

DESCRIPTION

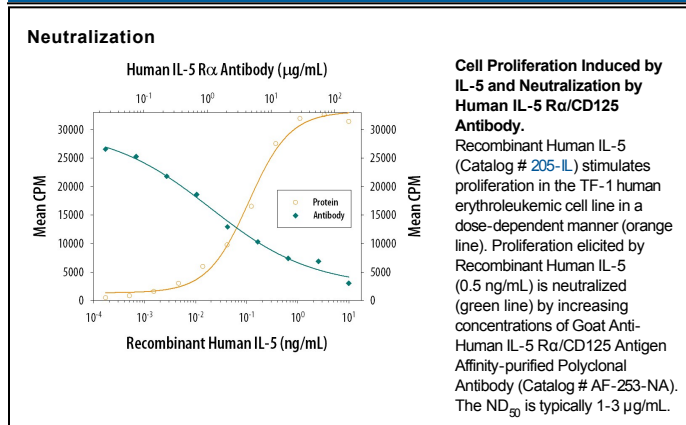
Species Reactivity	Human
Specificity	Detects human IL-5 R α in direct ELISAs and Western blots. In direct ELISAs and Western blots, less than 5% cross-reactivity with recombinant human (rh) IL-1 RII, rhIL-2 R β , rhIL-2 R γ , rhIL-3 R is observed and less than 1% cross-reactivity with rhIL-1 RI, rhIL-4 R, rhIL-6 R, rhIL-7 R, rhIL-9 R, and rhIL-10 R is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	<i>S. frugiperda</i> insect ovarian cell line Sf 21-derived recombinant human IL-5 R α /CD125
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 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-5 R α /CD125 (Catalog # 253-5R)
Flow Cytometry	2.5 μ g/10 ⁶ cells	Human blood-derived granulocytes
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-5-induced proliferation in the TF-1 human erythroleukemic cell line. Kitamura, T. <i>et al.</i> (1989) <i>J. Cell Physiol.</i> 140 :323. The Neutralization Dose (ND ₅₀) is typically 1-3 μ g/mL in the presence of 0.5 ng/mL Recombinant Human IL-5.	

DATA



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 5, produced primarily by activated T cells and mast cells, has diverse biological effects on a variety of cell types. Human IL-5 is a potent eosinophil differentiation and activation factor *in vivo* and *in vitro*. Additionally, it has also been reported that IL-5 can stimulate the proliferation and/or differentiation of basophils and B cells. The multiple effects of IL-5 are mediated by binding of the cytokine to specific cell surface receptors expressed on target cells. As is the case with many other cytokines, the functional high-affinity receptor for IL-5 is a complex consisting of a ligand binding subunit (α chain) and a second subunit (β chain) that can modulate the ligand binding affinity of the receptor complex. In the case of IL-5, the β subunit is shared with the high affinity receptor complexes for IL-3 and GM-CSF. The β chain does not bind any of the cytokines in question but is indispensable for the cytokine-mediated signaling.

cDNA clones for the α chain (IL-5 R α) of both the mouse and human high affinity IL-5 receptor complexes have been isolated. Human and mouse IL-5 R α are both members of the hematopoietin receptor superfamily characterized by the presence of the WSXWS, and a four cysteine residue motif in the extracellular domain of the transmembrane protein. In addition to the cDNA clone encoding the full-length transmembrane protein, cDNA clones that arise from alternative splicing and that encode soluble secreted forms of IL-5 R α have been isolated from mouse as well as human cells. A naturally-occurring soluble form of the IL-5 R α has been detected in biological fluids of autoimmune-prone mice and mice bearing chronic B cell leukemia (BCL₁).

A recombinant human IL-5 soluble receptor α has been shown to bind the human IL-5 dimer in a 1:1 ratio and acts as a human IL-5 antagonist. This molecule inhibits the proliferation of IL-5-dependent cell lines and blocks human umbilical cord blood eosinophil differentiation.