

# Stem cell study finds source of earliest blood cells during development

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Hematopoietic stem cells are now routinely used to treat patients with cancers and other disorders of the blood and immune systems, but researchers knew little about the progenitor cells that give rise to them during embryonic development.

In a study published April 8 in *Stem Cell Reports*, Matthew Inlay of the Sue & Bill Gross Stem Cell Research Center and Stanford University colleagues created novel cell assays that identified the earliest arising HSC precursors based on their ability to generate all major blood cell types (red blood cells, platelets and immune cells).

This discovery of very early differentiating blood cells, Inlay said, may be very beneficial for the creation of HSC lines for clinical treatments.

"The hope is that by defining a set of markers that will allow us to make purer, cleaner populations of these precursor cells, we'll be able to reveal the key molecular events that lead to the emergence of the first HSCs in development. This could give us a step-by-step guide for creating these cells in a dish from pluripotent stem cell lines" added Inlay, who is an assistant professor of molecular biology & biochemistry at UC Irvine and conducted the study while a postdoctoral researcher in the Irving Weissman lab in the Institute for Stem Cell Biology and Regenerative Medicine at Stanford University.

Provided by University of California, Irvine

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