

DESCRIPTION

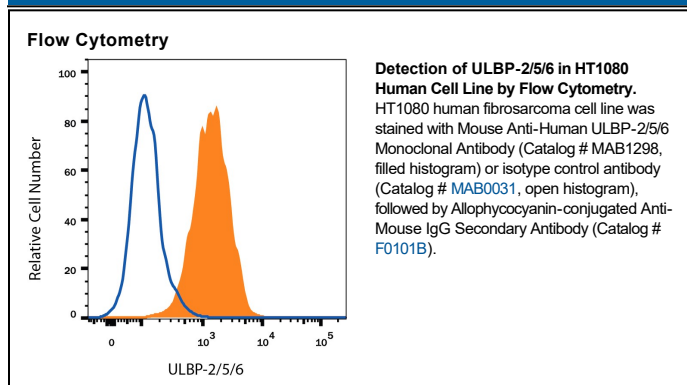
Species Reactivity	Human
Specificity	Detects human ULBP-2 and human RAET1L/ULBP-6 in direct ELISA and stains cells transfected with human ULBP-2, human ULBP-5 or human RAET1L/ULBP-6 in flow cytometry. In direct ELISA, 11% cross-reactivity with recombinant human ULBP5 is observed. It does not stain cells transfected with human ULBP-1 or human ULBP-3 in flow cytometry.
Source	Monoclonal Mouse IgG _{2A} Clone # 165903
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	BaF3 mouse pro-B cell line transfected with human ULBP-2 Accession # Q9BZM5
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, 0.03 - 0.1 µg/mL of this antibody will block 50% of the binding of 25 ng/mL of biotinylated rhULBP-2/Fc to immobilized rhNKG2D/Fc chimera coated at 2 µg/mL (100 µL/well). At 1 µg/mL, this antibody will achieve 85% blocking in the assay. This antibody will block >70% of the binding of either Recombinant Human ULBP-5 Fc Chimera or Recombinant ULBP-6 Fc Chimera to immobilized Recombinant Human NKG2D Fc Chimera.	

DATA



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. <ul style="list-style-type: none"> 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.

BACKGROUND

ULBPs activate multiple signaling pathways in primary NK cells, resulting in the production of cytokines and chemokines. Binding of ULBPs ligands to NKG2D induces calcium mobilization and activation of the JAK2, STAT5, ERK and PI3K kinase/Akt signal transduction pathway. The name ULBP 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 genes for ULBPs reside in a cluster of ten related genes, six of which encode potentially functional glycoproteins. ULBP-2 has also been described under the names RaeT1H (retinoic acid early transcript), NKG2DL2, and ALCAN-alpha. ULBP-5 also known as RaeT1G and ULBP-6 also known as RaeT1L. 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. Some family members, including ULBP-2, are anchored to the membrane via a GPI-linkage, whereas others have transmembrane domains. Engagement of NKG2D results in the activation of cytolytic activity and/or cytokine production by these effector cells. The ULBPs are expressed on some tumor cells and have been implicated in tumor surveillance. Over aa 26-217, ULBP-2 shares 92% and 95% aa sequence identity with the human ULBP-5 and ULBP-6, respectively.

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.