

#### DESCRIPTION

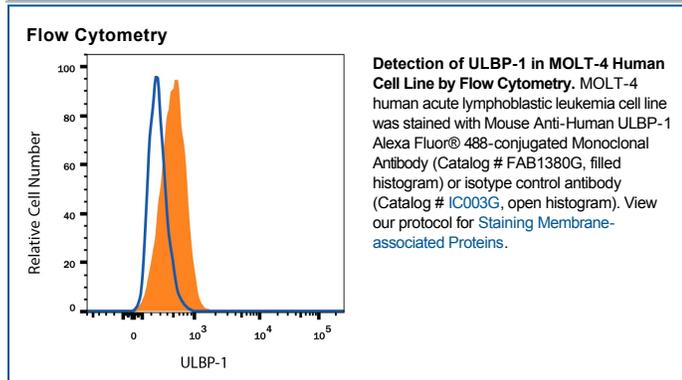
<b>Species Reactivity</b>	Human
<b>Specificity</b>	Stains human ULBP-1 cell transfectants. It does not stain cells transfected with ULBP-2 or ULBP-3.
<b>Source</b>	Monoclonal Mouse IgG <sub>2A</sub> Clone # 170818
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	BaF3 mouse pro-B cell line transfected with human ULBP-1
<b>Conjugate</b>	Alexa Fluor 488 Excitation Wavelength: 488 nm Emission Wavelength: 515-545 nm
<b>Formulation</b>	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.

	<b>Recommended Concentration</b>	<b>Sample</b>
<b>Flow Cytometry</b>	5 $\mu$ L/10 <sup>6</sup> cells	See Below

#### DATA



#### 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> <ul style="list-style-type: none"> <li>12 months from date of receipt, 2 to 8 °C as supplied.</li> </ul>

#### 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 RaeT11 (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  $\alpha$ 1 and  $\alpha$ 2 Ig-like domains, and they have no capacity to bind peptide or interact with  $\beta$ 2-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,  $\gamma\delta$  T cells, and CD8<sup>+</sup>  $\alpha\beta$  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:

1. Cosman, D. *et al.* (2001) *Immunity* **14**:123.
2. Kubin, M. *et al.* (2001) *Eur. J. Immunol.* **31**:1428.
3. Sutherland, C. *et al.* (2002) *J. Immunol.* **168**:671.
4. Steinle, A. *et al.* (2001) *Immunogenetics* **53**:279.
5. Sutherland, C. *et al.* (2001) *Immunol. Rev.* **181**:185.
6. Pende, D. *et al.* (2002) *Cancer Res.* **62**:6178.
7. Radosavljevic, M. *et al.* (2002) *Genomics* **79**:114.
8. NKG2D and its Ligands, 2002; [www.RnDSystems.com](http://www.RnDSystems.com).

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