SANTA CRUZ BIOTECHNOLOGY, INC.

ULBP2 (N-16): sc-20569

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Cytomegalovirus UL16 binding proteins, known as ULBPs, are GPI-linked glycoproteins that belong to the extended MHC class I family. ULBP proteins are ligands for the activating receptor, NKG2D/DAP10, which causes lymphocyte activation, resulting in the secretion of cytokines, such as interferon-γ and tumor cell lysis. ULBPs stimulate cytokine and chemokine production from NK cells, CD8 αβ T cells, and γδ T cells. UL16, binds to three of the five known ligands for human NKG2D. UL16 is retained in the endoplasmic reticulum and *cis*-Golgi apparatus of cells and causes MICB to be similarly retained and stabilized within cells. Coexpression of UL16 markedly reduces cell surface levels of MICB, ULBP1 and ULBP2, and decreases susceptibility to natural killer cell-mediated cytotoxicity.

REFERENCES

1. Dunn C., et al. 2003. Human cytomegalovirus glycoprotein UL16 causes intracellular sequestration of NKG2D ligands, protecting against natural killer cell cytotoxicity. J. Exp. Med. 197: 1427-1439.
2. Rolle A., et al. 2003. Effects of human cytomegalovirus infection on ligands for the activating NKG2D receptor of NK cells: up-regulation of UL16-binding protein (ULBP)1 and ULBP2 is counteracted by the viral UL16 protein. J Immunol. 171: 902-908.
3. Maccalli, C., et al. 2003. NKG2D engagement of colorectal cancer-specific T cells strengthens TCR-mediated antigen stimulation and elicits TCR independent anti-tumor activity. Eur. J. Immunol. 33: 2033-2043.
4. Poggi, A., et al. 2004. Vdelta1 T lymphocytes from B-CLL patients recognize ULBP3 expressed on leukemic B cells and up-regulated by trans-retinoic acid. Cancer Res. 64: 9172-9179.
5. Nowbakht, P., et al. 2005. Ligands for natural killer cell activating receptors are expressed upon maturation of normal myelomonocytic cells but are low in acute myeloid leukemias. Blood 105: 3615-3622.
6. SWISS-PROT/TrEMBL (Q9BZM5) World Wide Web URL: http://www.expasy.ch/sprot/sprot-top.html

SOURCE

ULBP2 (N-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of ULBP2 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-20569 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

ULBP2 (N-16) is recommended for detection of ULBP2 and RAET1L 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).

Molecular Weight of ULBP2: 37 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.

PROTOCOLS

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