

DESCRIPTION

| | | | |
|-------------------------------------|---|---------|------------|
| Source | Chinese Hamster Ovary cell line, CHO-derived human IL-5 R alpha/CD125 protein | | |
| | Human IL-5 R α (Asp21-Glu335) Accession # Q01344.2 | Avi-tag | 6-His tag |
| | N-terminus | | C-terminus |
| N-terminal Sequence Analysis | Asp21 | | |
| Structure / Form | Biotinylated via Avi-tag | | |
| Predicted Molecular Mass | 40 kDa | | |

SPECIFICATIONS

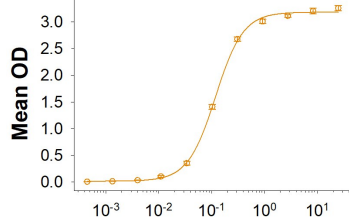
| | |
|------------------------|---|
| SDS-PAGE | 52-63 kDa, under reducing conditions. |
| Activity | Measured by its binding ability in a functional ELISA. Biotinylated Recombinant Human IL-5 R α /CD125 Avi-tag His-tag (Catalog # AV111394) binds to Recombinant Human IL-5 Protein (Catalog # 205-IL) with a ED ₅₀ of 0.030-0.300 μ g/mL. |
| Endotoxin Level | <0.10 EU per 1 μ g of the protein by the LAL method. |
| Purity | >95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining. |
| Formulation | Lyophilized from a 0.2 μ m filtered solution in PBS with Trehalose. See Certificate of Analysis for details. |

PREPARATION AND STORAGE

| | |
|--------------------------------|---|
| Reconstitution | Reconstitute at 250 μ g/mL in PBS. |
| Shipping | The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. |
| Stability & Storage | <p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <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. • 3 months, -20 to -70 °C under sterile conditions after reconstitution. |

DATA

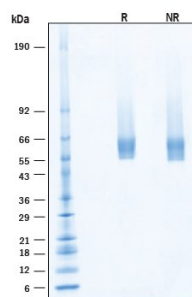
Binding Activity



Biotinylated Recombinant Human IL-5R α /CD125 Avi-tag (μ g/mL)

Biotinylated Recombinant Human IL-5 R α /CD125 Avi-tag His-tag Protein Binding Activity. Measured by its binding ability in a functional ELISA. Biotinylated Recombinant Human IL-5 R α /CD125 Avi-tag His-tag Protein (Catalog # AV111394) binds to Recombinant Human IL-5 Protein (Catalog # 205-IL) with a ED₅₀ of 0.030-0.300 μ g/mL.

SDS-PAGE



Biotinylated Recombinant Human IL-5 R α /CD125 Avi-tag His-tag Protein SDS-PAGE. 2 μ g/lane of Biotinylated Recombinant Human IL-5 R α /CD125 Avi-tag His-tag Protein (Catalog # AV111394) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 52-63 kDa, under reducing conditions.

BACKGROUND

Interleukin-5 Receptor alpha (IL-5 R α), also known as CD125, is a 60 kDa hematopoietin receptor that plays a dominant role in eosinophil biology (1-3). Mature human IL-5 R α consists of a 322 amino acid (aa) extracellular domain (ECD) with a WSxWS motif and a four cysteine motif, a 20 aa transmembrane segment, and a 58 aa cytoplasmic domain (4, 5). Within the ECD, human IL-5 R α shares 71% aa sequence identity with mouse and rat IL-5 R α . Alternate splicing of human IL-5 R α generates soluble secreted forms which function as IL-5 antagonists (5-7). The high affinity receptor for IL-5 is a complex that consists of the ligand binding IL-5 R α and the transmembrane common β chain (β c/CD131) which is shared with the receptor complexes for IL-3 and GM-CSF (4). IL-5 R α binds IL-5 at low affinity and then associates with preformed β c oligomers to form the signaling-competent receptor complex (8). IL-5 stimulation of CD34+ hematopoietic progenitor cells induces the up-regulation of transmembrane IL-5 R α followed by eosinophilic differentiation and activation (9-11). IL-5 R α also promotes the differentiation of basophils and B cells (12, 13). Exposure of mature eosinophils to IL-5 attenuates their IL-5 responsiveness by inducing the down-regulation of surface IL-5 R α and increased production of soluble IL-5 R α (14, 15). Elevated production of IL-5 at sites of allergic inflammation induces eosinophilia and exacerbation of immune cell infiltration, tissue damage, and remodeling (2, 3). Our Avi-tag Biotinylated human IL-5 R α Fc chimera features biotinylation at a single site contained within the Avi-tag, a unique 15 amino acid peptide. Protein orientation will be uniform when bound to streptavidin-coated surface due to the precise control of biotinylation and the rest of the protein is unchanged so there is no interference in the protein's bioactivity.

References:

1. Martinez-Moczygema, 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. Tavernier, J. *et al.* (1991) *Cell* **66**:1175.
5. Murata, Y. *et al.* (1992) *J. Exp. Med.* **175**:341.
6. Tavernier, J. *et al.* (1992) *Proc. Natl. Acad. Sci.* **89**:7041.
7. Cameron, L. *et al.* (2000) *J. Immunol.* **164**:1538.
8. Zaks-Zilberman, M. *et al.* (2008) *J. Biol. Chem.* **283**:13398.
9. Tavernier, J. *et al.* (2000) *Blood* **95**:1600.
10. Clutterbuck, E.J. *et al.* (1989) *Blood* **73**:1504.
11. Lopez, A.F. *et al.* (1988) *J. Exp. Med.* **167**:219.
12. Denburg, J.A. *et al.* (1991) *Blood* **77**:1462.
13. Hasbold, J. *et al.* (2004) *Nat. Immunol.* **5**:55.
14. Gregory, B. *et al.* (2003) *J. Immunol.* **170**:5359.
15. Liu, L.Y. *et al.* (2002) *J. Immunol.* **169**:6459.