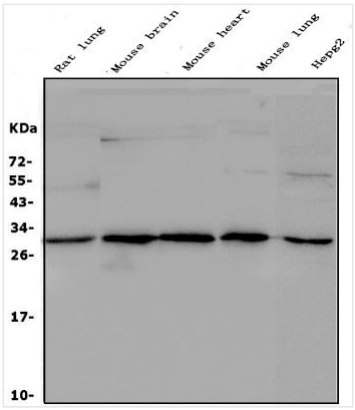
ULBP1 Antibody – Rabbit Polyclonal

PRODUCT OVERVIEW

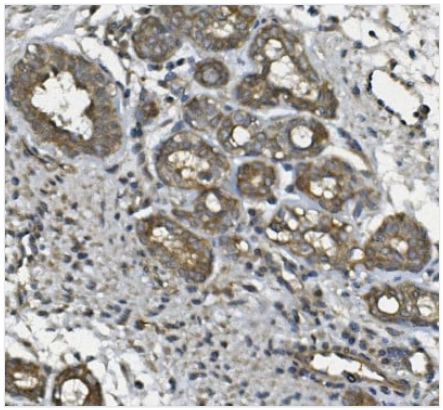
Product Name	ULBP1, Polyclonal Antibody
Full Product Name	Anti-ULBP1 Antibody
Product Gene Name	anti-ULBP1 antibody
Product Synonym Names	ULBP1; N2DL1; RAET1I; UL16-binding protein 1; ALCAN-beta; NKG2D ligand 1; N2DL-1; NKG2DL1; Retinoic acid early transcript 1I; UL16 binding protein 1
Clonality	Polyclonal
Isotype	Rabbit IgG
Host	Rabbit
Species Reactivity	Human, Mouse, Rat
Form/Format	Lyophilized. Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na2HPO4, 0.01mg NaN3.
Purity/Purification	Immunogen affinity purified.
Specificity	Rabbit IgG polyclonal antibody for ULBP1 detection.
Preparation and Storage	Store at -20 degree C for one year. After reconstitution, at 4 degree C for one month. It can also be aliquotted and stored frozen at -20 degree C for a longer time. Avoid repeated freezing and thawing.
OMIM	AF304377 mRNA
3D Structure	ModBase 3D Structure for Q9BZM6
Immunogen	E Coli-derived human ULBP1 recombinant protein (Position: W27-K209).
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.
Recommended Detection Systems	Lab recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (MBS176460) for Western blot, and HRP Conjugated anti-Rabbit IgG Super Vision Assay Kit (MBS176453) for IHC(P).
ISO Certification	Manufactured in an ISO 13485:2003 and EN ISO 13485:2012 Certified Laboratory.
Applications Tested/Suitable for anti-ULBP1 antibody	Western Blot (WB), Immunohistochemistry-Paraffin (IHC-P), Flow Cytometry (FC), Direct ELISA (EIA)
Application Notes for anti-ULBP1 antibody	WB: Concentration: 0.25-0.5ug/ml Tested Species: Human, Mouse, Rat IHC-P: Concentration: 2-5ug/ml Tested Species: Human FC: Concentration: 1-3ug/1x10^6 cells Tested Species: Human Direct ELISA: Concentration: 0.1-0.5ug/ml Tested Species: Human Tested Species: In house tested species with postive results. Other applications have not been tested. Optimal dilutions should be determined by end users.

Related Product Information for anti-ULBP1 antibody	UL16 binding protein 1 (ULBP1) is a cell surface glycoprotein encoded by ULBP1 gene located on the chromosome 6. The protein encoded by this gene is a ligand of natural killer group 2, member D (NKG2D), an immune system-activating receptor on NK cells and T-cells. Binding of the encoded ligand to NKG2D leads to activation of several signal transduction pathways, including those of JAK2, STAT5, ERK and PI3K kinase/Akt. Also, in cytomegalovirus-infected cells, this ligand binds the UL16 glycoprotein and is prevented from activating the immune system. Three transcript variants encoding different isoforms have been found for this gene.
Product References and Citations for anti-ULBP1 antibody	1. Cosman, D., Mullberg, J., Sutherland, C. L., Chin, W., Armitage, R., Fanslow, W., Kubin, M., Chalupny, N. J. ULBPs, novel MHC class I-related molecules, bind to CMV glycoprotein UL16 and stimulate NK cytotoxicity through the NKG2D receptor. Immunity 14: 123-133, 2001. 2. Deng, W., Gowen, B. G., Zhang, L., Wang, L., Lau, S., Iannello, A., Xu, J., Rovis, T. L., Xiong, N., Raulet, D. H. A shed NKG2D ligand that promotes natural killer cell activation and tumor rejection. Science 348: 136-139, 2015. 3. Lopez-Soto, A., Quinones-Lombrana, A., Lopez-Arbesu, R., Lopez-Larrea, C., Gonzalez, S. Transcriptional regulation of ULBP1, a human ligand of the NKG2D receptor. J. Biol. Chem. 281: 30419-30430, 2006.
Other Notes	Small volumes of anti-ULBP1 antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for ULBP1 purchase	MBS1753654 is an antibody targeting ULBP1. Reactive in Human, Mouse, Rat. Host: Rabbit.



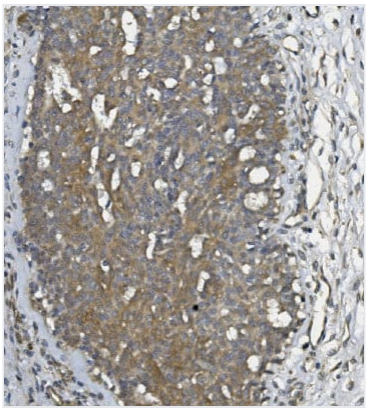
Western Blot (WB) of anti-ULBP1 antibody

Figure 1. Western blot analysis of ULBP1 using anti-ULBP1 antibody (MBS1753654).Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions.Lane 1: rat lung tissue lysatesLane 2: mouse brain tissue lysatesLane 3: mouse heart tissue lysatesLane 4: mouse lung tissue lysatesLane 5: human HepG2 whole cell lysates.After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA for 50-90 minutes. Blocked the membrane with 5% Non-fat Milk/ TBS for 1. 5 hour at RT. The membrane was incubated with rabbit anti-ULBP1 antigen affinity purified polyclonal antibody (Catalog # MBS1753654) at 0. 5 ?g/mL overnight at 4 degree C, then washed with TBS-0. 1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:10000 for 1. 5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # MBS176460) with Tanon 5200 system. A specific band was detected for ULBP1 at approximately 28KD. The expected band size for ULBP1 is at 28KD.



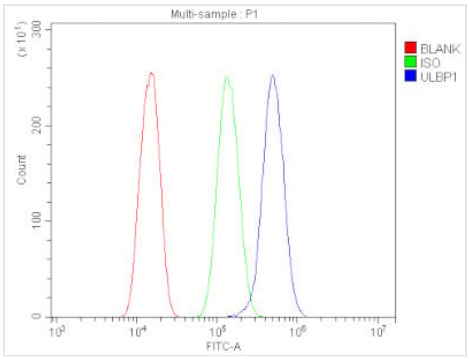
Immunohistochemistry (IHC) of anti-ULBP1 antibody

Figure 2. IHC analysis of ULBP1 using anti ULBP1 antibody (MBS1753654).ULBP1 was detected in paraffin-embedded section of human mammary cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8. 0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2?g/ml rabbit anti-ULBP1 Antibody (MBS1753654) overnight at 4 degree C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 degree C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) (Catalog # MBS176451) with DAB as the chromogen.



Immunohistochemistry (IHC) of anti-ULBP1 antibody

Figure 3. IHC analysis of ULBP1 using anti ULBP1 antibody (MBS1753654).ULBP1 was detected in paraffin-embedded section of human mammary cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8. 0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2?g/ml rabbit anti-ULBP1 Antibody (MBS1753654) overnight at 4 degree C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 degree C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) (Catalog # MBS176451) with DAB as the chromogen.



Flow Cytometry (FC) of anti-ULBP1 antibody

Figure 4. Flow Cytometry analysis of PC-3 cells using anti-ULBP1 antibody (MBS1753654).Overlay histogram showing PC-3 cells stained with MBS1753654 (Blue line). The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-ULBP1 Antibody (MBS1753654,1?g/1x106 cells) for 30 min at 20 degree C. DyLight®488 conjugated goat anti-rabbit IgG (5-10?g/1x106 cells) was used as secondary antibody for 30 minutes at 20 degree C. Isotype control antibody (Green line) was rabbit IgG (1?g/1x106) used under the same conditions. Unlabelled sample (Red line) was also used as a control.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for ULBP1. It may not necessarily be applicable to this product.

NCBI GI #	952556270
NCBI GeneID	80329
NCBI Accession #	NP_001304018.1
UniProt Primary Accession #	Q9BZM6
UniProt Secondary Accession #	Q5VY81; Q8IZW3; Q8IZX6
UniProt Related Accession #	Q9BZM6
GenBank Nucleotide #	NM_001317089.1
NCBI Official Full Name	NKG2D ligand 1 isoform 2
NCBI Official Synonym Full Names	UL16 binding protein 1
NCBI Official Symbol	ULBP1
NCBI Official Synonym Symbols	N2DL-1; RAET1I; NKG2DL1
UniProt Protein Name	NKG2D ligand 1
UniProt Synonym Protein Names	ALCAN-beta; Retinoic acid early transcript 1I; UL16-binding protein 1
Protein Family	NKG2D ligand
UniProt Gene Name	ULBP1
UniProt Synonym Gene Names	N2DL1; RAET1I; N2DL-1; NKG2DL1
NCBI Protein Information	NKG2D ligand 1
NCBI Summary for ULBP1	The protein encoded by this gene is a ligand of natural killer group 2, member D (NKG2D), an immune system-activating receptor on NK cells and T-cells. Binding of the encoded ligand to NKG2D leads to activation of several signal transduction pathways, including those of JAK2, STAT5, ERK and PI3K kinase/Akt. Also, in cytomegalovirus-infected cells, this ligand binds the UL16 glycoprotein and is prevented from activating the immune system. Three transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Nov 2015]

UniProt Comments for ULBP1	ULBP1: Ligand for the NKG2D receptor, together with at least ULBP2 and ULBP3. ULBPs activate multiple signaling pathways in primary NK cells, resulting in the production of cytokines and chemokines. Binding of ULBPs ligands to NKG2D induces calcium mobilization and activation of the JAK2, STAT5, ERK and PI3K kinase/Akt signal transduction pathway. In CMV infected cells, interacts with soluble CMV glycoprotein UL16. The interaction with UL16 blocked the interaction with the NKG2D receptor, providing a mechanism by which CMV infected cells might escape the immune system. UL16 also causes ULBP1 to be retained in the ER and cis- Golgi apparatus so that it does not reach the cell surface. Belongs to the MHC class I family. Protein type: Apoptosis; Cell surface; Membrane protein, GPI anchor Chromosomal Location of Human Ortholog: 6q25.1 Cellular Component: anchored to plasma membrane; plasma membrane Molecular Function: antigen binding; natural killer cell lectin-like receptor binding Biological Process: antigen processing and presentation; natural killer cell activation; natural killer cell mediated cytotoxicity; regulation of immune response
Research Articles on ULBP1	**1.** ATF4 drives ULBP1 gene expression in cancer cell lines, while the RNA-binding protein RBM4 supports ULBP1 expression by suppressing a novel alternatively spliced isoform of ULBP1 mRNA.
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