

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human IL-15 R α in direct ELISAs and Western blots. In direct ELISAs, less than 10% cross-reactivity with recombinant human IL-2 R γ is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	<i>S. frugiperda</i> insect ovarian cell line Sf21-derived recombinant human IL-15 R α Ile31-Thr172 Accession # EAW86418
Endotoxin Level	<0.10 EU per 1 μ g of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 μ m 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 μ m filtered solution in PBS.

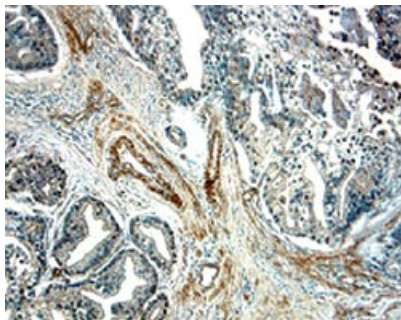
APPLICATIONS

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
Western Blot	0.1 μ g/mL	Recombinant Human IL-15 R α Fc Chimera (Catalog # 147-IR)
Flow Cytometry	2.5 μ g/10 ⁶ cells	Human peripheral blood mononuclear cells treated with PHA
Immunohistochemistry	5-15 μ g/mL	See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	
Neutralization	Measured by its ability to neutralize IL-15 R α -mediated inhibition of proliferation in the CTLL-2 mouse cytotoxic T cell line. The Neutralization Dose (ND ₅₀) is typically 1-4 μ g/mL in the presence of 30 ng/mL Recombinant Human IL-15 R α Fc Chimera and 2 ng/mL Recombinant Human IL-15.	

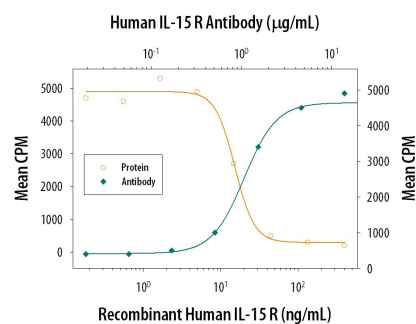
DATA

Immunohistochemistry



IL-15 R α in Human Prostate Cancer Tissue. IL-15 R α was detected in immersion fixed paraffin-embedded sections of human prostate cancer tissue using 15 μ g/mL Goat Anti-Human IL-15 R α Antigen Affinity-purified Polyclonal Antibody (Catalog # AF247) overnight at 4 °C. Tissue was stained with the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.

Neutralization



IL-15 R α Inhibition of IL-15-dependent Cell Proliferation and Neutralization by Human IL-15 R α Antibody. Recombinant Human IL-15 R α Fc Chimera (Catalog # 147-IR) inhibits Recombinant Human IL-15 (Catalog # 247-IL) induced proliferation in the CTLL-2 mouse cytotoxic T cell line in a dose-dependent manner (orange line). Inhibition of Recombinant Human IL-15 (2 ng/mL) activity elicited by Recombinant Human IL-15 R α Fc Chimera (30 ng/mL) is neutralized (green line) by increasing concentrations of Goat Anti-Human IL-15 R α Antigen Affinity-purified Polyclonal Antibody (Catalog # AF247). The ND₅₀ is typically 1-4 μ g/mL.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 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

Interleukin 15 receptor alpha (IL-15 R α) 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 α is expressed on a wide variety of T cells and B cells as well as non-lymphoid cells. IL-15 R α is a 58-60 kDa protein that shares structural similarities to the IL-2 R α protein. IL-15 R α and IL-2 R α genes also share similar intron-exon organization and are closely linked on human chromosome 10p14-p15. Human IL-15 R α shares 45% amino acid (aa) homology with the mouse form of the receptor. Eight isoforms of IL-15 R α mRNA have been identified resulting from alternative splicing events involving different exons. The exclusion of exon 2 results in an IL-15 R α isoform that does not bind IL-15. Human IL-15 R α DE3 cDNA encodes a 267 amino acid (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 α , IL-2 R β , and IL-2 R γ_c , 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 α has been reported to antagonize the TNF- α -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.