

Protein Name
IL10R α / IL10R β

Expression Host
HEK293T

Alternate Name(s)
IL-10 R1, cluster of differentiation 210, CD210, CD210 α , and CDW210A, IL10RB, cluster of differentiation w210b, CDW210B, CRF2-4, CRFB4, D21S58, D21S66, IL-10R2, interleukin 10 receptor subunit beta

Purity
Greater than 90% dimer form as determined by SDS-PAGE under non-reducing condition

Protein Construct
IL-10R heterodimer protein contains an IL-10R α extracellular domain (UniProt# Q08334) and an IL-10R β extracellular domain (UniProt# Q13651) fused with a proprietary dimer motif followed by a His tag at the IL-10R α C-terminus and a Strep tag at the IL-10R β C-terminus. Expressed in HEK293T cell line.

Amino Acid Range
H22-N235 ; M20-S220

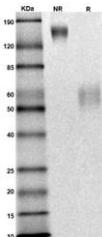
SDS-Page Molecular Weight
63 kDa. The migration range of the heterodimer protein with glycosylation under non-reducing condition is between 120-190 kDa and between 50-60 kDa under reducing condition on SDS PAGE.

Formulation
0.22 μ m filtered PBS, pH 7.4

Shipping Conditions
Frozen Dry Ice

Stability & Storage
-80 $^{\circ}$ C

SDS-PAGE

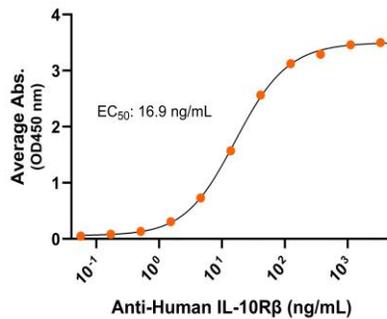


MW: Molecular Weight marker reduced condition
NR: IL-10R α /IL-10R β heterodimer under non-reduced condition
R: IL-10R α /IL-10R β heterodimer under reduced condition

The migration range of the heterodimer protein with glycosylation under non-reducing condition is between 120-190 kDa and between 50-60 kDa under reducing condition on SDS PAGE.

Bioactivity – Antibody Binding

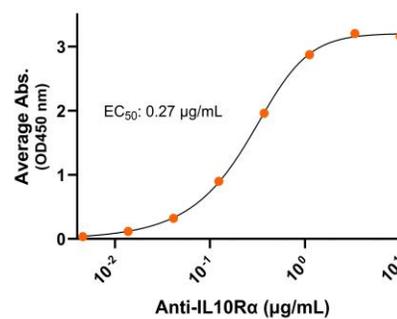
Human IL-10R α -His/IL-10R β -Strep Heterodimer, ELISA
 0.2 μ g of IL-10R α / IL-10R β protein heterodimer per well



Immobilized human IL-10R α /IL-10R β protein heterodimer, His and Strep-tag (CSP-25251-AB) at 2 μ g/mL (100 μ L/well) can bind anti-human IL-10R β monoclonal antibody with half maximal effective concentration (EC₅₀) range of 8.4-33.7 ng/mL (QC tested).

Bioactivity – Antibody Binding

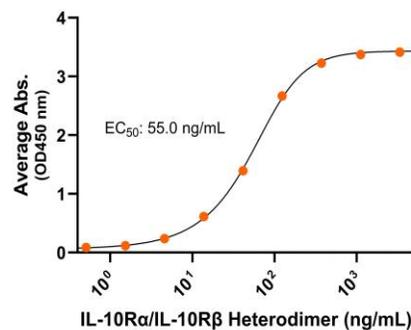
Human IL-10R α -His/IL-10R β -Strep Heterodimer, ELISA
 0.2 μ g of IL-10R α /IL-10R β protein heterodimer per well



Immobilized human IL-10R α /IL-10R β protein heterodimer, His and Strep-tag (CSP-25251-AB) at 2 μ g/mL (100 μ L/well) can bind anti-human IL-10R α monoclonal antibody with half maximal effective concentration (EC₅₀) range of 0.1-0.5 μ g/mL (QC tested).

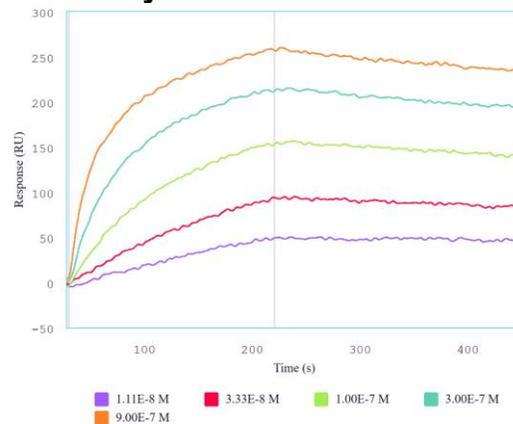
Bioactivity – Ligand Binding

Human IL-10R α -His/IL-10R β -Strep Heterodimer, ELISA
 0.2 μ g of IL-10 protein per well



Immobilized human IL-10 at 2 μ g/mL (100 μ L/well) can bind human IL-10R α /IL-10R β protein heterodimer, His and Strep-tag (CSP-25251-AB) with half maximal effective concentration (EC₅₀) range of 27.5-109.9 ng/mL (QC tested).

Bioactivity – SPR



Immobilized human IL-10 can bind human IL-10R α /IL-10R β protein heterodimer, His and Strep-tag (CSP-25251-AB) with a KD of 1.9-7.6 nM as determined by SPR.



Bioactive, Recombinant Human IL-10R α /IL-10R β Protein heterodimer,
His and Strep Tag
Product Code: CSP-25251-A1B6
For Research Use Only (RUO)

Background

Human interleukin-10 receptor (IL-10R) is a heterodimer belonging to the type II cytokine receptor family, mediating the anti-inflammatory effects of interleukin-10 (IL-10), a key cytokine involved in limiting immune responses and preventing tissue damage. The IL-10R heterodimer is composed of interleukin-10 receptor alpha (IL-10R α) and interleukin-10 receptor beta (IL-10R β). IL-10R α is a Type I integral membrane glycoprotein containing an extracellular domain with two immunoglobulin-like (Ig-like) C2-type domains. IL-10R β has two β -sandwich domains (D1 and D2), a β -hairpin structure, and a "thumb-like" structure. IL-10R α is a subunit unique to IL-10R while IL-10R β is shared with other type II cytokine receptors such as IL-22R, IL-28R, and INF λ R. The IL-10R α subunit interacts with IL-10 and IL-10R β acts as the signaling subunit. IL-10R is involved with human gastro-intestinal immune response and defects in IL-10R are correlated with the development of irritable bowel disease. Therefore, a recombinant protein mimicking the IL-10R heterodimer conformation can be very useful for research and therapeutic discovery for cancer, autoimmune diseases, and inflammatory conditions.