

Recombinant Human IL-4R α -Fc Chimera (carrier-free)

Catalog# / Size	777002 / 10 μ g 777004 / 25 μ g 777006 / 100 μ g
Regulatory Status	RUO
Other Names	Interleukin-4 receptor subunit alpha, IL-4 receptor alpha chain, IL-4 receptor subunit alpha, IL-4R subunit alpha, IL-4R-alpha, CD124, CD124 antigen
Description	Human IL-4R α is a type I transmembrane glycoprotein that binds to IL-4 with high affinity. A soluble form of IL-4R α has been identified that possesses only the extracellular domain, which can sequester IL-4 and block its downstream biological functions. IL-4 binds to two heterodimeric IL-4 receptor complexes: IL-4R type I (composed of the IL-4R α and the common cytokine receptor γ c chains) and II (composed of IL-4R α and IL-13R α 1 chains) and plays a key role in Th2 cell differentiation. The IL-4R type II is shared with IL-13, and this interaction promotes airway inflammation and remodeling. In asthma pathogenesis, IL-4 and IL-13-mediated activation of IL-4R α signaling leads to downstream activation of STAT6, implicated in the exacerbation of allergic airway inflammation. IL-4 also enhances histamine release from peripheral blood basophils and mast cells <i>in vitro</i> and <i>in vivo</i> , and the sIL-4R inhibits histamine release.

Product Details

Source	Human IL-4R α , amino acids (Gly24- His232) (Accession # NP_001244335) was expressed in 293E cells. The carboxy terminus contains an SR-IEGRMD-hlgG1-Fc tag.
Molecular Mass	The 448 amino acid recombinant protein has a predicted molecular mass of approximately 50.7kD. The DTT-reduced and non-reduced protein migrate at approximately 70 kD and 140 kD respectively by SDS-PAGE. The predicted N-terminal amino acid is Ile.
Purity	> 95% by SDS-PAGE gel as determined by Coomassie stained SDS-PAGE.
Formulation	0.22 μ m filtered protein solution is in PBS pH 7.2.
Endotoxin Level	Less than 0.1 EU per μ g cytokine as determined by the LAL method.
Concentration	10 and 25 μ g sizes are bottled at 200 μ g/mL. 100 μ g and larger sizes are lot-specific and bottled at the concentration indicated on the vial. To obtain lot-specific concentration, please enter the lot number in our Concentration and Expiration Lookup or Certificate of Analysis online tools.
Storage & Handling	Unopened vial can be stored between 2°C and 8°C for up to 2 weeks, at -20°C for up to six months, or at -70°C or colder until the expiration date. For maximum results, quick spin vial prior to opening. The protein can be aliquoted and stored at -20°C or colder. Stock solutions can also be prepared at 50 - 100 μ g/mL in appropriate sterile buffer, carrier protein such as 0.2 - 1% BSA or HSA can be added when preparing the stock solution. Aliquots can be stored between 2°C and 8°C for up to one week and stored at -20°C or colder for up to 3 months. Avoid repeated freeze/thaw cycles.
Activity	Human IL-4R α inhibits the proliferation of TF-1 mouse cells induced by human IL-4 (BL Cat. No. 574002). The ED ₅₀ = 4 – 20 ng/mL.
Application	Bioassay
Application Notes	BioLegend carrier-free recombinant proteins provided in liquid format are shipped on blue ice. Our comparison testing data indicates that when handled and stored as recommended, the liquid format has equal or better stability and shelf-life compared to commercially available lyophilized proteins after reconstitution. Our liquid proteins are verified in-house to maintain activity after shipping on blue ice and are backed by our 100% satisfaction guarantee . If you have any concerns, contact us at tech@biolegend.com .

Antigen Details

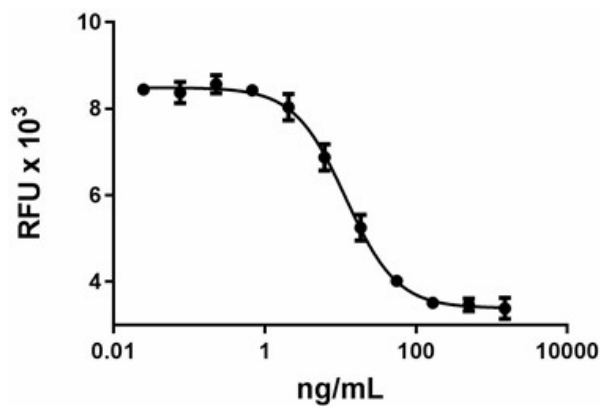
Structure	Soluble receptor
Distribution	T cells, B cells, mast cells, monocytes, macrophages, fibroblast, and endothelial cells
Function	Promotes Th2 differentiation, induction of Th2 associated cytokines, macrophage activation and TSLP production, regulation of IgE production, involved in asthma pathogenesis.
Ligand/Receptor	IL-4
Bioactivity	IL-4R α inhibits the proliferation of TF-1 cells induced by mouse IL-4.
Cell Type	B cells
Biology Area	Cell Biology, Immunology, Stem Cells
Molecular Family	CD Molecules, Cytokine/Chemokine Receptors, Soluble Receptors

Antigen References

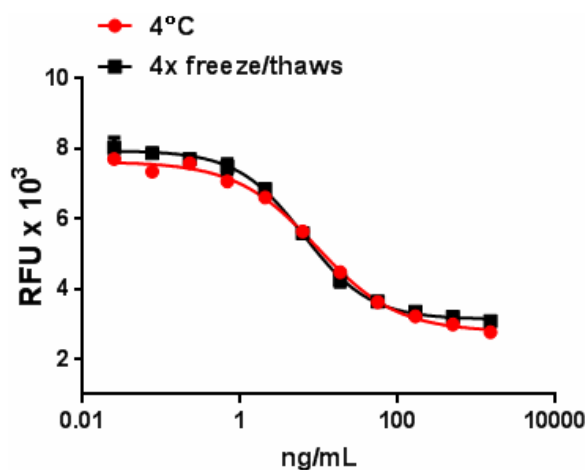
1. Galizzi JP, et al. 1990. *Int Immunol.* 2:669.
2. Gessner A, et al. 1994. *Infect Immun.* 62:4112.
3. Hoffman RC, et al. 1999. *Protein Science.* 4:382.
4. Tachdjian R, et al. 2010. *J Allergy Clin Immunol.* 125:1128.
5. Noval Rivas M, et al. 2015. *Immunity.* 42:512.
6. Gour N & Wills-Karp M. 2015. *Cytokines.* 75:68.
7. Massoud AH, et al. 2016. *Nat Med.* 22:1013.

Gene ID [3566](#)

Product Data



Recombinant mouse IL-4R α inhibits TF-1 cell proliferation induced by human recombinant IL-4. ED₅₀ for this effect is 4 - 20 ng/mL.



Stability testing for recombinant human IL-4R α -Fc Chimera.

Recombinant human IL-4R α was aliquoted in PBS, pH 7.2 at 0.2 mg/mL. One aliquot was kept at 4°C (control), and another was frozen and thawed four times (4x freeze/thaws). After this procedure, the samples were tested for their ability to inhibit TF-1 cell proliferation induced by recombinant human IL-4.

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