

IL-13RA1 Protein, Mouse, Recombinant (His)

General Information

Synonyms:	interleukin 13 receptor, α 1;CD213a1;IL13ra;IL-13r[a];AI882074;interleukin 13 receptor, alpha 1;NR4
Protein Construction:	A DNA sequence encoding the extracellular domain (Met 1-Thr 340) of mouse IL13R α 1 (NP_598751.3) precursor was fused with the a polyhistidine tag at the C-terminus. Predicted N terminal: Ala 26
Species:	Mouse
Expression Host:	HEK293 Cells
Accession:	O09030
Molecular Weight:	37.6 kDa (predicted); 50-55 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	1. Measured by its binding ability in a functional ELISA. 2. Immobilized mouse IL13RA1-His at 10 μ g/mL (100 μ L/well) can bind human Fc-IL13, the EC50 of human Fc-IL13 is 0.5-1.5 μ g/mL.
Purity:	> 98 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/ μ g of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μ m filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:
Reconstituted with sterile deionized water to 0.71 mg/mL. Reconstitution conditions may vary depending on the lot.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Interleukin 13 receptor, alpha 1, also known as IL13RA1/IL-13RA1 and CD213A1 (cluster of differentiation 213A1), is a subunit of the interleukin 13 receptor. This subunit forms a receptor complex with IL4 receptor alpha, a subunit

shared by IL13 and IL4 receptors. IL13RA1/IL-13RA1 serves as a primary IL13-binding subunit of the IL13 receptor, and may also be a component of IL4 receptors. This protein has been shown to bind tyrosine kinase TYK2 and thus may mediate the signaling processes that lead to the activation of JAK1, STAT3, and STAT6 induced by IL13 and IL4. IL13RA1/IL-13RA1 binds with low affinity to interleukin-13 (IL13). This subunit together with IL4RA can form a functional receptor for IL13. IL13RA1/IL-13RA1 also serves as an alternate accessory protein to the common cytokine receptor gamma chain for interleukin-4 (IL4) signaling, but cannot replace the function of IL2RG in allowing enhanced interleukin-2 (IL2) binding activity.

Reference

Kawakami M, et al. (2002) Mutation and functional analysis of IL-13 receptors in human malignant glioma cells. *Oncol Res.* 12 (11-12): 459-67.

Umeshita-Suyama R, et al. (2000) Characterization of IL-4 and IL-13 signals dependent on the human IL-13 receptor alpha chain 1: redundancy of requirement of tyrosine residue for STAT3 activation. *Int Immunol.* 12 (11): 1499-509.

He JQ, et al. (2003) Polymorphisms in the IL13, IL13RA1, and IL4RA genes and rate of decline in lung function in smokers. *Am J Respir. Cell Mol Biol.* 28 (3): 379-85.

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