

## DESCRIPTION

<b>Species Reactivity</b>	Mouse
<b>Specificity</b>	Detects mouse IL-5 R $\alpha$ /CD125 in direct ELISAs and Western blots. In direct ELISAs, approximately 10% cross-reactivity with recombinant human (rh) IL-5 R $\alpha$ is observed and less than 1% cross-reactivity with recombinant mouse (rm) IL-4 R, rhIL-9 R, rhIL-13 R $\alpha$ 1, and rhIL-13 R $\alpha$ 2 is observed.
<b>Source</b>	Polyclonal Goat IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant mouse IL-5 R $\alpha$ /CD125 Asp18-His339 Accession # P21183
<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 Mouse IL-5 R $\alpha$ /CD125 Fc Chimera (Catalog # 553-MR)

## 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>	<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 Receptor alpha (IL-5 R $\alpha$ ), also known as CD125, is a 60 kDa hematopoietin receptor that plays a dominant role in eosinophil biology (1-3). Mature mouse IL-5 R $\alpha$  consists of a 322 amino acid (aa) extracellular domain (ECD) with a WSxWS motif and a four cysteine motif, a 22 aa transmembrane segment, and a 54 aa cytoplasmic domain (4). Within the ECD, mouse IL-5 R $\alpha$  shares 71% and 86% aa sequence identity with human and rat IL-5 R $\alpha$ , respectively. Alternate splicing of mouse IL-5 R $\alpha$  generates soluble secreted forms which function as IL-5 antagonists (4, 5). The high affinity receptor for IL-5 is a complex that consists of the ligand binding IL-5 R $\alpha$  and the transmembrane common  $\beta$  chain ( $\beta$ c/CD131) which is shared with the receptor complexes for IL-3 and GM-CSF (6). IL-5 R $\alpha$  binds IL-5 at low affinity and then associates with preformed  $\beta$ c oligomers to form the signaling-competent receptor complex (7). IL-5 stimulation of CD34<sup>+</sup> hematopoietic progenitor cells induces the up-regulation of transmembrane IL-5 R $\alpha$  followed by eosinophilic differentiation and activation (8-10). IL-5 R $\alpha$  also promotes the differentiation of basophils and B cells (11, 12). Exposure of mature eosinophils to IL-5 attenuates their IL-5 responsiveness by inducing the down-regulation of surface IL-5 R $\alpha$  and increased production of soluble IL-5 R $\alpha$  (13, 14). Elevated production of IL-5 at sites of allergic inflammation induces eosinophilia and exacerbation of immune cell infiltration, tissue damage, and remodeling (2, 3).

### References:

1. Martinez-Moczygemba, M. and D.P. Huston (2003) J. Allergy Clin. Immunol. **112**:653.
2. Rothenberg, M.E. and S.P. Hogan (2005) Annu. Rev. Immunol. **24**:147.
3. Elsas, X.P. and M.I.G. Elsas (2007) Curr. Med. Chem. **14**:1925.
4. Takaki, S. *et al.* (1990) EMBO J. **9**:4367.
5. Cameron, L. *et al.* (2000) J. Immunol. **164**:1538.
6. Tavernier, J. *et al.* (1991) Cell **66**:1175.
7. Zaks-Zilberman, M. *et al.* (2008) J. Biol. Chem. **283**:13398.
8. Tavernier, J. *et al.* (2000) Blood **95**:1600.
9. Clutterbuck, E.J. *et al.* (1989) Blood **73**:1504.
10. Lopez, A.F. *et al.* (1988) J. Exp. Med. **167**:219.
11. Denburg, J.A. *et al.* (1991) Blood **77**:1462.
12. Hasbold, J. *et al.* (2004) Nat. Immunol. **5**:55.
13. Gregory, B. *et al.* (2003) J. Immunol. **170**:5359.
14. Liu, L.Y. *et al.* (2002) J. Immunol. **169**:6459.