

**DESCRIPTION**

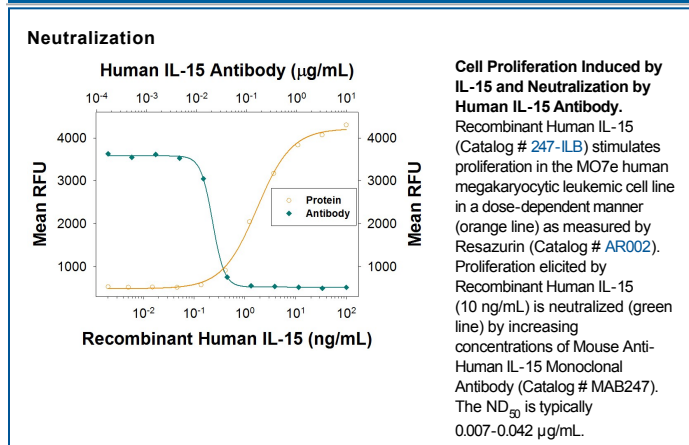
<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human IL-15 in Western blots. In Western blots, no cross-reactivity with recombinant human IL-2 is observed.
<b>Source</b>	Monoclonal Mouse IgG <sub>1</sub> Clone # 34593
<b>Purification</b>	Protein A or G purified from ascites
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant human IL-15 Asn49-Ser162 Accession # P40933
<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. *Small pack size (-SP) is supplied 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
<b>Western Blot</b>	1 µg/mL	Recombinant Human IL-15 (Catalog # 247-ILB)
<b>Neutralization</b>		Measured by its ability to neutralize IL-15-induced proliferation in the MO7e human megakaryocytic leukemic cell line. Avanzi, G. <i>et al.</i> (1988) Br. J. Haematol. <b>69</b> :359. The Neutralization Dose (ND <sub>50</sub> ) is typically 0.007-0.042 µg/mL in the presence of 10 ng/mL Recombinant Human IL-15.

**DATA**



**PREPARATION AND STORAGE**

<b>Reconstitution</b>	Reconstitute at 0.5 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. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
<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**

Interleukin 15 (IL-15) is a widely expressed 14 kDa cytokine that is structurally and functionally related to IL-2 (1-3). Mature human IL-15 shares 70% amino acid sequence identity with mouse and rat IL-15. Alternate splicing generates isoforms of IL-15 with either a long or short signal peptide (LSP or SSP), and the SSP isoform is retained intracellularly (4). IL-15 binds with high affinity to IL-15 R $\alpha$  (5). It binds with lower affinity to a complex of IL-2 R $\beta$  and the common gamma chain ( $\gamma$ c) which are also subunits of the IL-2 receptor complex (1, 6). IL-15 associates with IL-15 R $\alpha$  in the endoplasmic reticulum, and this complex is expressed on the cell surface (7, 8). The dominant mechanism of IL-15 action is known as transpresentation in which IL-15 and IL-15 R $\alpha$  are coordinately expressed on the surface of one cell and interact with complexes of IL-2 R $\beta$ / $\gamma$ c on adjacent cells (9). This enables cells to respond to IL-15 even if they do not express IL-15 R $\alpha$  (8, 10). Soluble IL-15-binding forms of IL-15 R $\alpha$  can be generated by proteolytic shedding or alternate splicing (11-13). These molecules retain the ability to bind tightly to IL-15 and can either inhibit or augment IL-15 function (5, 12, 13). Consistent with its shared use of IL-2 receptor subunits, IL-15 induces IL-2-like effects in lymphocyte development and homeostasis (3). It is particularly important for the maintenance and activation of NK cells and CD8<sup>+</sup> memory T cells (3). IL-15 also exerts pleiotropic effects on other hematopoietic cells and non-immune cells (2). Ligation of membrane-associated IL-15/IL-15 R $\alpha$  complexes induces reverse signaling that promotes cellular adhesion, tyrosine phosphorylation of intracellular proteins, and cytokine secretion by the IL-15/IL-15 R $\alpha$  expressing cells (14, 15).

**References:**

1. Grabstein, K. *et al.* (1994) *Science* **264**:965.
2. Budagian, V. *et al.* (2006) *Cytokine Growth Factor Rev.* **17**:259.
3. Ma, A. *et al.* (2006) *Annu. Rev. Immunol.* **24**:657.
4. Tagaya, Y. *et al.* (1997) *Proc. Natl. Acad. Sci. USA* **94**:14444.
5. Giri, J.G. *et al.* (1995) *EMBO* **14**:3654.
6. Giri, J. *et al.* (1994) *EMBO J.* **13**:2822.
7. Duitman, E.H. *et al.* (2008) *Mol. Cell. Biol.* **28**:4851.
8. Dubois, S. *et al.* (2002) *Immunity* **17**:537.
9. Stonier, S.W. and K.S. Schluns (2010) *Immunol. Lett.* **127**:85.
10. Burkett, P.R. *et al.* (2004) *J. Exp. Med.* **200**:825.
11. Budagian, V. *et al.* (2004) *J. Biol. Chem.* **279**:40368.
12. Mortier, E. *et al.* (2004) *J. Immunol.* **173**:1681.
13. Bulanova, E. *et al.* (2007) *J. Biol. Chem.* **282**:13167.
14. Budagian, V. *et al.* (2004) *J. Biol. Chem.* **279**:42192.
15. Neely, G.G. *et al.* (2004) *J. Immunol.* **172**:4225.