

HLA-G (6D463): sc-71263

BACKGROUND

Major histocompatibility complex (MHC, human leukocyte antigen (HLA) molecules are cell-surface receptors that bind foreign peptides and present them to T lymphocytes. MHC class I molecules consist of two polypeptide chains, an α or heavy chain, and a non-covalently associated protein, β -2-Microglobulin. Cytotoxic T lymphocytes bind antigenic peptides presented by MHC class I molecules. Antigens that bind to MHC class I molecules are typically 8-10 residues in length and are stabilized in a peptide binding groove. MHC class II molecules are encoded by polymorphic MHC genes and consist of a non-covalent complex of an α and β chain. Helper T lymphocytes bind antigenic peptides presented by MHC class II molecules. MHC class II molecules bind 13-18 amino acid antigenic peptides. Accumulating in endosomal/lysosomal compartments and on the surface of B cells, HLA-DM and -DO molecules regulate binding of exogenous peptides to class II molecules (HLA-DR) by sustaining a conformation that favors peptide exchange. The differential structural properties of MHC class I and class II molecules account for their respective roles in activating different populations of T lymphocytes.

REFERENCES

1. Fournel, S., et al. 2000. Comparative reactivity of different HLA-G monoclonal antibodies to soluble HLA-G molecules. *Tissue Antigens* 55: 510-518.
2. Lozano, J.M., et al. 2002. Monocytes and T lymphocytes in HIV-1-positive patients express HLA-G molecule. *AIDS* 16: 347-351.
3. Pangault, C., et al. 2002. Lung macrophages and dendritic cells express HLA-G molecules in pulmonary diseases. *Hum. Immunol.* 63: 83-90.
4. Fuzzi, B., et al. 2002. HLA-G expression in early embryos is a fundamental prerequisite for the obtainment of pregnancy. *Eur. J. Immunol.* 32: 311-315.
5. Boyson, J.E., et al. 2002. Disulfide bond-mediated dimerization of HLA-G on the cell surface. *Proc. Natl. Acad. Sci. USA* 99: 16180-16185.
6. Menier, C., et al. 2003. Characterization of monoclonal antibodies recognizing HLA-G or HLA-E: new tools to analyze the expression of nonclassical HLA class I molecules. *Hum. Immunol.* 64: 315-326.

CHROMOSOMAL LOCATION

Genetic locus: HLA-G (human) mapping to 6p22.1.

SOURCE

HLA-G (6D463) is a mouse monoclonal antibody raised against recombinant HLA-G denatured heavy chain of human origin.

PRODUCT

Each vial contains 100 μ g IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

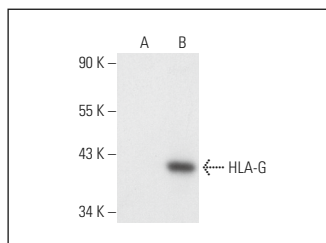
HLA-G (6D463) is recommended for detection of denatured HLA-G heavy chain of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for HLA-G siRNA (h): sc-42920, HLA-G shRNA Plasmid (h): sc-42920-SH and HLA-G shRNA (h) Lentiviral Particles: sc-42920-V.

Molecular Weight of HLA-G: 39 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, Jurkat whole cell lysate: sc-2204 or HLA-G (h): 293T Lysate: sc-159408.

DATA



HLA-G (6D463): sc-71263. Western blot analysis of HLA-G expression in non-transfected: sc-117752 (A) and human HLA-G transfected: sc-159408 (B) 293T whole cell lysates.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.



See **HLA-G (4H84): sc-21799** for HLA-G antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.