, Brazil and Internal Medicine in 2006 and Hematology/Transfusion Medicine in 2009 from Sao Paulo University, Brazil. He completed his visiting fellowship in Transfusion medicine at the New York Blood Center in 2010 and currently works as a visiting scientist at the Platelet Biology Laboratory at the New York Blood Center.

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