

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.](#)

Ni<sup>2+</sup> triggered an inflammatory response by directly activating human Toll-like receptor 4 (TLR4). Ni<sup>2+</sup>-induced TLR4 activation was species-specific, as mouse TLR4 could not generate this response