Recombinant Human IL-10 Rα Avi-tag His-tag

Catalog Number: AVI11459

DESCRIPTION

Source

Chinese Hamster Ovary cell line, CHO-derived human IL-10 R alpha protein

N-terminal Sequence Analysis	His22
Structure / Form	Biotinylated via Avi-tag
Predicted Molecular Mass	28 kDa

SPECIFICATIONS

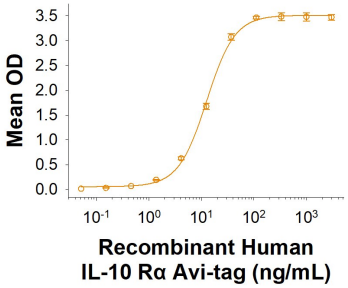
SDS-PAGE	40-55 kDa, under reducing conditions.
Activity	Measured by its binding ability in a functional ELISA. Recombinant Human IL-10 Rα Avi-tag His-tag (Catalog # AVI11459) binds Recombinant Human IL-10 (Catalog # 1064-ILB) with an ED_{50} of 8.00-96.0 ng/mL.
Endotoxin Level	<0.10 EU per 1 µg of the 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 400 µg/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.

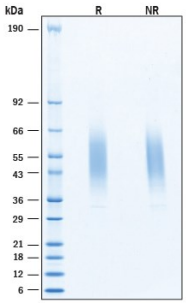
DATA

Binding Activity



Recombinant Human IL-10 Rα Avi-tag His-tag Protein Binding Activity. Recombinant Human IL-10 Rα Avi-tag His-tag Protein (Catalog # AVI11459) binds Recombinant Human IL-10 (Catalog # 1064-ILB) with an ED_{50} of 8.00-96.0 ng/mL.

SDS-PAGE



Recombinant Human IL-10 Rα Avi-tag His-tag Protein SDS-PAGE. 2 µg/lane of Recombinant Human IL-10 Rα Avi-tag His-tag Protein (Catalog # AVI11459) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 40-55 kDa, under reducing conditions.

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Catalog Number: AVI11459

BACKGROUND

Interleukin-10 Receptor alpha (IL-10 Rα), also known as IL-10 R1, is a 90-110 kDa transmembrane glycoprotein member of the class II cytokine receptor family (1). IL-10 Rα is required for mediating the effects of IL-10, a critical molecule in the control of microbial infections, allergic and autoimmune inflammation, and cancer (2-5). Whereas human IL-10 is active on mouse cells, mouse IL-10 does not act on human cells (6). IL-10 Rα is the ligand specific subunit of the IL-10 receptor complex. Noncovalent dimers of IL-10 bind to IL-10 Rα, resulting in the recruitment of IL-10 Rβ (6-8). IL-10 Rβ is a ubiquitously expressed transmembrane protein that does not bind IL-10 by itself but is required for signal transduction and *in vivo* IL-10 responsiveness (7, 9). IL-10 Rβ also associates with IL-20 Rα, IL-22 Rα, or IL-28 Rα to form the receptor complexes for IL-22, IL-26, IL-28, and IL-29 (1). Immunosuppressive signal transduction through the IL-10 receptor complex can be inhibited by activation of TLR2, 4, or 9, enabling strengthened immune responses during infection (10). Polymorphisms of human IL-10 Rα may limit viral immune evasion by retaining full responsiveness to human IL-10 but responding weakly to the cytomegalovirus homolog of IL-10 (11). Mature human IL-10 Rα consists of a 214 amino acid (aa) extracellular domain (ECD), a 21 aa transmembrane segment, and a 322 aa cytoplasmic domain (12). Within the ECD, human IL-10 Rα shares 59% aa sequence identity with mouse and rat IL-10 Rα. Our Avi-tag Biotinylated human IL-10Rα 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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