



Apr 14th, 9:00 AM - 10:00 AM

Identification and Migration of Fused BM Cells In-Vivo

Erik Frost, '07

Illinois Wesleyan University

Nicholas Zavazava, Faculty Advisor

Illinois Wesleyan University

Follow this and additional works at: <http://digitalcommons.iwu.edu/jwprc>

Erik Frost, '07 and Nicholas Zavazava, Faculty Advisor, "Identification and Migration of Fused BM Cells In-Vivo" (April 14, 2007). *John Wesley Powell Student Research Conference*. Paper 38.
<http://digitalcommons.iwu.edu/jwprc/2007/posters/38>

This Event is brought to you for free and open access by The Ames Library, the Andrew W. Mellon Center for Curricular and Faculty Development, the Office of the Provost and the Office of the President. It has been accepted for inclusion in Digital Commons @ IWU by the faculty at Illinois Wesleyan University. For more information, please contact digitalcommons@iwu.edu.

©Copyright is owned by the author of this document.

Poster Presentation P35

IDENTIFICATION AND MIGRATION OF FUSED BM CELLS IN-VIVO

Erik Frost and Nicholas Zavazava*
Biology Department, Illinois Wesleyan University
and University of Iowa

Adult hematopoietic cells cannot be re-programmed into differentiating into another lineage except in very rare circumstances. The process is very inefficient and does not yield sufficient cell numbers for any meaningful application in therapies. However, it is possible that through fusion the necessary reprogramming of cells for therapeutic use can be accomplished. We hypothesized that transplanted BM will fuse with peripheral cells in vivo which could lead to regenerative capabilities and altered immogenicity of these cells. BM cells from a mouse transgenic for the expression of cre recombinase were isolated and then injected intravenously into two ROSA 26 mice that were transgenic for two loxP sites around a stop cassette in the coding region of a lacZ reporter gene (β-gal). In the event of fusion the cre recombinase will excise the floxed stop cassette allowing for expression of the reporter gene. We reasoned that if cells stained positive for this reporter gene then fusion must have occurred. One mouse was sacrificed at 7 days and the other was sacrificed at 21 days. Cells from the liver, spleen, and BM were isolated and stained for β-gal and flow cytometry was run. Results show between 10%-12% of cells stained positive for β-gal confirming that fusion has occurred. Other peripheral tissue was removed, frozen, and then slides were prepared using a cryostat. These slides were then fixed, stained for β-gal, and examined using light microscopy. Data shows positive staining cells in many peripheral tissues confirming that fusion has occurred. These newly generated fusion cells can now be isolated and their regenerative capabilities and immogenicity determined leading to possible clinical applications.