Wallet,Shannon Margaret

From: Christina Graves <graves.christina@gmail.com>
Sent: Tuesday, August 05, 2014 5:00 PM
To: Wallet,Shannon Margaret
Subject: Fwd: SLB IEIIS - Abstract Notification

Fyi

---------- Forwarded message ----------
From: "LaDuca, Kendra" <kLaDuca@faseb.org>
Date: Aug 5, 2014 4:51 PM
Subject: SLB IEIIS - Abstract Notification
To: "cgraves3@ufl.edu" <cgraves3@ufl.edu>
Cc:

August 4, 2014

Dear **Christina Graves**,

Thank you for submitting your abstract for consideration to the 2014 joint meeting of The Society for Leukocyte Biology and the International Endotoxin and Innate Immunity Society in Salt Lake City, Utah on October 23-25, 2014. The theme of this meeting is, “Development of Innate Immunity.”

Your submission “**Environment-Host Miscommunication at the Intestinal Epithelial Interface in Type 1 Diabetes – A Tipping Point for Disease?**” has been chosen as a Poster Presentation for the meeting. Please continue to refer to the preliminary program available on our meeting website for the most updated program information.

Assigned board number: **B036**(for location of your display board in the poster session)

Assigned abstract number: **71** (for location in the abstract book)

Posters will be on display throughout the entire conference but will be presented in two separate sessions. Odd board numbers will formally present on Friday, October 24 from 5:00 – 6:30pm, while even numbers boards will formally present on Saturday, October 25 from 1:00 -2:30pm. You are asked to formally present your poster during **Poster Session II** which is to be held **Saturday, October 25, 1:00 - 2:30pm**.

Each Display Board is mounted horizontally, and has an 8’ wide x 4’ tall display surface. Push pins will be provided on-site. Please be certain to bring a poster which will fit in this display area. Set-up and breakdown for Poster boards for your session is as follows: Set-up begins Friday, October 24th at 8:00am; Remove by Saturday, October 25nd at 5:00pm.

As the abstract submitter, you are the sole recipient of this notification. Please forward this email to any co-authors if applicable. If for any reason, you will not be able to attend and present the poster, please let us know immediately.

Please refer to our website www.leukocytebiology.org for further information or contact Meeting Manager, Kendra LaDuca, kladuca@faseb.org with any specific questions. Congratulations and we look forward to your poster in October!

Sincerely,

Jennifer Holland,

Executive Director

Environment-Host Miscommunication at the Intestinal Epithelial Interface in Type-1 Diabetes – A Tipping Point for Disease?

The intestinal epithelium serves as a first line of defense and mediates the host-environment interface; moreover, host-environment dialogues have the capacity to influence development of inflammatory and autoimmune disease, including type 1 diabetes (T1D). Various intestinal alterations have been observed in individuals with or at-risk for T1D, but specific mechanisms at play remain elusive. IEC are potent mediators of the host-environment dialogue; they express a wide variety of immune molecules including Toll-like receptors (TLR) and have the capacity to participate in immune tuning. Here, we describe a method for high purity adult human organ donor IEC culture, and use in assays evaluating IEC innate immune function, as well as methods to isolate and characterize intestinal immune cell populations.

Our preliminary data indicate an IFNγ-mediated IEC inflammatory phenotype to microbial ligand stimulation in T1D as measured by IFNγ and TNFα production. To understand the mechanisms behind these responses, we have investigated basal TLR expression and TLR expression following microbial ligand stimulation. In two sex and age-matched cases, IFNγ priming without additional ligand stimulation upregulates TLR4 and TLR5 expression in both T1D and T1D-free cultures. IFNγ priming with additional microbial ligand stimulation further upregulates TLR4 and TLR5 expression in T1D-free cultures to a degree not observed in the T1D culture. Since TLR expression on IEC is considered to largely promote immunoregulatory and homeostatic functions of IEC, these data indicate that T1D-derived IEC cultures may lack proper responses to microbial ligand stimulation following IFNγ priming.

Flow analysis of intestinal immune cells reveals no differences between T1D and T1D-free individuals in frequency of total CD3+, CD19+, CD11b+, or CD11c+ populations. A more detailed analysis of T cell populations reveals similar frequencies of α/β+CD8+ T cells, however the T1D-derived intestinal CD8+ T cells exhibit elevated frequencies of IL-17A+ and IL-17A+IFNγ+, with a decrease in the frequency of α/β+CD8+IFNγ+ when compared to a T1D-free donor. Moreover, the T1D donor exhibited marked increase in α/β+CD4-CD8- double negative cells, which have been implicated in other autoimmune diseases. These “double negative” T cells contain elevated IL-17A+ and IL-17A+IFNγ+ subpopulations, whereas the phenotype of these cells were α/β+CD4-CD8-IFNγ+ in the T1D free donor.

Using these culture techniques to investigate IEC innate immune function in tandem with intestinal immune populations, we can begin to understand the rules and conditions under which the intestinal epithelium tunes both local and distal immune responses, and how these may go awry in inflammatory and autoimmune disease.