Background

CD163 expression is a late and stable marker for mature DCs and is not found on immature DCs. Staining with anti-CD163 is reported to be specific for human DCs [5]. The expression of CD163 by DCs is not shared with other cell types, making it a useful marker for identifying DCs [6]. CD163 expression is induced by toll-like receptor 4 (TLR4) stimulation and is associated with the maturation of DCs [7]. The role of CD163 in the differentiation and maturation of DCs is not well understood, but it is thought to play a role in the regulation of immune responses [8].

Methods

Blood samples were obtained from healthy volunteers. Peripheral blood mononuclear cells (PBMCs) were isolated by Ficoll-Hypaque density gradient centrifugation. CD163 expression on DCs was determined by flow cytometry using FITC-conjugated anti-CD163 antibody. The mean fluorescence intensity (MFI) of CD163 staining was used to quantify the CD163 expression on DCs.

Results

The mean CD163 expression on DCs was significantly higher in the TLR4-stimulated group compared to the unstimulated group (p < 0.05). The expression of CD163 on DCs was also higher in the TLR4-stimulated group compared to the unstimulated group (p < 0.05). The expression of CD163 on DCs was not significantly different between the TLR4-stimulated group and the TLR4-stimulated, TLR4 antagonist group (p > 0.05).

Conclusion

CD163 expression on DCs is induced by TLR4 stimulation and plays a role in the differentiation and maturation of DCs. The TLR4 antagonist did not significantly affect the expression of CD163 on DCs.