Recombinant Human IL-10 Rβ Fc Chimera

Catalog Number: 11460-RB

DESCRIPTION

Source

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

Human IL-10 Rβ (Met20-Ser220) Accession # Q08334.2	GGIEGRMD	Human IgG_1 (Pro100-Lys330)

N-terminus C-terminus

N-terminal Sequence Analysis	Met20
Structure / Form	Disulfide-linked homodimer
Predicted Molecular Mass	50 kDa

SPECIFICATIONS

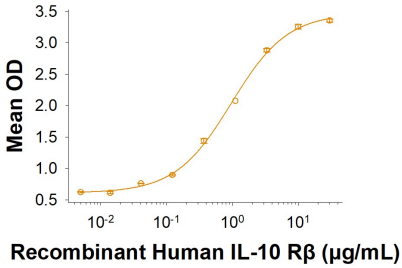
SDS-PAGE	72-82 kDa, under reducing conditions.
Activity	Measured by its binding ability in a functional ELISA. Recombinant Human IL-10 Rβ Fc Chimera (Catalog # 11460-RB) binds Recombinant Human IL-28 Rα/IFN-λ R1 Fc Chimera (Catalog # 5260-MR) in the presence of Recombinant Human IL-28B/IFN-λ3 (Catalog # 5259-IL/CF) with an ED_{50} of 0.250-3.00 µg/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. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 500 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.

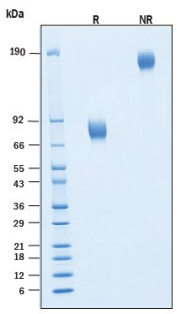
DATA

Binding Activity



Recombinant Human IL-10 Rβ Fc Chimera Protein Binding Activity. Recombinant Human IL-10 Rβ Fc Chimera Protein (Catalog # 11460-RB) binds Recombinant Human IL-28 Rα/IFN-λ R1 Fc Chimera (Catalog # 5260-MR) in the presence of Recombinant Human IL-28B/IFN-λ3 (Catalog # 5259-IL/CF) with an ED_{50} of 0.250-3.00 µg/mL.

SDS-PAGE



Recombinant Human IL-10 Rβ Fc Chimera Protein SDS-PAGE. 2 µg/lane of Recombinant Human IL-10 Rβ Fc Chimera Protein (Catalog # 11460-RB) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 72-82 kDa and 140-165 kDa, respectively. .

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BACKGROUND

Interleukin-10 Receptor beta (IL-10 Rβ), also known as IL-10 R2 and CRF2-4, is a 60 kDa transmembrane glycoprotein that functions as a co-receptor for several class 2 cytokines including Interleukins-10, -22, -26, -28A/IFN-λ2, -28B/IFN-λ3, and -29/IFN-λ (1, 2). IL-10 Rβ associates with ligand-specific receptor subunits to form signaling receptor complexes, e.g. IL-10 Rα for IL-10 (3, 4), IL-20 Rα for IL-26 (5, 6), IL-22 Rα for IL-22 (7, 8), and IL-28 Rα for IL-28A, IL-28B, and IL-29 (9, 10). IL-10 Rβ is widely expressed, while the associated receptor subunits exhibit differential expression patterns (1). The ligand-specific subunits are responsible for the divergent functions of these cytokines, encompassing immune suppression, promotion or inhibition of inflammation, mucosal defense, antiviral immunity, and hematopoiesis (1). IL-10 Rβ deficient mice lack responsiveness to each of those cytokines. IL-10 Rβ contributes to ligand binding, but effective signaling is only triggered in the presence of the ligand-specific subunit (8, 9, 11). In the case of IL-10, a cytokine dimer binds to two IL-10 Rα/IL-10R1 chains, resulting in recruitment of two IL-10 Rβ/IL-10R2 chains (3, 12). Some members of the IL-10 family are monomeric cytokines and interact with single molecules of IL-10 Rβ and their ligand-specific subunit (1). Mature human IL-10 Rβ consists of a 201 amino acid (aa) extracellular region with two fibronectin type-III domains, a 22 aa transmembrane segment and a 83 aa cytoplasmic domain (13). Within the ECD, human IL-10 Rβ shares 75% and 78% aa sequence identity with mouse and rat IL-10 Rβ, respectively.

References:

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