

**DESCRIPTION**

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human IL-5 R $\alpha$ /CD125 in direct ELISAs.
<b>Source</b>	Monoclonal Mouse IgG <sub>1</sub> Clone # 1036601
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	<i>S. frugiperda</i> insect ovarian cell line Sf 21-derived recombinant human IL-5 R $\alpha$ /CD125 Asp21-Arg335 Accession # O08665
<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.

	<b>Recommended Concentration</b>	<b>Sample</b>
<b>Flow Cytometry</b>	0.25 $\mu$ g/10 <sup>6</sup> cells	HEK293 Human Cell Line Transfected with Human IL-5 R alpha/CD125 and eGFP
<b>Neutralization</b>	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 (ND50) is typically 0.05-0.5 $\mu$ g/mL in the presence of 0.5 ng/mL Recombinant Human IL-5.	

**DATA**

**Flow Cytometry**

**Detection of IL-5 R alpha/CD125 in HEK293 Human Cell Line Transfected with Human IL-5 R alpha/CD125 and eGFP by Flow Cytometry**  
HEK293 human embryonic kidney cell line transfected with (A) human IL-5 R alpha/CD125 or (B) irrelevant protein, and eGFP was stained with Mouse Anti-Human IL-5 R alpha/CD125 Monoclonal Antibody (Catalog # MAB2531) followed by Allophycocyanin-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # F0101B). Quadrant markers were set based on control antibody staining (Catalog # MAB002). Staining was performed using our Staining Membrane-associated Proteins protocol.

**Neutralization**

**Cell Proliferation Induced by IL-5 and Neutralization by Human IL-5 R alpha/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 Mouse Anti-Human IL-5 R $\alpha$ /CD125 Monoclonal Antibody (MAB2531). The ND50 is typically 0.05-0.5  $\mu$ g/mL.

**PREPARATION AND STORAGE**

<b>Reconstitution</b>	Reconstitute at 0.5 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>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <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.