

HLA-G (MEM-G/9): sc-51678

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.

REFERENCE

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.

CHROMOSOMAL LOCATION

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

SOURCE

HLA-G (MEM-G/9) is a mouse monoclonal antibody raised against recombinant HLA-G 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.

APPLICATIONS

HLA-G (MEM-G/9) is recommended for detection of native form of HLA-G on the cell surface as well as soluble HLA-G5 isoform in the β -2-Microglobulin associated form 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 flow cytometry (1 μ g per 1 x 10⁶ cells).

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.

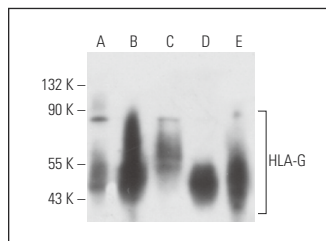
Molecular Weight of HLA-G: 39 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, Jurkat whole cell lysate: sc-2204 or Ramos cell lysate: sc-2216.

STORAGE

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

DATA



HLA-G (MEM-G/9): sc-51678. Western blot analysis of HLA-G expression in Raji (A), K-562 (B), SCC-4 (C), Jurkat (D) and Ramos (E) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Verloes, A., et al. 2011. HLA-G expression in human embryonic stem cells and preimplantation embryos. *J. Immunol.* 186: 2663-2671.
2. Deuse, T., et al. 2011. Immunogenicity and immunomodulatory properties of umbilical cord lining mesenchymal stem cells. *Cell Transplant.* 20: 655-667.
3. Stubbendorff, M., et al. 2013. Immunological properties of extraembryonic human mesenchymal stromal cells derived from gestational tissue. *Stem Cells Dev.* 22: 2619-2629.
4. De Paepe, C., et al. 2013. Human trophoblast cells are not yet committed. *Hum. Reprod.* 28: 740-749.
5. Ezeakile, M., et al. 2014. HLA-G dimers in the prolongation of kidney allograft survival. *J. Immunol. Res.* 2014: 153981.
6. Agnihotri, V., et al. 2020. Serum sHLA-G: significant diagnostic biomarker with respect to therapy and immunosuppressive mediators in head and neck squamous cell carcinoma. *Sci. Rep.* 10: 3806.
7. Io, S., et al. 2021. Capturing human trophoblast development with naive pluripotent stem cells *in vitro*. *Cell Stem Cell* 28: 1023-1039.e13.

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.