

## DESCRIPTION

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human ULBP-1 in direct ELISAs and Western blots. In direct ELISAs and Western blots, approximately 10% cross-reactivity with recombinant human (rh) ULBP-2 and rhULBP-3 is observed.
<b>Source</b>	Polyclonal Goat IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	<i>S. frugiperda</i> insect ovarian cell line Sf21-derived recombinant human ULBP-1 Gly26-Pro215 Accession # Q9BZM6
<b>Endotoxin Level</b>	<0.10 EU per 1 µg of the antibody by the LAL method.
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

## 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>Western Blot</b>	0.1 µg/mL	Recombinant Human ULBP-1 Fc Chimera (Catalog # 1380-UL)
<b>Blockade of Receptor-ligand Interaction</b>	In a functional ELISA, 0.4-1.2 µg/mL of this antibody will block 50% of the binding of 20 ng/mL of biotinylated Recombinant Human ULBP-1 Fc Chimera to immobilized Recombinant Human NKG2D Fc Chimera (Catalog # 1299-NK) coated at 2 µg/mL (100 µL/well). At 30 µg/mL, this antibody will block >90% of the binding.	

## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.2 mg/mL in sterile PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>6 months, -20 to -70 °C under sterile conditions after reconstitution.</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 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<sup>+</sup> 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:

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6. Pende, D. *et al.* (2002) *Cancer Res.* **62**:6178.
7. Radosavljevic, M. *et al.* (2002) *Genomics* **79**:114.
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