Abstract:
Immunoglobulin-like transcripts (ILT) represent novel immunoglobulin superfamily receptors that are expressed in myeloid, lymphoid and dendritic cells (DC). Here, we studied by gene expression profiling with DNA microarrays ILT expression in different DC subsets, including plasmacytoid DC (PDC), monocyte-derived DC (Mo-DC) and DC obtained by in vitro differentiation from CD34(+) progenitor cells, and DC activated in the presence of different activating agents. ILT2 and ILT3 were expressed in PDC, Mo-DC and DC obtained from CD34(+) cells. ILT7 mRNA was present in PDC, but absent in Mo-DC and DC obtained from CD34(+) cells, indicating that ILT7 mRNA expression seems to be a marker for PDC. CpG-DNA and inflammatory stimuli, such as TNF alpha, prostaglandin E2 (PGE2) and soluble CD40 ligand (sCD40L), and different combinations thereof are frequently employed for DC activation. Here, we demonstrate that ILT2 and ILT3 expression is down-regulated following DC activation by CpG-DNA and inflammatory stimuli at both mRNA and protein levels. Thus, activation of human DC with such stimuli involves down-regulation of inhibitory ILT2 and ILT3 receptors, and this could represent a novel mechanism contributing to DC activation.