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Anti-HLA-DR Monoclonal Antibody IMMU-114

National Cancer Institute

Source

National Cancer Institute. *Anti-HLA-DR Monoclonal Antibody IMMU-114*. NCI Thesaurus. Code C103860.

A humanized IgG4 monoclonal antibody that targets the human leukocyte antigen HLA-DR, with potential antineoplastic activity. Upon administration, anti-HLA-DR monoclonal antibody IMMU-114 binds to HLA-DR on HLA-DR-expressing tumor cells and, although the exact mechanism has yet to be fully elucidated, appears to induce hyperactivation of ERK- and JNK-dependent mitogen activated protein kinase signaling pathways. This may lead to mitochondrial membrane depolarization and reactive oxygen species (ROS) generation. This eventually leads to an induction of tumor cell apoptosis and a reduction in tumor cell proliferation. IMMU-14 may be beneficial in the treatment of graft versus host disease (GVHD) as it appears to suppress T-lymphocyte proliferation and natural killer (NK) cell activation. As the Fc region of the original IgG1 MoAb was replaced with the IgG4 isotype, IMMU-114 does not induce a complement cytotoxicity (CDC) or an antibody-dependent cell-mediated cytotoxicity (ADCC). HLA-DR, a MHC class II molecule, is found on various b-cell hematologic malignancies and in autoimmune diseases as well as on normal cells.