

#### DESCRIPTION

|                           |  |
|---------------------------|--|
| <b>Species Reactivity</b> | Mouse  |
| <b>Specificity</b>        | Detects mouse ULBP-1 /MULT-1.  |
| <b>Source</b>             | Monoclonal Rat IgG <sub>2A</sub> Clone # 237104  |
| <b>Purification</b>       | Protein A or G purified from hybridoma culture supernatant   |
| <b>Immunogen</b>          | BaF3 mouse pro-B cell line transfected with mouse ULBP-1 /MULT-1   |
| <b>Conjugate</b>          | Alexa Fluor 350<br>Excitation Wavelength: 346 nm<br>Emission Wavelength: 442 nm  |
| <b>Formulation</b>        | Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details.<br><br>*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.

|                       | <b>Recommended Concentration</b> | <b>Sample</b>                                |
|-----------------------|----------------------------------|--|
| <b>Flow Cytometry</b> | 0.25-1 µg/10 <sup>6</sup> cells  | Mouse ULBP-1 /MULT-1 transfected Baf/3 cells |

#### PREPARATION AND STORAGE

|                                |   |
|--------------------------------|---|
| <b>Shipping</b>                | The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below. |
| <b>Stability &amp; Storage</b> | <b>Protect from light. Do not freeze.</b><br>● 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 cell lines (3). The receptor for ULBP-1 is NKG2D, a 35 kDa C-type lectin that is found on mouse NK cells, activated CD8<sup>+</sup> T cells, epidermal γδ T cells, and activated macrophages (1, 5, 6, 7). Recombinant ULBP-1 protein binds to NKG2D with high affinity (K<sub>D</sub> = 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:

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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.

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