SANTA CRUZ BIOTECHNOLOGY, INC.

HLA-DOα (G-15): sc-103546

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The Power to Question

BACKGROUND

Peptide (antigen) binding to major histocompatibility complex (MHC) class II molecules destined for presentation to $CD4^+$ helper T cells is determined by two key events. These include the dissociation of class II-associated invariant chain peptides (CLIP) from an antigen-binding groove in MHC II-Ig dimers and by the activity of MHC molecules HLA-DM and -DO. 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) by sustaining a conformation that favors peptide exchange. HLA-DOα (HLA class II histocompatibility antigen, DOα chain) is a 250 amino acid single-pass membrane protein that forms a heterodimer with HLA-DOβ and through interaction with HLA-DM is an important modulator in the HLA class II restricted antigen presentation pathway.

REFERENCES

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3. Young, J.A. and Trowsdale, J. 1990. The HLA-DNA (DZA) gene is correctly expressed as a 1.1 kb mature mRNA transcript. Immunogenetics 31: 386-388.
4. Naruse, T.K., et al. 1999. Limited polymorphism in the HLA-DOA gene. Tissue Antigens 53: 359-365.
5. van Lith, M., et al. 2002. Novel polymorphisms in HLA-DOA and HLA-DOB in B-cell malignancies. Immunogenetics 54: 591-595.
6. Fallas, J.L., et al. 2004. Ectopic expression of HLA-DO in mouse dendritic cells diminishes MHC class II antigen presentation. J. Immunol. 173: 1549-1560.
7. Moon, S.M., et al. 2005. Identification of four novel HLA-DOA alleles, DOA*010106, DOA*0102, DOA*0103, and DOA*0104N, by sequence-based typing*. Tissue Antigens 66: 242-245.
8. Souwer, Y., et al. 2009. Detection of aberrant transcription of major histocompatibility complex class II antigen presentation genes in chronic lymphocytic leukaemia identifies HLA-DOA mRNA as a prognostic factor for survival. Br. J. Haematol. 145: 334-343.
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CHROMOSOMAL LOCATION

Genetic locus: HLA-DOA (human) mapping to 6p21.32.

SOURCE

HLA-DOα (G-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an extracellular domain of HLA-DOα 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-103546 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

HLA-DOα (G-15) is recommended for detection of HLA-DOα 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with other HLA family members.

Suitable for use as control antibody for HLA-DOα siRNA (h): sc-95165, HLA-DOα shRNA Plasmid (h): sc-95165-SH and HLA-DOα shRNA (h) Lentiviral Particles: sc-95165-V.

Molecular Weight of HLA-DOα: 28 kDa.

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.

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.

PROTOCOLS

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