Abstract

Major histocompatibility complex class II (MHC-II) is a group of glycoproteins responsible for the presentation of exogenous antigens to T-lymphocytes. Besides the „classical“ antigen presenting cells (APCs), numerous cell types were proven to be able to express MHC-II molecules either constitutively or under specific conditions. Often, the stimulus for MHC-II expression is interferon γ, a pro-inflammatory cytokine typically activating promoter IV of the Class II Transactivator. Many of the non-classical MHC-II-expressing cells can serve as APCs, activating or attenuating T-cell proliferation depending on the expression of costimulatory molecules. Additional research identified some unusual functions of MHC-II molecules on non-classical cell types, including a role in prenatal development or mating. Modulation of the MHC-II expression could potentially serve many promising therapeutic purposes and new research can lead to deeper understanding of the topic.

Keywords: MHC-II, ILC, basophils, TEC, antigen presentation, CIITA, IFN-gamma