Human IL-5 Rα/CD125 Antibody

Antigen Affinity-purified Polyclonal Goat IgG

Catalog Number: AF-253-NA

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human IL-5 Rα 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 Rβ, rhIL-2 Rγ, 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	*S. frugiperda* insect ovarian cell line *Sf* 21-derived recombinant human IL-5 Rα/CD125
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

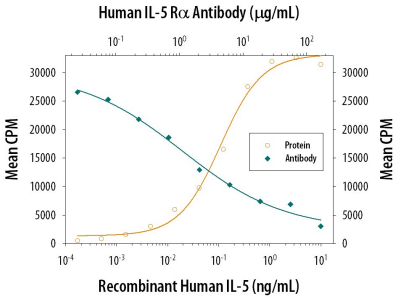
APPLICATIONS

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 µg/mL	Recombinant Human IL-5 Rα/CD125 (Catalog # 253-5R)
Flow Cytometry	2.5 µg/10^6 cells	Human blood-derived granulocytes
Neutralization	Measured by its ability to neutralize IL-5-induced proliferation in the TF-1 human erythroleukemic cell line. Kitamura, T. *et al.* (1989) J. Cell Physiol. **140**:323. The Neutralization Dose (ND_{50}) is typically 1-3 µg/mL in the presence of 0.5 ng/mL Recombinant Human IL-5.	

DATA

Neutralization



Cell Proliferation Induced by IL-5 and Neutralization by Human IL-5 Rα/CD125 Antibody. Recombinant Human IL-5 (Catalog # 205-IL) stimulates proliferation in the TF-1 human erythroleukemic cell line in a dose-dependent manner (orange line). Proliferation elicited by Recombinant Human IL-5 (0.5 ng/mL) is neutralized (green line) by increasing concentrations of Goat Anti-Human IL-5 Rα/CD125 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF-253-NA). The ND_{50} is typically 1-3 µg/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.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 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 Rα) of both the mouse and human high affinity IL-5 receptor complexes have been isolated. Human and mouse IL-5 Rα 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 Rα have been isolated from mouse as well as human cells. A naturally-occurring soluble form of the IL-5 Rα has been detected in biological fluids of autoimmune-prone mice and mice bearing chronic B cell leukemia (BCL_1).

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.