# The Effect of Interferon Beta in HLA-G Expression on Monocyte in Diabetes Type1

**Abedian, S.** (PhD)
Immunologist, Assistant Professor of Mozanderan University of Medical Sciences

**Mirabi,A.M.**(MSc)
Immunologist, Mozanderan University of Medical Sciences

**Parsaee,M.R.** (MD)
General Practitioner, Mozanderan University of Medical Sciences

**Corresponding Author**: Abedian,S

**E.mail:** abedianlab@yahoo.co.uk

## Abstract

**Background and objectives:** Dendritic Cells are the most important of antigen presenting cells with an effective role in immune tolerance. This study, aims to clarify the role of IFN- β in induction on dendritic cells derived by monocyte in diabetes type1 to evaluate the T cells response to beta cell specific antigenic molecule.

**Material and Methods:** In this research, peripheral blood mononuclear cells were isolated by phiCole and then dendritic cells generated from blood monocytes ,in Seven days, by adding granulocyte-monocyte colony stimulating factor and interleukin-4 with or without IFN-beta. MRNA was extracted by dendritic cells and cDNA was produced by reverse transcriptase enzyme. Then, Specific polymerase chain reaction for HLA-G was performed. In addition, Tcell proliferation with a mixed Leukocytic reaction evaluated between dendritic cell and T by means of MTT.

**Results:** based on the results, IFN-β induces HLA-G molecule on dendritic cells. In addition, T cell proliferation responses in mixed leukocyte culture show significance difference between Case and control $p<0.05$. T cell proliferation was inhibited in their co-culture system affected by IFN-β

**Conclusion:** In this study, we show that dendritic cells-treated IFN-β with expression of HLA-G molecule inhibited T cell proliferation and so, our results suggest that some of the IFN- β regulatory effects with expression of HLA-G can probably prevent from beta cell destruction.

**Key words**: dendritic cells, Interferon Beta, Human Leukocytic Antigen-G.