

gp130/IL6ST Protein, Rat, Recombinant (His & mFc)

General Information

Synonyms:	interleukin 6 signal transducer
Protein Construction:	A DNA sequence encoding the rat IL6ST (NP_001008725.2) extracellular domain (Met 4-Glu 618) was fused with the C-terminal polyhistidine-tagged Fc region of mouse IgG1 at the C-terminus. Predicted N terminal: Gln 23
Species:	Rat
Expression Host:	HEK293 Cells
Accession:	H9BFG4
Molecular Weight:	94.3 kDa (predicted); 130 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Measured by its ability to inhibit the IL6 R α enhancement of IL6 activity on M1 mouse myeloid leukemia cells (Saito, T. et al. 1991, J. Immunol. 147:168.). The ED50 for this effect is typically 0.015-0.075 μ g/ml in the presence of 50 ng/ml recombinant human IL6sR and 100 ng/ml recombinant human IL6.
Purity:	> 95 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/ μ g of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μ m 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:
A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

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

Glycoprotein 130 (also known as gp130, IL6ST, IL6-beta, or CD130) is a transmembrane protein that is the founding member of the class of all cytokine receptors. CD130/gp130 is a signal transducer shared by many cytokines,

including interleukin 6 (IL6), ciliary neurotrophic factor (CNTF), leukemia inhibitory factor (LIF), and Oncostatin M (OSM). CD130/gp130 functions as a part of the cytokine receptor complex. The activation of this protein is dependent upon the binding of cytokines to their receptors. CD130/gp130 plays a critical role in regulating myocyte apoptosis. Alternatively, spliced transcript variants encoding distinct isoforms have been described. A related pseudogene has been identified on chromosome 17. The receptor systems for IL6, LIF, OSM, CNTF, IL11, CTF1, and BSF3 can utilize gp130 for initiating signal transmission. CD130/gp130 binds to IL6/IL6R (alpha chain) complex, resulting in the formation of high-affinity IL6 binding sites, and transduces the signal. CD130/gp130 may have a role in embryonic development. The type I OSM receptor is capable of transducing OSM-specific signaling events.

Reference

- Hibi, et al. (1990) Molecular cloning and expression of an IL-6 signal transducer, gp130. *Cell*. 63 (6): 1149-57.
- Kim H, et al. (1997) Transmembrane domain of gp130 contributes to intracellular signal transduction in hepatic cells. *J Biol Chem*. 272 (49): 30741-7.
- Giordano V, et al. (1997) Shc mediates IL-6 signaling by interacting with gp130 and Jak2 kinase. *J Immunol*. 158 (9): 4097-103.

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