

# ULBP4 (6E6): sc-53133

## 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- $\gamma$  and tumor cell lysis. The interaction of ULBP or MICB with NKG2D/DAP10 can be blocked by the soluble form of UL16. ULBPs stimulate cytokine and chemokine production from NK cells, CD8  $\alpha/\beta$  T cells and  $\gamma/\delta$  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.

## CHROMOSOMAL LOCATION

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

## SOURCE

ULBP4 (6E6) is a mouse monoclonal antibody raised against purified ULBP4 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available azide-free for blocking, sc-53133 L, 200  $\mu$ g/0.1 ml.

ULBP4 (6E6) is available conjugated to agarose (sc-53133 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-53133 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-53133 PE), fluorescein (sc-53133 FITC), Alexa Fluor® 488 (sc-53133 AF488), Alexa Fluor® 546 (sc-53133 AF546), Alexa Fluor® 594 (sc-53133 AF594) or Alexa Fluor® 647 (sc-53133 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-53133 AF680) or Alexa Fluor® 790 (sc-53133 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

ULBP4 (6E6) 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  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], 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 flow cytometry (1  $\mu$ g per 1 x 10<sup>6</sup> cells).

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.

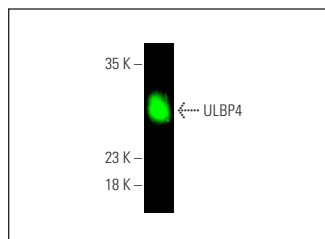
Molecular Weight ULBP4: 30 kDa.

Positive Controls: human skin extract: sc-363777.

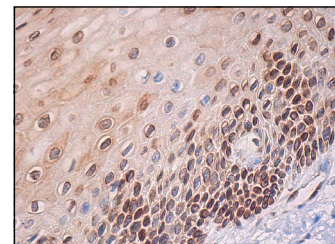
## STORAGE

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

## DATA



ULBP4 (6E6): sc-53133. Near-infrared western blot analysis of ULBP4 expression in human skin tissue extract. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 680: sc-516180.



ULBP4 (6E6): sc-53133. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cervix tissue showing nuclear and cytoplasmic staining of squamous epithelial cells.

## SELECT PRODUCT CITATIONS

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- Pfeiffer, M.M., et al. 2013. Influence of histone deacetylase inhibitors and DNA-methyltransferase inhibitors on the NK cell-mediated lysis of pediatric B-lineage leukemia. *Front. Oncol.* 3: 99.
- Rancan, C., et al. 2015. Latent membrane protein LMP2A impairs recognition of EBV-infected cells by CD8<sup>+</sup> T cells. *PLoS Pathog.* 11: e1004906.
- Schilbach, K., et al. 2015. Cancer-targeted IL-12 controls human rhabdomyosarcoma by senescence induction and myogenic differentiation. *Oncoimmunology* 4: e1014760.
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- Davis, D.A., et al. 2018. Pomalidomide increases immune surface marker expression and immune recognition of oncovirus-infected cells. *Oncoimmunology* 8: e1546544.
- Luo, D., et al. 2019. MG132 selectively upregulates MICB through the DNA damage response pathway in A549 cells. *Mol. Med. Rep.* 19: 213-220.
- McCarthy, M.T., et al. 2020. Inosine pranobex enhances human NK cell cytotoxicity by inducing metabolic activation and NKG2D ligand expression. *Eur. J. Immunol.* 50: 130-137.
- Ng, W., et al. 2021. Targeting CD155 by radiocide-A overcomes tumour immuno-resistance to natural killer cells. *Pharm. Biol.* 59: 47-53.
- Liu, J., et al. 2025. Sodium valproate enhances efficacy of NKG2D CAR-T cells against glioblastoma. *Front. Immunol.* 15: 1519777.

## RESEARCH USE

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