

## **Human work exposure to LPS: variation of CD14 and HLA DR on monocytes and characterization of dendritic cells characterized by probability binning**

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Healthy volunteers with known response to exposure in swine confinement buildings were exposed for three hours with work and rest. Blood and bronchoalveolar lavage samples for flow cytometry were taken at baseline one week before exposure and 24 hours after exposure. The response of blood monocytes and dendritic cells was studied by 4 colour stain combinations.

Dendritic cells were identified with the BD antibody set, identified as Lin1- HLADR+ cells that were resolved into DC1 and DC2 in a CD11c CD123 dotplot. CD11c, CD123 and HLADR were evaluated by probability binning. All parameters were reduced after exposure in SCB, significantly only for CD123 ( $p=0,013$ ). In multivariate distribution analyses the difference was increased by inclusion of CD11c and HLA DR ( $p=0,008$ ), but not by analysis of only CD123 and CD11c.

When identifying monocytes as CD14+HLA DR+ cells to investigate a change in CD80 and CD86 expression, the extent of HLA DR and CD14 expression rather than the expression of CD86 and CD80 varied. Changes of monocyte expression of CD14 and HAL DR may be good markers of stress, and were investigated by multivariate distribution analyses. In the exposure model, CD14 did not vary, whereas HAL DR decreased after exposure ( $p=0,001$ ). The consequences of this will be discussed.