

Supplement your stem cells

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A nutritional supplement could stimulate the production of stem cells integral for repairing the body. Research published in BioMed Central's open access *Journal of Translational Medicine* suggests that a commercially-available supplement can increase the blood circulation of hematopoietic stem cells, which can give rise to all blood cells, and endothelial progenitor cells, which repair damage to blood vessels.

Thomas E. Ichim from Medistem Incorporated, USA worked with a team of 13 researchers from industry and academia to further investigate whether this supplement, containing a cocktail of green tea, astragalus, goji berry extracts, 'good' bacteria *Lactobacillus fermentum*, antioxidant ellagic acid, immune enhancer beta 1,3 glucan and vitamin D3, was able to increase the number of stem cells circulating in the [blood](#). They recruited 18 healthy adults aged between 20 and 72 who stopped any other [dietary supplements](#) 4-5 days before starting a two-week course of this supplement, taking it twice daily.

The researchers took blood from the participants before they started the course and on days 1, 2, 7 and 14 to test for signs of stem cell activity by looking for cells expressing the genetic stem cell markers CD133, CD34 and KDR. They then confirmed whether taking the supplement changed the overall levels of hematopoietic stem cells and endothelial progenitor cells in the blood by using HALO (Hematopoietic Assay via Luminescent Output) and colony forming assays respectively.

Hematopoietic stem cells and endothelial progenitor cells increased after taking the nutritional supplement, suggesting that the supplement may be

a useful stimulator for both types of stem cells. In this study, the levels of these stem cells peaked at 2-7 days and started to drop at 14 days, suggesting that this supplement could be used for continuous treatment for conditions associated with decreases in these stem cells such as Alzheimer's Disease. Other therapeutic treatments used to recruit [hematopoietic stem cells](#) are not viable as long-term solutions due to costs and increased health risks caused by the extremely high levels of [stem cells](#) that these treatments maintain in the blood.

"To our knowledge, this is the first study demonstrating profound mobilization effect with possible clinical significance by a food supplement-based approach", say the authors, adding, "Indeed it may be possible that our supplement could be beneficial in conditions associated with reduced [progenitor cells](#) such as diabetes or in smokers which possess lower baseline values as compared to controls". Although they are quick to add, "However, given commercial pressures associated with this largely unregulated field, we propose detailed scientific investigations must be made before disease-associated claims are made by the scientific community".

More information: Nutraceutical augmentation of circulating endothelial progenitor cells and hematopoietic stem cells in human subjects, Nina A Mikirova, James A Jackson, Ron Hunninghake, Julian Kenyon, Kyle WH Chan, Cathy A Swindlehurst, Boris Minev, Amit N Patel, Michael P Murphy, Leonard Smith, Famela Ramos, Doru T Alexandrescu, Thomas E Ichim and Neil H Riordan, *Journal of Translational Medicine* (in press), www.translational-medicine.com/

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