

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
Conjugate	Alexa Fluor 594 Excitation Wavelength: 590 nm Emission Wavelength: 617 nm
Formulation	Supplied 0.2 mg/mL 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	0.25-1 µg/10 ⁶ cells	MOLT-4 human acute lymphoblastic leukemia cell line

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

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 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:

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.

PRODUCT SPECIFIC NOTICES

This product is provided under an agreement between Life Technologies Corporation and R&D Systems, Inc, and the manufacture, use, sale or import of this product is subject to one or more US patents and corresponding non-US equivalents, owned by Life Technologies Corporation and its affiliates. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). The sale of this product is expressly conditioned on the buyer not using the product or its components (1) in manufacturing; (2) to provide a service, information, or data to an unaffiliated third party for payment; (3) for therapeutic, diagnostic or prophylactic purposes; (4) to resell, sell, or otherwise transfer this product or its components to any third party, or for any other commercial purpose. Life Technologies Corporation will not assert a claim against the buyer of the infringement of the above patents based on the manufacture, use or sale of a commercial product developed in research by the buyer in which this product or its components was employed, provided that neither this product nor any of its components was used in the manufacture of such product. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, Cell Analysis Business Unit, Business Development, 29851 Willow Creek Road, Eugene, OR 97402, Tel: (541) 465-8300. Fax: (541) 335-0354.