

Variability in the response of canine and human dendritic cells stimulated with *Brucella canis*

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Brucella canis is a small intracellular Gram-negative bacterium whose primary host is the dog, but it also can cause mild human brucellosis. One of the main causes of an inefficient immune response against other species of *Brucella* is their interaction with dendritic cells (DCs), which affects antigen presentation and impairs the development of an effective Th1 immune response. This study analysed the cytokine pattern production, by RT-qPCR and ELISA, in human and canine DCs against whole *B. canis* or its purified LPS. Human and canine DCs produced different patterns of cytokines after stimulation with *B. canis*. In particular, while human DCs produced a Th1-pattern of cytokines (IL-1?, IL-12, and TNF-?), canine cells produced both Th1 and Th17-related cytokines (IL-6, IL-12, IL-17, and IFN-?). Thus, differences in susceptibility and pathogenicity between these two hosts could be explained, at least partly, by the distinct cytokine patterns observed in this study, where we propose that human DCs induce an effective Th1 immune response to control the infection, while canine DCs lead to a less effective immune response, with the activation of Th17-related response ineffective to control the *B. canis* infection. © 2017 The Author(s).