

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse IL-15 in ELISAs and Western blots. Does not cross-react with recombinant mouse (rm) IL-2, rhIL-15, or rmlL-21.
Source	Monoclonal Rat IgG _{2A} Clone # 201136
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	<i>E. coli</i> -derived recombinant mouse IL-15 Asn49-Ser162 Accession # P48346
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose.

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	1 µg/mL	Recombinant Mouse IL-15 (Catalog # 447-ML)
Mouse IL-15 Sandwich Immunoassay		Reagent
ELISA Capture	2-8 µg/mL	Mouse IL-15 Antibody (Catalog # MAB447)
ELISA Detection	0.1-0.4 µg/mL	Mouse IL-15 Biotinylated Antibody (Catalog # BAF447)
Standard		Recombinant Mouse IL-15 (Catalog # 447-ML)

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
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 (IL-15) is a widely expressed 14 kDa cytokine that is structurally and functionally related to IL-2 (1 - 3). Mature mouse IL-15 shares 70% and 96% amino acid sequence identity with human and rat IL-15, respectively. 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 α (5). It binds with lower affinity to a complex of IL-2 R β and the common gamma chain (γ c) which are also subunits of the IL-2 receptor complex (1, 6). IL-15 associates with IL-15 R α 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 α are coordinately expressed on the surface of one cell and interact with complexes of IL-2 R β / γ c on adjacent cells (9). This enables cells to respond to IL-15 even if they do not express IL-15 R α (8, 10). Soluble IL-15-binding forms of IL-15 R α 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+ 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 α complexes induces reverse signaling that promotes cellular adhesion, tyrosine phosphorylation of intracellular proteins, and cytokine secretion by the IL-15/IL-15 R α expressing cells (14, 15).

References:

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