

Short-term lipopolysaccharide stimulation induces differentiation of murine bone marrow-derived dendritic cells into a tolerogenic phenotype

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Dendritic cells (DCs) are professional, antigen-presenting cells, which induce and regulate T cell reactivity. DCs are crucial in innate and adaptive immune responses, and are also involved in central and peripheral tolerance induction. Tolerance can be mediated by immature and semi-mature DCs expressing low levels of co-stimulator and major histocompatibility complex (MHC) molecules. The aim of this study was to investigate the ability of short-term lipopolysaccharide (LPS) stimulation to modulate the stage of differentiation of bone marrow-derived DCs. For this purpose, DCs obtained from DBA1/lacJ mice were stimulated for four (4hLPS/DCs) or 24 (24hLPS/DCs) hours with LPS, using DCs without stimulation (0hLPS/DCs) as a control. Flow cytometry analysis of 4hLPS/DCs showed intermediate CD40 and MHC class II expression, lower than that of 24hLPS/DCs (fully mature), and greater than that of 0hLPS/DCs (immature). A functional assay showed that 4hLPS/DCs displayed increased endocytotic abi