



and K562. A double-blind randomized crossover study involving 12 healthy subjects evaluated the effects of consumption on stem cell mobilization in vivo.

## Results

An AFA extract rich in the CD62L ligand reduced the fucoidan-mediated externalization of the CXCR4 chemokine receptor on bone marrow CD34<sup>+</sup> cells by 30% and the CD62L<sup>+</sup> CD34<sup>+</sup> cell line KG1A by 50% but did not alter the CXCR4 expression levels on the CD34<sup>-</sup> cell line K562. A transient, 18% increase in numbers of circulating CD34<sup>+</sup> stem cells maximized 1 hour after consumption ( $P<.0003$ ). When 3 noncompliant volunteers were removed from analysis, the increase in CD34<sup>+</sup> cells was 25% ( $P<.0001$ ).


## Conclusion

AFA water extract contains a novel ligand for CD62L. It modulates CXCR4 expression on CD34<sup>+</sup> bone marrow cells in vitro and triggers the mobilization of CD34<sup>+</sup> CD133<sup>+</sup> and CD34<sup>+</sup> CD133<sup>-</sup> cells in vivo.

**Keywords:** L-selectin; Ligand; Human; Adult stem cell; CD34; CD133; KG1a; K562; Bone marrow; Mobilization; Blue-green algae; Cyanobacteria; *Aphanizomenon*; In vivo; In vitro

**Abbreviations:** AFA, *Aphanizomenon flos-aquae*; PBMC, Peripheral blood mononuclear cells; PMN, Polymorph-nucleated cells

☆ This project was supported by the Merle-West Center for Medical Research, a nonprofit research organization, Desert Lake Technologies, a harvester of *Aphanizomenon flos-aquae*, and NIS Labs, an independent natural products research laboratory.

 Corresponding author. Tel.: +1 403 277 4134.

Cardiovascular Revascularization Medicine  
Volume 8, Issue 3, July-September 2007, Pages 189-202

[Result list](#) | [previous](#) < 9 of 15 > [next](#)

[Home](#) [Browse](#) [My Settings](#) [Alerts](#) [Help](#)



[About ScienceDirect](#) | [Contact Us](#) | [Terms & Conditions](#) | [Privacy Policy](#)

Copyright © 2007 Elsevier B.V. All rights reserved. ScienceDirect® is a registered trademark of Elsevier B.V.