

## DESCRIPTION

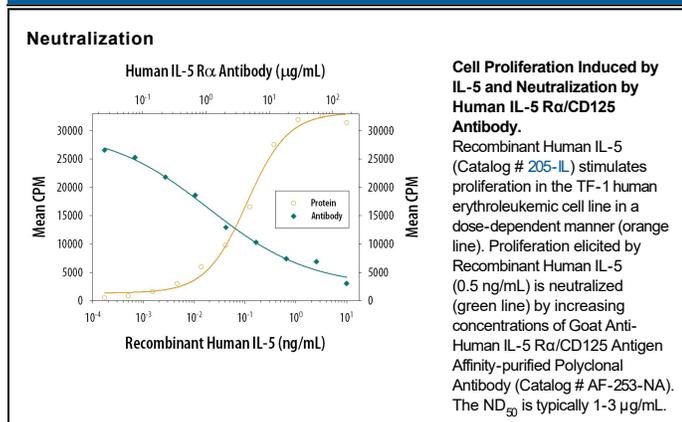
<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human IL-5 R $\alpha$ in direct ELISAs and Western blots. In direct ELISAs and Western blots, less than 5% cross-reactivity with recombinant human (rh) IL-1 RII, rhIL-2 R $\beta$ , rhIL-2 R $\gamma$ , rhIL-3 R is observed and less than 1% cross-reactivity with rhIL-1 RI, rhIL-4 R, rhIL-6 R, rhIL-7 R, rhIL-9 R, and rhIL-10 R is observed.
<b>Source</b>	Polyclonal Goat IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	<i>S. frugiperda</i> insect ovarian cell line Sf 21-derived recombinant human IL-5 R $\alpha$ /CD125
<b>Endotoxin Level</b>	<0.10 EU per 1 $\mu$ g of the antibody by the LAL method.
<b>Formulation</b>	Lyophilized from a 0.2 $\mu$ 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 $\mu$ 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
<b>Western Blot</b>	0.1 $\mu$ g/mL	Recombinant Human IL-5 R $\alpha$ /CD125 (Catalog # 253-5R)
<b>Flow Cytometry</b>	2.5 $\mu$ g/10 <sup>6</sup> cells	Human blood-derived granulocytes
<b>CyTOF-ready</b>	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	
<b>Neutralization</b>	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> <b>140</b> :323. The Neutralization Dose (ND <sub>50</sub> ) is typically 1-3 $\mu$ g/mL in the presence of 0.5 ng/mL Recombinant Human IL-5.	

## DATA



## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.2 mg/mL in sterile PBS.
<b>Shipping</b>	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
<b>Stability &amp; Storage</b>	<p><b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b></p> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

## 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 ( $\alpha$  chain) and a second subunit ( $\beta$  chain) that can modulate the ligand binding affinity of the receptor complex. In the case of IL-5, the  $\beta$  subunit is shared with the high affinity receptor complexes for IL-3 and GM-CSF. The  $\beta$  chain does not bind any of the cytokines in question but is indispensable for the cytokine-mediated signaling.

cDNA clones for the  $\alpha$  chain (IL-5 R $\alpha$ ) of both the mouse and human high affinity IL-5 receptor complexes have been isolated. Human and mouse IL-5 R $\alpha$  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 $\alpha$  have been isolated from mouse as well as human cells. A naturally-occurring soluble form of the IL-5 R $\alpha$  has been detected in biological fluids of autoimmune-prone mice and mice bearing chronic B cell leukemia (BCL<sub>1</sub>).

A recombinant human IL-5 soluble receptor  $\alpha$  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.