



p-gp130 (Ser 782): sc-12978

BACKGROUND

IL-6 activates intracellular signaling by binding to IL-6R (the IL-6 receptor), which subsequently associates with a second protein, known as gp130. 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. 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. The major phosphorylation site of human gp130 is located immediately N-terminal to the di-leucine motif of gp130, which regulates the internalization of the receptor. Phosphorylation of this site, Ser 782, regulates cell surface expression of the receptor polypeptide.

REFERENCES

1. Yamasaki, K., Taga, T., Hirata, Y., Yawata, H., Kawanishi, Y., Seed, B., Taniguchi, T., Hirano, T. and Kishimoto, T. 1988. Cloning and expression of the human interleukin-6 (BSF-2/IFN- β 2) receptor. *Science* 241: 825-828.
2. Taga, T., Hibi, M., Hirata, Y., Yamasaki, K., Matsuda, T., Hirano, T. and Kishimoto, T. 1989. Interleukin-6 triggers the association of its receptor with a possible signal transducer, gp130. *Cell* 58: 573-581.
3. Hibi, M., Murakami, M., Saito, M., Hirano, T., Taga, T. and Kishimoto, T. 1990. Molecular cloning and expression of an IL-6 signal transducer, gp130. *Cell* 63: 1149-1157.
4. Davis, S., Aldrich, T.H., Stahl, N., Pan, L., Taga, T., Kishimoto, T., Ip, N.Y. and Yancopoulos, G.D. 1993. LIFR and gp130 as heterodimerizing signal transducers of the tripartite CNTF receptor. *Science* 260: 1805-1808.
5. Murakami, M., Hibi, M., Nakagawa, N., Nakagawa, T., Yasukawa, Y., Yamanishi, K., Taga, T. and Kishimoto, T. 1993. Critical cytoplasmic region of the interleukin-6 signal transducer gp130 is conserved in the cytokine receptor family. *Science* 260: 1808-1810.
6. Gibson, R.M., Schiemann, W.P., Prichard, L.B., Reno, J.M., Ericsson, L.H. and Nathanson, N.M. 2000. Phosphorylation of human gp130 at Ser 782 adjacent to the di-leucine internalization motif. Effects on expression and signaling. *J. Biol. Chem.* 275: 22574-22582.

CHROMOSOMAL LOCATION

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

SOURCE

p-gp130 (Ser 782) is available as either goat (sc-12978) or rabbit (sc-12978-R) polyclonal affinity purified antibody raised against a short amino acid sequence containing phosphorylated Ser 782 of gp130 of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-12978 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

p-gp130 (Ser 782) is recommended for detection of Ser 782 phosphorylated gp130 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) 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, gp130 siRNA (m): sc-35502, gp130 shRNA Plasmid (h): sc-29333-SH, gp130 shRNA Plasmid (m): sc-35502-SH, gp130 shRNA (h) Lentiviral Particles: sc-29333-V and gp130 shRNA (m) Lentiviral Particles: sc-35502-V.

Molecular Weight of p-gp130: 130 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent) and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Redvers, R. 2008. The role of interleukin-6/gp130 signaling in prostate cancer progression and its contribution to bone metastasis morbidity. U.S. Army Medical Research.
2. Ateghang, B., Wartenberg, M., Gassmann, M. and Sauer, H. 2006. Regulation of cardiotrophin-1 expression in mouse embryonic stem cells by HIF-1 α and intracellular reactive oxygen species. *J. Cell Sci.* 119: 1043-1052.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.