

Method for manufacturing patient-specific human platelets

November 22 2010

Skin cells from humans can be revamped into pro-clotting cells called platelets, according to a study published on November 22 in the *Journal of Experimental Medicine*. Patients with diseases causing thrombocytopenia—platelet deficiency—often require repeated transfusions with platelets obtained from healthy donors.

But donor platelet isolation is expensive and labor intensive, and donor platelets can be attacked by the patient's immune systems as "foreign." Therefore, Koji Eto and colleagues sought a method for generating custom-made platelets from patients' own cells.

The team first reprogrammed human skin cells to a more primitive, stem cell-like state; these cells were then cultured in a cocktail of platelet-promoting soluble factors. The resulting platelets circulated and accumulated in blood clots when injected into platelet-deficient mice, behaving just like normal platelets.

Although additional work is needed to ensure that the culture-derived platelets function like normal healthy platelets, these findings represent an important step toward making patient-specific [platelets](#) clinically available.

More information: Takayama, N., et al. 2010. J. Exp. Med.
[doi:10.1084/jem.20100844](https://doi.org/10.1084/jem.20100844)

Provided by Rockefeller University

Citation: Method for manufacturing patient-specific human platelets (2010, November 22)
retrieved 3 May 2024 from

<https://medicalxpress.com/news/2010-11-method-patient-specific-human-platelets.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.