Mouse ULBP-1 /MULT-1 PE-conjugated Antibody

Monoclonal Rat IgG_{2A} Clone # 237104

Catalog Number: FAB2588P

100 TESTS

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse ULBP-1 /MULT-1 in flow cytometry.
Source	Monoclonal Rat IgG_{2A} Clone # 237104
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	BaF3 mouse pro-B cell line transfected with mouse ULBP-1 /MULT-1
Conjugate	Phycoerythrin Excitation Wavelength: 488 nm Emission Wavelength: 565-605 nm
Formulation	Supplied in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

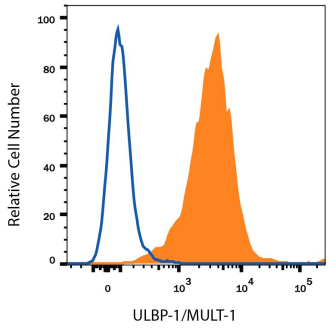
APPLICATIONS

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	10 µL/10^6 cells	See Below

DATA

Flow Cytometry



Detection of ULBP-1 in A20 Mouse Cell Line by Flow Cytometry. A20 mouse B cell lymphoma cell line was stained with Rat Anti-Mouse ULBP-1 /MULT-1 PE-conjugated Monoclonal Antibody (Catalog # FAB2588P, filled histogram) or isotype control antibody (Catalog # IC006P, open histogram). View our protocol for Staining Membrane-associated Proteins.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Protect from light. Do not freeze.** ● 12 months from date of receipt, 2 to 8 °C as supplied.

BACKGROUND

ULBP-1, also known as MULT-1 (Mouse UL16-Binding Protein-like Transcript 1), is a 53 kDa, MHC Class I-like molecule that belongs to the mouse family of NKG2D ligands (1-4). It is a type I transmembrane glycoprotein that is synthesized as a 334 amino acid (aa) precursor. It contains a 25 aa signal sequence, a 186 aa extracellular region, a 19 aa transmembrane segment and a 104 aa cytoplasmic tail (2). The extracellular region contains an α1 and α2 like domain with two intrachain disulfide bonds. ULBP-1 is distantly related to other human and mouse NKG2D ligands, and more distantly related to the MHC class I proteins (3). Unlike most NKG2D ligands, transcripts for ULBP-1 have been detected in a wide variety of mouse tissues and tumor cells lines (3). The receptor for ULBP-1 is NKG2D, a 35 kDa C-type lectin that is found on mouse NK cells, activated $CD8^+$ T cells, epidermal γδ T cells, and activated macrophages (1, 5, 6, 7). Recombinant ULBP-1 protein binds to NKG2D with high affinity (K_D = 6 nM) (2). Although an activating receptor, general cellular responses to NKG2D ligation depend upon the isoform of NKG2D and the cell type (5). Exposure to immobilized ULBP-1 or ULBP-1-transfected cells elicits IFN-γ production by NK cells (3). Ectopic expression of ULBP-1 on the RMA mouse tumor cell line leads to tumor rejection in syngeneic mice (3).

References:

1. Raulet, D.H. (2003) Nat. Rev. Immunol. **3**:781.
2. Carayannopoulos, L. *et al.* (2002) J. Immunol. **169**:4079.
3. Diefenbach, A. *et al.* (2003) Eur. J. Immunol. **33**:381.
4. Krmpotic, A. *et al.* (2005) J. Exp. Med. **201**:211.
5. Diefenbach, A. *et al.* (2002) Nat. Immunol. **3**:1142.
6. Ho, E.L. *et al.* (1998) Proc. Natl. Acad. Sci. USA **95**:6320.
7. Carayannopoulos, L.N. *et al.* (2002) Eur. J. Immunol. **32**:597.