

Leukemia treatment using lab-grown blood ‘tantalizingly close’

A bone marrow transplant is often the only chance for survival [for patients with leukemia and other blood disorders]...Unfortunately, like organ transplants, finding a matching donor places a chokehold on the entire process.

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For 20 years, scientists have been trying to find a way to beat the odds. Now, two studies...suggest they may be “tantalizingly close” to being able to make a limitless supply of blood stem cells, using the patient’s own healthy tissues.

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Using a magical mix of seven proteins called transcription factors, the team [of the first study] coaxed lab-made human stem cells into primordial blood cells that replenished themselves and all components of blood.

The [second study](#)...took a more direct route, turning mature cells from mice straight into genuine blood stem cells indiscernible from their natural counterparts.

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However, [Dr. Carolina Guibentif at the University of Cambridge] points out that both studies have caveats. A big one is cancer...What’s more, the virus used to insert the factors into cells may also inadvertently turn on cancer-causing genes.

That said, neither team found evidence of increased risk of blood cancers. Guibentif also [acknowledges](#) that future studies could use CRISPR in place of transcription factors to [transform cells into blood stem cells on demand](#), further lowering the risk.

The GLP aggregated and excerpted this blog/article to reflect the diversity of news, opinion, and analysis. Read full, original post: [Limitless Lab-Grown Blood Is ‘Tantalizingly Close’ After 20 Years](#)