Human ULBP-1 Antibody

Monoclonal Mouse IgG_{2A} Clone # 170818

Catalog Number: MAB1380

DESCRIPTION

Species Reactivity	Human
Specificity	Stains human ULBP-1 cell transfectants. It does not stain cells transfected with ULBP-2 or ULBP-3.
Source	Monoclonal Mouse IgG_{2A} Clone # 170818
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	BaF3 mouse pro-B cell line transfected with human ULBP-1
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

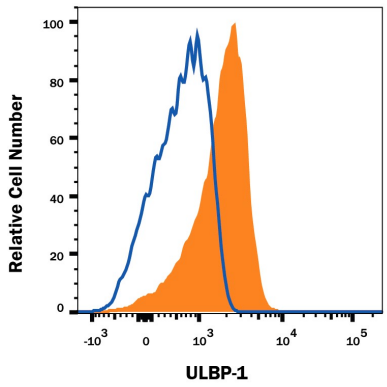
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Flow Cytometry	0.25 µg/10^6 cells	See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	
Blockade of Receptor-ligand Interaction	In a functional ELISA, 5-15 ng/mL of this antibody will block 50% of the binding of 20 ng/mL of biotinylated Recombinant Human ULBP-1 Fc Chimera to immobilized Recombinant Human NKG2D Fc Chimera (Catalog # 1299-NK) coated at 2 µg/mL (100 µL/well). At 300 ng/mL, this antibody will block >90% of the binding.	

DATA

Flow Cytometry



Detection of ULBP-1 in MOLT-4 Human Cell Line by Flow Cytometry. MOLT-4 human acute lymphoblastic leukemia cell line was stained with Mouse Anti-Human ULBP-1 Monoclonal Antibody (Catalog # MAB1380, filled histogram) or isotype control antibody (Catalog # MAB003, open histogram), followed by Phycoerythrin-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # F0102B).

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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BACKGROUND

ULBP-1 is a member of a family of cell-surface proteins that function as ligands for human NKG2D. ULBP-1 has also been described under the names RaeT1l (retinoic acid early transcript), ALCAN-beta, and NKG2DL1. The name ULBP-1 derives from the original identification of three proteins, ULBP-1, -2, and -3, as ligands for the human cytomegalovirus glycoprotein UL16; they were designated UL16 binding proteins (ULBP). The gene for ULBP-1 resides in a cluster of ten related genes, six of which encode potentially functional glycoproteins. Amino acid sequence identity within this family ranges from 30-95%. These proteins are distantly related to MHC class I proteins, but they possess only the α1 and α2 Ig-like domains, and they have no capacity to bind peptide or interact with β2-microglobulin. They are anchored to the membrane via a GPI-linkage. ULBP-1 and several other family members are known to bind to human NKG2D, an activating receptor expressed on NK cells, NKT cells, γδ T cells, and $CD8^+$ αβ T cells. Engagement of NKG2D results in the activation of cytolytic activity and/or cytokine production by these effector cells. ULBP-1 is expressed on some tumor cells and has been implicated in tumor surveillance (1-8).

References:

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5. Sutherland, C. *et al.* (2001) Immunol. Rev. **181**:185
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