Mouse IL-15 Rα PerCP-conjugated Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: FAB551C
100 TESTS

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse IL-15 Rα in direct ELISAs and Western blots. In direct ELISAs, approximately 5% cross-reactivity with recombinant human (rh) IL-15 Rα is observed and less than 1% cross-reactivity with rhIL-2 Rα, recombinant mouse (rm) IL-2 Rβ, and rmIL-2 Rγ is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse IL-15 Rα Gly33-Lys205 Accession # Q60819
Conjugate	PerCP (Peridinin-chlorophyll Protein Complex) Excitation Wavelength: 482 and 564 nm Emission Wavelength: 675 nm
Formulation	Supplied 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.

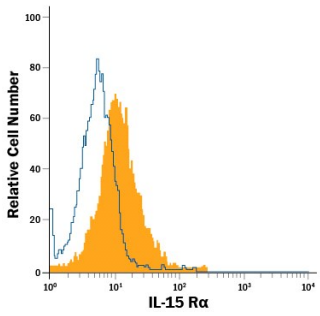
APPLICATIONS

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
Flow Cytometry	10 µL/10^6 cells	See Below

DATA

Flow Cytometry



Detection of IL-15 Rα in EL-4 Mouse Cell Line by Flow Cytometry. EL-4 mouse lymphoblast cell line was stained with Goat Anti-Mouse IL-15 Rα PerCP-conjugated Antigen Affinity-purified Polyclonal Antibody (Catalog # FAB551C, filled histogram) or isotype control antibody (Catalog # IC108C, open histogram). View our protocol for Staining Membrane-associated Proteins.

PREPARATION AND STORAGE

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

BACKGROUND

IL-15R alpha (also known as CD215) is a unique, 52-55 kDa Sushi domain-containing protein that is produced by a wide variety of cell types. Mouse IL-15 Rα is a type I transmembrane glycoprotein that contains a 173 amino acid (aa) extracellular region (aa 33-205) coupled to a short 37 aa cytoplasmic tail. It is found on a wide variety of cells, including hepatocytes, keratinocytes, B cells, T cells, intestinal columnar epithelium, macrophages, dendritic cells and select fibroblasts. IL-15 Rα binds soluble, 15-19 kDa monomeric IL-15 with high affinity, and effectively and serves as a heterodimeric partner for the cytokine. Most (if not all) effects attributable to IL-15 are mediated by the heterodimeric IL-15:IL-15 Rα complex that binds to two signaling subunits, the 72-76 kDa IL-2Rβ subunit, and the 64-65 kDa common gamma chain (γc). The latter two subunits have a restricted expression pattern and generally relate to hematopoietic cells. The IL-15:IL-15 Rα complex exists in two forms. The first form finds IL-15 bound to transmembrane IL-15 Rα, while the second form finds IL-15 bound to soluble IL-15 Rα, a product of proteolytic cleavage. This soluble complex may exist as a 140-160 kDa heteromultimer. Functionally, the transmembrane IL-15:IL-15 Rα complex appears to be the most important. Typically, IL-15 binds transmembrane IL-15 Rα in the ER, and this complex is then presented on the cell surface where it acts in-trans on adjacent IL-2Rβ:γc expressing cells. Alternatively, the IL-15:IL-15 Rα complex may also act in-cis, particularly on hematopoietic (or T) cells. In mouse, in-trans presentation is considered crucial to IL-15 activity, while the human system appears to utilize both in-trans and in-cis mechanisms. The function of the soluble complex is unclear; on the one hand, its creation via proteolytic cleavage is suggested to act as a neutralizer of IL-15 activity, while on the other hand, it is proposed to serve as a cytokine "hormone" that activates NK and $CD8^+$ T cells at distant sites. Mouse IL-15 Rα has at least five isoform variants, two of which are incapable of binding IL-15. The first isoform shows a Met substitution for aa 1-206. The second isoform utilizes an alternative start site at Met141, precluding the existence of an IL-15 Sushi binding domain over aa 34-98. The remaining three isoforms contain the ligand binding Sushi domain, but exhibit deletions of aa 129-161, aa 129-194, and aa 98-195. On balance, the IL-15:IL-15 Rα system is considered crucial for generating and maintaining central and effector memory $CD8^+$ T cells, NK cells and NKT cells. Over aa 33-205, mouse IL-15 Rα shares 89% and 59% aa sequence identity with rat and human IL-15 Rα, respectively.

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