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HLA-DR Antigen

National Cancer Institute

Source

National Cancer Institute. *HLA-DR Antigen*. NCI Thesaurus. Code C16692.

Encoded by multiple HLA-DRA and HLA-DRB genes in a complex variable 5 cM region of MHC between HLA-B and -D, HLA-DR Antigens are Class II histocompatibility transmembrane glycoprotein heterodimers of alpha (heavy, 35-kD) and beta (light, 27-kD) chains. Located predominantly on B cells and macrophages, HLA-DR antigens function in antigen presentation to regulatory T cells in the immune response and in self/nonself discrimination. Invariant alpha and polymorphic beta chains have glycosylated N-termini, hydrophobic membrane regions, and hydrophilic C-termini. The heterodimer consists of 4 extracellular domains; invariant alpha-1, polymorphic N-terminal beta-1, and conserved Ig-like alpha-2 and beta-2. Alpha-1 and alpha-2 contain disulfide loops. Beta-1 contains 2 small variable regions. Alpha sequences have relatively simple structure; beta chains carry the major polymorphic determinants.