

DESCRIPTION

Source Human embryonic kidney cell, HEK293-derived human IL-13 R alpha 1 protein
Ala27-Thr343, with a C-terminal 6-His tag
Accession # P78552.1

N-terminal Sequence Analysis Ala27

Predicted Molecular Mass 37 kDa

SPECIFICATIONS

SDS-PAGE 58-64 kDa, under reducing conditions.

Activity Measured by its binding ability in a functional ELISA.
Recombinant Human IL-13 R α 1 His-tag (Catalog # 11424-IR) binds Recombinant Human IL-13 (Catalog # 213-ILB/CF) with an ED₅₀ of 37.5-450 ng/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 500 μ g/mL in PBS.

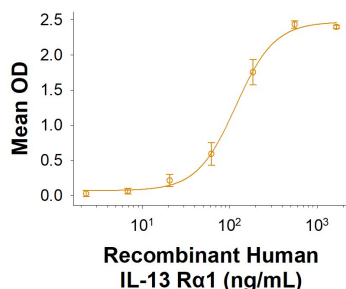
Shipping The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

Stability & Storage Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 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.

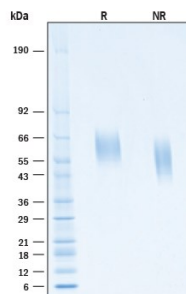
DATA

Binding Activity



Recombinant Human IL-13 R α 1 His-tag Protein Binding Activity. Recombinant Human IL-13 R α 1 His-tag Protein (Catalog # 11424-IR) binds Recombinant Human IL-13 (Catalog # 213-ILB/CF) with an ED₅₀ of 37.5-450 ng/mL.

SDS-PAGE



Recombinant Human IL-13 R α 1 His-tag Protein SDS-PAGE. 2 μ g/lane of Recombinant Human IL-13 R α 1 His-tag Protein (Catalog # 11424-IR) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 58-64 kDa, under reducing conditions.

BACKGROUND

IL-13 RA1, also known as IL-13R and IL-13 RA, is a type I transmembrane protein. Its cDNA encodes a 427 aa precursor protein, with 322 aa extracellular domain, 24 aa transmembrane domain and 60 aa intracellular domain. Within the extracellular domain, human IL-13 RA1 shares 75% and 74% homology with mouse and rat IL-13 RA1, respectively. IL-13 RA1 expresses ubiquitously in all tissues with the highest level in heart, liver, skeletal muscle and ovary (1). As a receptor, IL-13 RA1 can function alone or as a heterodimer with IL-4R. Although both IL-4 and IL-13 signal through IL-4R/IL-13 RA1 heterodimer, there are distinct differences. IL-4 binds IL-4R with high affinity then binds IL-13 RA1 with low affinity. In contrast, IL-13 binds IL-13 RA1 with decent affinity, then binds IL-4R with high affinity (2). In addition, the N-terminal Fibronectin type III domain (D1) of IL-13 RA1 is only required for the binding of IL-13 not IL-4 (3,4). After binding to IL-4 or IL-13, the Tyr residues in the cytoplasmic domain of IL-13 RA get phosphorylated and then activate signaling proteins including Jak1, Tyk1, Tyk2, IRS-1, and STAT6 (5, 6). Alternative splicing generates soluble iL-13 RA1 missing the transmembrane domain (7). It not only functions as a decoy receptor for IL-13, but also is able to reduce fasting blood glucose, mediated by IL-4 (8). Higher expression of IL-13 RA1 are found in several cancers, often associated with poor prognosis in patients (9-11).

References:

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