Accepted Manuscript

Branched-chain amino acid depletion conditions bone marrow for hematopoietic stem cell transplantation avoiding amino acid imbalance-associated toxicity

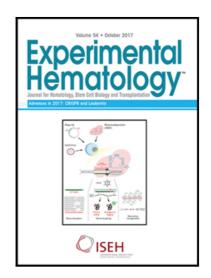
Adam C Wilkinson , Maiko Morita , Hiromitsu Nakauchi , Satoshi Yamazaki

PII: \$0301-472X(18)30173-5 DOI: 10.1016/j.exphem.2018.04.004

Reference: EXPHEM 3628

To appear in: Experimental Hematology

Received date: 9 January 2018
Revised date: 6 April 2018
Accepted date: 18 April 2018



Please cite this article as: Adam C Wilkinson, Maiko Morita, Hiromitsu Nakauchi, Satoshi Yamazaki, Branched-chain amino acid depletion conditions bone marrow for hematopoietic stem cell transplantation avoiding amino acid imbalance-associated toxicity, *Experimental Hematology* (2018), doi: 10.1016/j.exphem.2018.04.004

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

ACCEPTED MANUSCRIPT

Title:

Branched-chain amino acid depletion conditions bone marrow for hematopoietic stem cell transplantation avoiding amino acid imbalance-associated toxicity

Adam C Wilkinson^{a,b,c}, Maiko Morita^d, Hiromitsu Nakauchi^{a,b,d,*}, Satoshi Yamazaki^{d*}

^aInstitute for Stem Cell Biology and Regenerative Medicine, Stanford University School of Medicine, Lorry I. Lokey Stem Cell Research Building, 265 Campus Drive, Stanford, CA, USA.

^bDepartment of Genetics, Stanford University, Stanford, CA, USA.

^cDepartment of Haematology, University of Cambridge, Cambridge, UK

^dDivision of Stem Cell Therapy, Center for Stem Cell Biology and Regeneration Medicine, Institute of Medical Science, University of Tokyo, Tokyo 108-8639, Japan

*Corresponding authors e-mail: y-sato4@ims.u-tokyo.ac.jp (S.Y); nakauchi@stanford.edu (H.N)

Category:

Stem Cells; Transplantation

Keywords:

Hematopoietic stem cell; hematopoietic stem cell transplantation; bone marrow; bone marrow transplantation; branched-chain amino acids; BCAA

Highlights:

- BCAA imbalance (low Val and high Ile/Leu) inhibits HSC proliferation and survival
- Low BCAA culture does not block HSC growth, but poorly supports HSC maintenance
- Dietary BCAA depletion conditions the mouse BM for HSC transplantation
- BCAA conditioning has improved survival and RBC counts vs. valine conditioning

Download English Version:

https://daneshyari.com/en/article/8452490

Download Persian Version:

https://daneshyari.com/article/8452490

<u>Daneshyari.com</u>