

DESCRIPTION

Source	Human embryonic kidney cell, HEK293-derived human IL-4R alpha protein		
	Human IL-4R (Gly24-His232) Accession # P24394.1	6-His tag	Avi-tag
	N-terminus		C-terminus
N-terminal Sequence Analysis	Gly24		
Structure / Form	Biotinylated via Avi-tag		
Predicted Molecular Mass	26 kDa		

SPECIFICATIONS

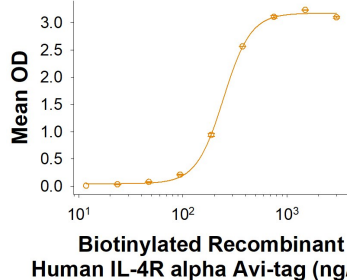
SDS-PAGE	39-52 kDa, under reducing conditions.
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Human IL-4 (Catalog # 204-IL/CF) is immobilized at 1 µg/mL (100 µL/well), Biotinylated Recombinant Human IL-4R alpha His-tag Avi-tag (Catalog # AV111165) binds with an ED ₅₀ of 70.0-560 ng/mL.
Endotoxin Level	<0.10 EU per 1 µg 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 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 250 µg/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.

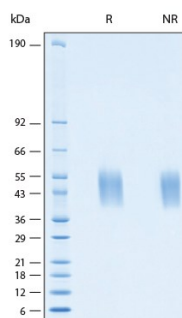
DATA

Binding Activity



Biotinylated Recombinant Human IL-4R alpha His-tag Avi-tag Protein Binding Activity. When Recombinant Human IL-4 (Catalog # 204-IL/CF) is immobilized at 1 µg/mL (100 µL/well), Biotinylated Recombinant Human IL-4R alpha His-tag Avi-tag Protein (Catalog # AV111165) binds with an ED₅₀ of 70.0-560 ng/mL.

SDS-PAGE



Recombinant Human IL-4R alpha His-tag Avi-tag Protein SDS-PAGE. 2 µg/lane of Recombinant Human IL-4R alpha His-tag Avi-tag Protein (Catalog # AV111165) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 39-52 kDa.

BACKGROUND

Interleukin 4 Receptor alpha (IL-4 Ra), also known as CD124 and BSF receptor, is a widely expressed 140 kDa transmembrane glycoprotein in the class I cytokine receptor family. IL-4 Ra plays an important role in Th2-biased immune responses, alternative macrophage activation, mucosal immunity, allergic inflammation, tumor progression, and atherogenesis (1-5). Mature human IL-4 Ra consists of a 207 amino acid (aa) extracellular domain (ECD) that contains a cytokine binding region and one fibronectin type III domain, a 24 aa transmembrane segment, and a 569 aa cytoplasmic domain that contains one Box 1 motif and one ITIM motif (6, 7). Within the ECD, human IL-4 Ra shares 51% aa sequence identity with mouse and rat IL-4 Ra. Soluble forms of IL-4 Ra, generated by alternate splicing or proteolysis, retain ligand binding properties and inhibit IL-4 bioactivity (8-11). IL-4 Ra is a component of two distinct receptor complexes and shows species selectivity between human and mouse (6). It can associate with the common gamma chain (γ c) to form the IL-4 responsive type I receptor in which γ c increases the affinity for IL-4 and enables signaling (12, 13). It can alternatively associate with IL-13 Ra1 to form the type II receptor which is responsive to both IL-4 and IL-13 (14, 15). The use of shared receptor components contributes to the overlapping biological effects of IL-4 and IL-13 as well as other cytokines that utilize γ c (i.e. IL-2, IL-7, IL-9, IL-15, and IL-21) (16, 17). Our Avi-tag Biotinylated human IL-4R alpha 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:

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