

#### DESCRIPTION

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human IL-15 R $\alpha$ in direct ELISAs and Western blots. In direct ELISAs, no cross-reactivity with recombinant human (rh) IL-2 R $\alpha$ , rhIL-2 R $\beta$ , rhIL-2 R $\gamma$ , or rmlL-15 R $\alpha$ is observed.
<b>Source</b>	Monoclonal Mouse IgG <sub>2B</sub> Clone # 151303
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	<i>S. frugiperda</i> insect ovarian cell line Sf 21-derived recombinant human IL-15 R $\alpha$ Ile31-Thr172 Accession # EAW86418
<b>Conjugate</b>	Alexa Fluor 405 Excitation Wavelength: 405 nm Emission Wavelength: 421 nm
<b>Formulation</b>	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
<b>Flow Cytometry</b>	0.25-1 $\mu$ g/10 <sup>6</sup> cells	Human peripheral blood mononuclear cells treated with PHA

#### PREPARATION AND STORAGE

<b>Shipping</b>	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	<b>Protect from light. Do not freeze.</b> ● 12 months from date of receipt, 2 to 8 °C as supplied.

#### BACKGROUND

Interleukin 15 receptor alpha (IL-15 R $\alpha$ ) is a high affinity receptor that specifically binds IL-15 with high affinity and associates as a heterotrimer with the IL-2 receptors beta and gamma subunits to initiate signal transduction. IL-15 R $\alpha$  is expressed on a wide variety of T cells and B cells as well as non-lymphoid cells. IL-15 R $\alpha$  is a 58-60 kDa protein that shares structural similarities to the IL-2 R $\alpha$  protein. IL-15 R $\alpha$  and IL-2 R $\alpha$  genes also share similar intron-exon organization and are closely linked on human chromosome 10p14-p15. Human IL-15 R $\alpha$  shares 45% amino acid (aa) homology with the mouse form of the receptor. Eight isoforms of IL-15 R $\alpha$  mRNA have been identified resulting from alternative splicing events involving different exons. The exclusion of exon 2 results in an IL-15 R $\alpha$  isoform that does not bind IL-15. Human IL-15 R $\alpha$  DE3 cDNA encodes a 267 aa protein that contains a 30 aa signal sequence, a 175 aa extracellular region containing one N-linked glycosylation site, a 21 aa transmembrane domain and a 41 aa cytoplasmic tail. Signaling of IL-15 can occur in one of three ways; through the heterotrimeric complex of IL-15 R $\alpha$ , IL-2 R $\beta$ , and IL-2 R $\gamma$ , through the heterodimeric complex of IL-2 receptors beta and gamma common, through a novel 60-65 kDa IL-15 RX subunit found on mast cells. The binding of IL-15 to IL-15 R $\alpha$  has been reported to antagonize the TNF- $\alpha$ -mediated apoptosis in fibroblasts by competing with TNF RI for TRAF2 binding.

#### References:

1. Anderson, D.M. *et al.* (1995) J. Biol. Chem. **270**:29862.
2. Bulfone-Paus, S. *et al.* (1999) FASEB **13**:1575.
3. Waldemann, T.A. and Y. Tagaya (1999) Ann. Rev. Immunol. **17**:19.
4. Dubois, S. *et al.* (1999) J. Biol. Chem. **274**:26978.

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