ALLERGY, GENETICS

THE DIRTY LITTLE SECRET

18.12.2009

A new editorial talks about the dirty little secret of mouse immunology

the striking difference between human and murine sensitivity to LPS toxicity

where humans are 100,000–fold more likely to die of an intravenous dose of LPS. And of course to cite another review on mice and (not) men

However, as 65 million years of evolution might suggest, there are significant differences. Here we outline known discrepancies in both innate and adaptive immunity, including: balance of leukocyte subsets, defensins, Toll receptors, inducible NO synthase, the NK inhibitory receptor families Ly49 and KIR, FcR, Ig subsets, the B cell (BLNK, Btk, and 5) and T cell (ZAP70 and common -chain) signaling pathway components, Thy-1, T cells, cytokines and cytokine receptors, Th1/Th2 differentiation, costimulatory molecule expression and function, Ag-presenting function of endothelial cells, and chemokine and chemokine receptor expression.

Nevertheless, allergy researchers continue their studies with such inappropriate models as I just added to earlier post on Acinetobacter lwoffii, yea, yea.

Addendum 15-1-2009

Non-classical monocytes in the mouse are TREM-positiv, in humans they are TREM-negative.

Addendum 18-6-2010

Huber et al.

Type I IFN (IFN-alpha/beta) blocked human Th2 development and inhibited cytokine secretion from committed Th2 cells. This negative regulatory pathway was operative in human but not mouse CD4(+) T cells.

Addendum 17-8-2010

Schmidt et al.

Ni2+ triggered an inflammatory response by directly activating human Toll-like receptor 4 (TLR4). Ni2+-induced TLR4 activation was species-specific, as mouse TLR4 could not generate this response