Bioactive, Recombinant Human IL-6Rα Protein Dimer, His Tag
Product Code: CSP-25223-01
For Research Use Only (RUO)

Protein Name
IL6Rα

Alternate Name(s)
Cluster of Differentiation 126, CD126, IL6R, IL-6R-1, IL-6RA, IL6Q, IL6RA, IL6RQ, gp80, Interleukin-6 receptor, interleukin 6 receptor

Protein Construct
IL-6Rα dimer protein contains the IL-6Rα extracellular domain (UniProt# P08887) fused with a proprietary cis-dimer motif followed by a His tag at the C-terminus. Expressed in HEK293T cell line.

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

Shipping Conditions
Frozen Dry Ice

Expression Host
HEK293T

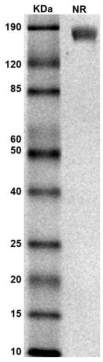
Purity
Greater than 90% dimer form as determined by SDS-PAGE under non-reducing condition

Amino Acid Range
L20-P365

Formulation
0.22μm filtered PBS, pH 7.4

Stability & Storage
-80^{0}C

SDS-PAGE



MW: Molecular Weight marker reduced condition
NR: IL-6Rα dimer under non-reduced condition

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

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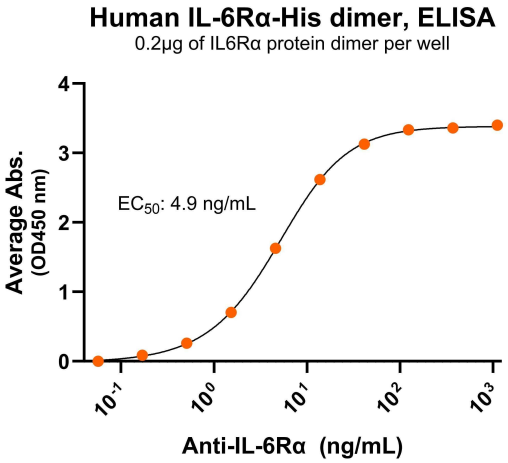
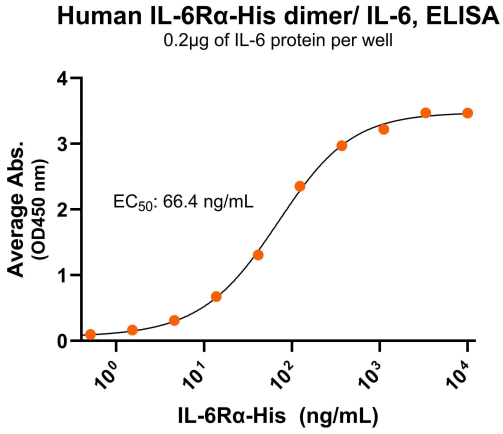
Bioactivity – Antibody Binding



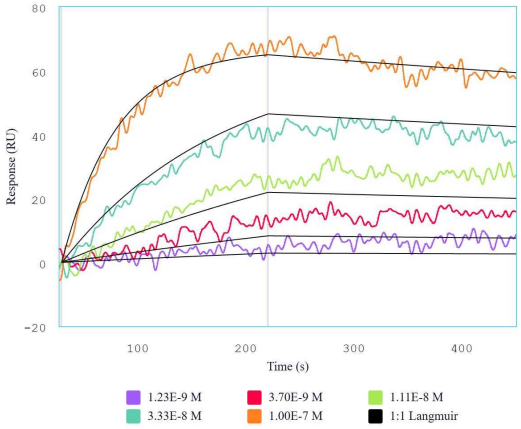
Immobilized human IL-6Rα protein dimer, His-tag (CSP-25223-01) at 2 μg/mL (100 μL/well) can bind anti-human IL-6Rα monoclonal antibody with half maximal effective concentration (EC50) range of 2.4-9.7 ng/mL (QC tested).

Bioactivity – Ligand Binding



Immobilized human IL-6 at 2 μg/mL (100 μL/well) can bind human IL-6Rα protein dimer, His-tag (CSP-25223-01) with half maximal effective concentration (EC50) range of 33.2-132.7 ng/mL (QC tested).

Bioactivity – BLI



Immobilized human IL-6 can bind human IL-6Rα protein dimer, His-tag (CSP-25223-01) protein with a KD of 0.9-3.6 nM as determined by SPR.

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Background

Human interleukin 6 receptor alpha (IL-6Rα) is a Type 1 transmembrane protein and Type 1 cytokine receptor and plays a crucial role in immune response, inflammation, and hematopoiesis. IL-6Rα is also known as Cluster of Differentiation 126 (CD126), IL6R, CD126, IL-6R-1, IL-6RA, IL6Q, IL6RA, IL6RQ, and gp80. IL-6Rα contains an extracellular domain with an Ig-like domain, cytokine binding module (CBM) domains, and a long flexible stalk region followed by a transmembrane domain and intracellular domains. IL-6Rα binding to its ligand interleukin 6 (IL-6) results in homodimerization and subsequent association with IL-6Rβ (gp130) dimer resulting in higher order complexes. IL-6Rα is involved in multiple disease processes due to its central role in IL-6 signaling. Dysregulation of IL-6Rα is implicated in many cancers and autoimmune diseases, therefore, a recombinant protein mimicking the IL-6Rα dimer conformation can be critical for basic research and therapeutic discovery.