

IL-6R alpha/CD126 Protein, Human, Recombinant (His)

General Information

Synonyms:	IL-6R-1;IL-6RA;IL6Q;CD126;interleukin 6 receptor;IL6RA;IL6RQ;IL-6R;gp80
Protein Construction:	A DNA sequence encoding the extracellular domain of human IL6R (NP_000556.1) corresponding to amino acid (Met1-Pro365) was expressed with a C-terminal polyhistidine tag. Predicted N terminal: Leu 20
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P08887
Molecular Weight:	40 kDa (predicted); 60-65 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	<ol style="list-style-type: none">1. Immobilized Recombinant Human IL6 / Interleukin-6 Protein at 2 µg/mL (100 µL/well) can bind Recombinant Human IL6R / CD126 Protein (His Tag) , the EC50 is 8-24 ng/mL.
2. Measured by its ability to enhance the IL6 activity on M1 mouse myeloid leukemia cells. The ED50 for this effect is typically 20-80 ng/mL.
3. Using the Octet RED System, the affinity constant (Kd) of IL-6R Protein, Human, Recombinant (His Tag) bound Anti-IL6R Antibody was 0.1 nM.
4. Loaded Recombinant Human IL-6R Protein, His Tag on His1K Biosensor, can bind Recombinant Human IL-6 Protein, no Tag with an affinity constant of 0.165 µM as determined in BLI assay(Routinely tested).
Purity:	≥ 90 % as determined by SDS-PAGE ≥ 95 % as determined by SEC-HPLC.
Endotoxin:	< 1.0 EU/µg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 µm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

Reconstituted with sterile deionized water to 0.25 mg/mL. Reconstitution conditions may vary depending on the lot.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Interleukin 6 receptor (IL-6R) also known as CD126 (Cluster of Differentiation 126) is a type I cytokine receptor. The low concentration of a soluble form of IL-6 receptor (sIL-6R) acts as an agonist of IL-6 activity. In the IL-6R/CD126/IL6R system, both a membrane-bound IL-6R and a sIL-6R protein can mediate IL-6 signals into the cells through the interaction of gp130. The resulting IL-6/sIL-6R protein complex is also capable of binding to gp130 and inducing intracellular signaling. Through this so-called 'trans-signaling' mechanism, IL-6 can stimulate cells that lack an endogenous mIL-6R. High levels of IL-6 and sIL-6R have been reported in several chronic inflammatory and autoimmune diseases as well as in cancer. Cancer Immunotherapy Immune Checkpoint Immunotherapy Targeted Therapy

Reference

Barill S, et al. (2000) The role of interleukin-6 and interleukin-6/interleukin-6 receptor-alpha complex in the pathogenesis of multiple myeloma. *Eur Cytokine Netw.* 11(4): 546-51.

Kang KW, et al. (2007) Novel role of IL-6/sIL-6R signaling in the expression of inducible nitric oxide synthase (iNOS) in murine B16, metastatic melanoma clone F10.9, cells. *Free Radic Biol Med.* 42(2): 215-27.

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