SANTA CRUZ BIOTECHNOLOGY, INC.

ULBP4 (H-79): sc-135180

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The immune system contains genetically encoded subsystems, which monitor the extracellular environment in order to eliminate pathogens and resolve abnormal or transformed tissues. Cytomegalovirus UL16 binding proteins, known as ULBPs, are GPI-linked glycoproteins that belong to the extended MHC class I family and are distantly related to MHC class I polypeptide-related sequence B, known as MICB. ULBP and MICB 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. The interaction of ULBP or MICB with NKG2-D/DAP10 can be blocked by the soluble form of UL16. ULBPs stimulate cytokine and chemokine production from NK cells, CD8 α/β T cells and γ/δ T cells. Soluble forms of ULBPs induce protein tyrosine phosphorylation and activation of the Janus kinase 2, Stat5, extracellular signal-regulated kinase, mitogen-activated protein kinase and phosphatidylinositol 3-kinase (PI 3-kinase)/Akt signal transduction pathways.

REFERENCES

1. Kubin, M., Cassiano, L., Chalupny, J., Chin, W., Cosman, D., Fanslow, W., Mullberg, J., Rousseau, A.M., Ulrich, D. and Armitage, R. 2001. ULBP1, 2, 3: novel MHC class I-related molecules that bind to human cytomegalovirus glycoprotein UL16, activate NK cells. Eur. J. Immunol. 31: 1428-1437.
2. Cosman, D., Mullberg, J., Sutherland, C.L., Chin, W., Armitage, R., Fanslow, W., Kubin, M. and Chalupny, N.J. 2001. ULBPs, novel MHC class I-related molecules, bind to CMV glycoprotein UL16 and stimulate NK cytotoxicity through the NKG2-D receptor. Immunity 14: 123-133.
3. Steinle, A., Li, P., Morris, D.L., Groh, V., Lanier, L.L., Strong, R.K. and Spies, T. 2001. Interactions of human NKG2-D with its ligands MICA, MICB, and homologs of the mouse Rae-1 protein family. Immunogenetics 53: 279-287.
4. Sutherland, C.L., Chalupny, N.J., Schooley, K., VandenBos, T., Kubin, M. and Cosman, D. 2002. UL16-binding proteins, novel MHC class I-related proteins, bind to NKG2-D and activate multiple signaling pathways in primary NK cells. J. Immunol. 168: 671-679.
5. LocusLink Report (LocusID: 4277). http://www.ncbi.nlm.nih.gov/LocusLink/

CHROMOSOMAL LOCATION

Genetic locus: RAET1E (human) mapping to 6q25.1.

SOURCE

ULBP4 (H-79) is a rabbit polyclonal antibody raised against amino acids 40-118 mapping within an internal region of ULBP4 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.

STORAGE

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

APPLICATIONS

ULBP4 (H-79) is recommended for detection of ULBP4 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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).

Suitable for use as control antibody for ULBP4 siRNA (h): sc-63183, ULBP4 shRNA Plasmid (h): sc-63183-SH and ULBP4 shRNA (h) Lentiviral Particles: sc-63183-V.

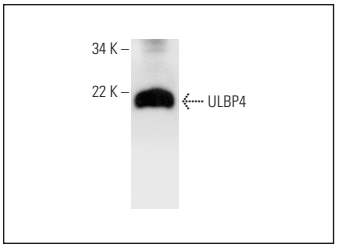
Molecular Weight of ULBP4: 30.1 kDa.

Positive Controls: human skin extract: sc-363777 or ZR-75-1 cell lysate: sc-2241.

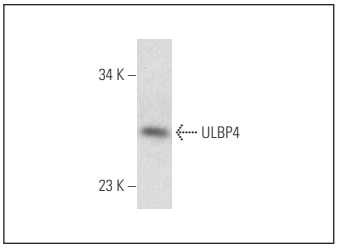
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



ULBP4 (H-79): sc-135180. Western blot analysis of ULBP4 expression in human skin tissue extract.



ULBP4 (H-79): sc-135180. Western blot analysis of ULBP4 expression in ZR-75-1 whole cell lysate.

RESEARCH USE

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

MONOS Satisfaction Guaranteed

Try **ULBP4 (6E6): sc-53133** or **ULBP4 (C-11): sc-390784**, our highly recommended monoclonal alternatives to ULBP4 (H-79).