

Tackling blood stem cell heterogeneity

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Distinct populations of hematopoietic stem cells (HSCs) that preferentially generate specific types of blood cells can be identified based on abundance of a single surface protein, according to a study published online on April 26 in the *Journal of Experimental Medicine*.

The concept that HSCs, which give rise to all types of blood cells, are heterogeneous is not new, but distinguishing distinct types of HSCs from one another has proven challenging. Hiromitsu Nakauchi and colleagues set out to find a way to identify and study different HSC populations.

The team found that HSC populations expressing high, medium, and low amounts of the surface protein CD150 exhibited different propensities to generate specific blood cell types. And some of those expressing the highest levels of CD150 exhibited an unusually 'latent' or 'delayed' ability to generate new blood <u>cells</u>.

By refining our understanding of the complexity of HSCs, these findings may be useful in studies aimed at determining which HSC populations are affected in particular blood cell diseases.

More information: Morita, Y., H. Ema, and H. Nakauchi. 2010. J. Exp. Med. doi:10.1084/jem.20091318

Provided by Rockefeller University



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