

**DESCRIPTION**

<b>Source</b>	Mouse myeloma cell line, NS0-derived rat NKp30/NCR3 protein		
	Rat NKp30 (Val22-Ser150) Accession # NP_861543.2	IEGRMDP	Mouse IgG <sub>2a</sub> (Glu98-Lys330)
	N-terminus		C-terminus
<b>N-terminal Sequence Analysis</b>	Val22		
<b>Structure / Form</b>	Disulfide-linked homodimer		
<b>Predicted Molecular Mass</b>	41 kDa		

**SPECIFICATIONS**

<b>SDS-PAGE</b>	42-64 kDa, reducing conditions
<b>Activity</b>	Measured by its binding ability in a functional ELISA. When Recombinant Rat NKp30/NCR3 Fc Chimera is immobilized at 5 µg/mL (100 µL/well), the concentration of Biotinylated Recombinant Human B7-H6 Fc Chimera (Catalog # <a href="#">BT7144</a> ) that produces 50% of the optimal binding response is 1-6 µg/mL.
<b>Endotoxin Level</b>	<0.10 EU per 1 µg of the protein by the LAL method.
<b>Purity</b>	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in MES and NaCl. See Certificate of Analysis for details.

**PREPARATION AND STORAGE**

<b>Reconstitution</b>	Reconstitute at 200 µg/mL in 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>	<p><b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b></p> <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>• 3 months, ≤ -20 °C under sterile conditions after reconstitution.</li> </ul>

**BACKGROUND**

Natural killer cell p30-related protein (NKp30), also known as Natural cytotoxicity triggering receptor 3 (NCR3), is a type I transmembrane glycoprotein consisting of an extracellular domain (ECD) containing a single V-like immunoglobulin domain, a transmembrane domain containing a positively-charged amino acid (aa) residue, and a short cytoplasmic tail (1). NKp30, along with NKp44/NCR2 and NKp46/NCR1, is a member of Natural Cytotoxicity Receptor (NCR) group of proteins, which play a major role in triggering NK-mediated lysis of tumor cells (2). Although a pseudogene in mice, the ECD of mature rat NKp30 shares 68% aa identity with human NKp30. In rats, NKp30 is expressed on a subset of NK cells present in blood, spleen, and, to a lesser extent, liver. These tissues also express different percentages and levels of NKp30, which is a departure from the other NK activation receptors which are expressed constitutively (3). A physical association with the ITAM-bearing accessory protein, CD3 zeta, occurs via a charged residue in the NKp30 transmembrane domain. Ligation of NKp30 with a specific antibody results in phosphorylation of CD3 zeta (4). Studies with neutralizing antibodies reveal that NKp30 is partially responsible for triggering lytic activity against several tumor cell types and that it is the main receptor responsible for NK-mediated lysis of immature dendritic cells (1, 5). NKp30 has been found to bind to the human protein B7-H6 (6). B7-H6 binding activates the NKp30 pathway leading to cytokine release and cytotoxic function against target cells. B7-H6 is more highly expressed on tumors than on healthy tissue, and thus functions in antitumor immunosurveillance (7). Our data shows that rat NKp30 binds to human B7-H6.

**References:**

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3. Hsieh, C. *et al.* (2006) *Eur. J. Immunol.* **36**:2170.
4. Augugliaro, R. *et al.* (2003) *Eur. J. Immunol.* **33**:1235.
5. Ferlazzo, G. *et al.* (2002) *J. Exp. Med.* **195**:343.
6. Brandt, C. *et al.* (2009) *J. Exp. Med.* **206**:1495.
7. Textor, S. *et al.* (2016) *Oncoimmunology.* **5**:e1116674.