SANTA CRUZ BIOTECHNOLOGY, INC.

HLA-G (D-20): sc-17959

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Major histocompatibility complex (MHC) class II molecules destined for presentation to $CD4^+$ helper T-cells is determined by two key events. These events include the dissociation of class II-associated invariant chain peptides (CLIP) from an antigen binding groove in MHC II-$\alpha\beta$ dimers through the activity of MHC molecules HLA-DM and -DO, and subsequent peptide antigen binding. Accumulating in endosomal/lysosomal compartments and on the surface of B cells, HLA-DM and -DO molecules regulate the dissociation of CLIP and the subsequent binding of exogenous peptides to HLA class II molecules (HLA-DR, DQ, DP and DR) by sustaining a conformation that favors peptide exchange. HLA-DMα and β gene RFLP analysis in rheumatoid arthritis (RA) patients suggests that certain polymorphisms are genetic factors for RA susceptibility. The initial HLA-G gene is transcribed and spliced into at least five mRNAs, which encode unique protein isoforms. These nonclassical HLA-G class I molecules are capable of inhibiting natural killer (NK) cell function.

REFERENCES

1. Kropshofer, H., et al. 1998. A role for HLA-DO as a co-chaperone of HLA-DM in peptide loading of MHC class II molecules. EMBO J. 17: 2971-2981.
2. Paul, P., et al. 1998. HLA-G expression in melanoma: a way for tumor cells to escape from immunosurveillance. Proc. Natl. Acad. Sci. USA 95: 4510-4555.
3. Siegmund, T., et al. 1999. HLA-DMA and HLA-DMB alleles in German patients with type 1 diabetes mellitus. Tissue Antigens 54: 291-294.
4. Arndt, S.O., et al. 2000. Functional HLA-DM on the surface of B cells and immature dendritic cells. EMBO J. 19: 1241-1251.
5. Brunet, A., et al. 2000. Functional characterization of a lysosomal sorting motif in the cytoplasmic tail of HLA-DO beta. J. Biol. Chem. 275: 37062-37071.

CHROMOSOMAL LOCATION

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

SOURCE

HLA-G (D-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of HLA-G of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-17959 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

RESEARCH USE

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

APPLICATIONS

HLA-G (D-20) is recommended for detection of HLA-G of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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.

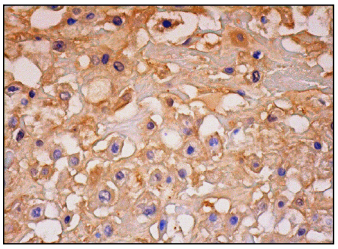
Molecular Weight of HLA-G: 39 kDa.

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

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



HLA-G (D-20): sc-17959. Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing membrane and cytoplasmic staining of decidual cells.

PROTOCOLS

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