



Apr 12th, 2:35 PM - 3:35 PM

Differences of the T-Cell Functional Profile in Two Vaccine Regimens Using Flow Cytometry

Kristen Kopf
Illinois Wesleyan University

Nancy Sullivan, Faculty Advisor
Illinois Wesleyan University and The National Institutes of Health

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

Kopf, Kristen and Sullivan, Faculty Advisor, Nancy, "Differences of the T-Cell Functional Profile in Two Vaccine Regimens Using Flow Cytometry" (2008). *John Wesley Powell Student Research Conference*. 11.

<https://digitalcommons.iwu.edu/jwprc/2008/posters2/11>

This Event is protected by copyright and/or related rights. It has been brought to you by Digital Commons @ IWU with permission from the rights-holder(s). You are free to use this material in any way that is permitted by the copyright and related rights legislation that applies to your use. For other uses you need to obtain permission from the rights-holder(s) directly, unless additional rights are indicated by a Creative Commons license in the record and/ or on the work itself. This material has been accepted for inclusion by faculty at Illinois Wesleyan University. For more information, please contact digitalcommons@iwu.edu.

©Copyright is owned by the author of this document.

Poster Presentation P24

**DIFFERENCES OF THE T CELL FUNCTIONAL PROFILE IN
TWO VACCINE REGIMENS USING FLOW CYTOMETRY**

Kristen Kopf and Nancy Sullivan*

Biology Department, Illinois Wesleyan University
The National Institutes of Health

Ebola hemorrhagic fever is a severe, often fatal disease in humans and nonhuman primates that is found primarily in central Africa. With a mortality rate between 50% and 90%, and no known cure available, it is necessary to develop a vaccine for protection.

Previous studies have shown that DNA vaccine only regimen does not provide protection against Ebola in Macaques whereas the regimen of DNA vaccine priming with the addition of recombinant Adenoviruse (DNA/rAdv) boosting does. Since the antibody titers in the DNA only animals are comparable with those in the DNA/rAdv regimen, this suggests it is a T cell, and not a B cell, response deficiency that leads to failed protection. Thus, by examining the profiles of T cell responses from the same animal before and after rAdv boosting, we can determine the threshold between protective and nonprotective immunity, and provide better insight into vaccine design for Ebola virus.

To carry out these aims, we used multiparameter flow cytometry, looking for an antigen specific response. We then used the programs SPICE and FlowJo to analyze the data. Our data reveals a higher T-cell response with the DNA/rAdv regimen, although one can see from this study that the quality of immune response differs in ways other than the number of T cells generated.