

## gp130 (B-S12): sc-57190



The Power to Question

**BACKGROUND**

IL-6 activates intracellular signaling through binding a receptor consisting of a ligand-binding protein (IL-6R) and a second protein. IL-6 first binds to IL-6R which subsequently associates with a gp130 dimer. The active signaling complex consists of, at minimum, IL-6, IL-6R and a dimer of two gp130 proteins that are linked by a disulfide bond. A soluble form of IL-6R is generated by proteolytic cleavage of the membrane-bound precursor and can function as an agonistic molecule that can actively participate in cell-to-cell signaling. The second subunit of the IL-6 complex, gp130, also functions as a component of several additional receptor complexes including leukemia inhibitory factor (LIF), oncostatin M (OSM), ciliary neurotrophic factor (CNTF) and IL-11. LIF binds to the LIF receptor with low affinity and to a complex of the LIF receptor and gp130 with high affinity, while OSM appears to bind to gp130 with low affinity and to a complex of gp130 and the LIF receptor with high affinity.

**REFERENCES**

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2. Taga, T., et al. 1989. IL-6 triggers the association of its receptor with a possible signal transducer, gp130. *Cell* 58: 573-581.
3. Hibi, M., et al. 1990. Molecular cloning and expression of an IL-6 signal transducer, gp130. *Cell* 63: 1149-1157.
4. Davis, S., et al. 1993. LIFR $\beta$  and gp130 as heterodimerizing signal transducers of the tripartite CNTF receptor. *Science* 260: 1805-1808.
5. Murakami, M., et al. 1993. Critical cytoplasmic region of the IL-6 signal transducer gp130 is conserved in the cytokine receptor family. *Science* 260: 1808-1810.
6. Müllberg, J., et al. 1994. The soluble human IL-6 receptor. Mutational characterization of the proteolytic cleavage site. *J. Immunol.* 152: 4958-4968.
7. Kishimoto, T., et al. 1994. Cytokine signal transduction. *Cell* 76: 253-262.
8. Hilton, D.J., et al. 1994. Cloning of a murine IL-11 receptor  $\alpha$  chain; requirement for gp130 for high affinity binding and signal transduction. *EMBO J.* 13: 4765-4775.

**CHROMOSOMAL LOCATION**

Genetic locus: IL6ST (human) mapping to 5q11; Il6st (mouse) mapping to 13 D2.2.

**SOURCE**

gp130 (B-S12) is a mouse monoclonal antibody raised against full length gp130 of human origin.

**PRODUCT**

Each vial contains 100  $\mu$ g IgG<sub>1</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

**RESEARCH USE**

For research use only, not for use in diagnostic procedures.

**APPLICATIONS**

gp130 (B-S12) is recommended for detection of gp130 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1–2  $\mu$ g per 100–500  $\mu$ g of total protein (1 ml of cell lysate)], flow cytometry (1  $\mu$ g per  $1 \times 10^6$  cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for gp130 siRNA (h): sc-29333.

Molecular Weight of gp130: 130 kDa.

Positive Controls: human colon carcinoma, human PBL or HeLa whole cell lysate: sc-2200.

**RECOMMENDED SECONDARY REAGENTS**

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

**STORAGE**

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

**PROTOCOLS**

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.