

gp130/IL6ST Protein, Mouse (HEK293, His)

Cat. No.:	HY-P76371
Synonyms:	Interleukin-6 receptor subunit beta; IL-6R-beta; IL-6RB; gp130; CD130
Species:	Mouse
Source:	HEK293
Accession:	Q00560/NP_034690 (Q23-E617)
Gene ID:	16195
Molecular Weight:	80-90 kDa.

PROPERTIES

AA Sequence

Q L L E P C G Y I Y	P E F P V V Q R G S	N F T A I C V L K E	A C L Q H Y Y V N A
S Y I V W K T N H A	A V P R E Q V T V I	N R T T S S V T F T	D V V L P S V Q L T
C N I L S F G Q I E	Q N V Y G V T M L S	G F P P D K P T N L	T C I V N E G K N M
L C Q W D P G R E T	Y L E T N Y T L K S	E W A T E K F P D C	Q S K H G T S C M V
S Y M P T Y Y V N I	E V W V E A E N A L	G K V S S E S I N F	D P V D K V K P T P
P Y N L S V T N S E	E L S S I L K L S W	V S S G L G G L L D	L K S D I Q Y R T K
D A S T W I Q V P L	E D T M S P R T S F	T V Q D L K P F T E	Y V F R I R S I K D
S G K G Y W S D W S	E E A S G T T Y E D	R P S R P P S F W Y	K T N P S H G Q E Y
R S V R L I W K A L	P L S E A N G K I L	D Y E V I L T Q S K	S V S Q T Y T V T G
T E L T V N L T N D	R Y V A S L A A R N	K V G K S A A A V L	T I P S P H V T A A
Y S V V N L K A F P	K D N L L W V E W T	P P P K P V S K Y I	L E W C V L S E N A
P C V E D W Q Q E D	A T V N R T H L R G	R L L E S K C Y Q I	T V T P V F A T G P
G G S E S L K A Y L	K Q A A P A R G P T	V R T K K V G K N E	A V L A W D Q I P V
D D Q N G F I R N Y	S I S Y R T S V G K	E M V V H V D S S H	T E Y T L S S L S S
D T L Y M V R M A A	Y T D E G G K D G P	E F T F T T P K F A	Q G E I E

Biological Activity

1. Measured by its ability to inhibit the IL-6R α enhancement of IL-6 activity on M1 mouse myeloid leukemia cells and the ED₅₀ is typically 0.6-3 μ g/mL in the presence of 50 ng/mL human IL-6sR and 100 ng/mL human IL-6.
2. Measured by its ability to bind mouse IL-11Ra in a functional ELISA.
3. Immobilized Human gp130 at 5 μ g/mL (100 μ L/well) can bind Biotinylated Human IL-6 R alpha that produces 50% of the optimal binding response is found to be approximately 7.854 ng/mL.
4. Measured by its ability to inhibit IL-6-dependent proliferation of TF-1 cells. The ED₅₀ this effect is 0.1185 ng/mL in the presence of 4 μ g/mL Recombinant Human IL-6 R alpha, corresponding to a specific activity is 8.44 \times 10⁶ units/mg.

Appearance

Lyophilized powder

Formulation

Lyophilized from a 0.2 μ m filtered solution of PBS or 20 mM PB, 150 mM NaCl, pH 7.4.

Endotoxin Level

<1 EU/ μ g, determined by LAL method.

Reconstitution

It is not recommended to reconstitute to a concentration less than 100 μ g/mL in ddH₂O. For long term storage it is

	recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background

Glycoprotein 130 mRNA is ubiquitously expressed in the human body, exhibiting highest levels in saphenous vein, pericardium, ovary, omental adipose tissue, peritoneum, spleen lymphnodes, and trigeminal ganglia. And gp130 expression is significantly increased in adult organs compared to fetal organs. Moreover, gp130 is highly expressed in multiple types of cancers compared to normal tissues^[3].

The amino acid sequence of human gp130 protein has low homology between mouse and rat gp130 protein. gp130 signaling is initiated when autocrine or paracrine cyto-kines induce the dimerization of gp130 and an α -receptor subunit to form the receptor complex, leading to the activation of downstream signaling cascades, such as the JAK/STAT, the PI3K/Akt, and the Ras/Raf/Mek/Erk1/2/MAPK pathways. The activation of JAK/Stat3 pathway induces its target gene expression, resulting in cell growth and proliferation (cyclin D, CDC25 A, c-Myc, survivin), survival (survivin, Bcl-2, Bcl-X_L), angiogenesis (VEGF), and cell migration (MMP-2, MMP-7, and MMP-9)^[3].

gp130 is a IL-6 antagonist shows anti-tumor, anti-inflammation and antinociceptive activity^[4]. gp130 decreases the STAT3 phosphorylation induced by IL-6, and decreases IL-6-induced increase of Ki67^[5].

REFERENCES

- [1]. Cao Y, et al. Glycoprotein 130 is associated with adverse postoperative clinical outcomes of patients with late-stage non-metastatic gastric cancer. *Sci Rep.* 2016 Dec 5;6:38364.
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- [3]. Xu S, et al. gp130: a promising drug target for cancer therapy. *Expert Opin Ther Targets.* 2013 Nov;17(11):1303-28.
- [4]. Boettger MK, et al. Differential effects of locally and systemically administered soluble glycoprotein 130 on pain and inflammation in experimental arthritis. *Arthritis Res Ther.* 2010;12(4):R140.
- [5]. Hong J, et al. Recombinant soluble gp130 protein reduces DEN-induced primary hepatocellular carcinoma in mice. *Sci Rep.* 2016 Apr 15;6:24397.

Caution: Product has not been fully validated for medical applications. For research use only.

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