

gp130 (M-20): sc-656

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

1. Yamasaki, K., et al. 1988. Cloning and expression of the human interleukin-6 (BSF-2/IFN β 2) receptor. *Science* 241: 825-828.
2. Taga, T., et al. 1989. Interleukin-6 triggers the association of its receptor with a possible signal transducer, gp130. *Cell* 58: 573-581.

CHROMOSOMAL LOCATION

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

SOURCE

gp130 (M-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of gp130 of mouse 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-656 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

gp130 (M-20) is recommended for detection of gp130 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], 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.

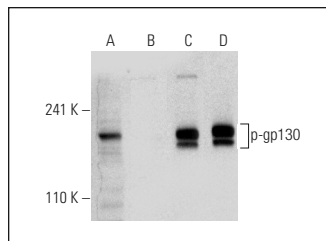
Molecular Weight of gp130: 130 kDa.

Positive Controls: WEHI-231 whole cell lysate: sc-2213 or HeLa whole cell lysate: sc-2200.

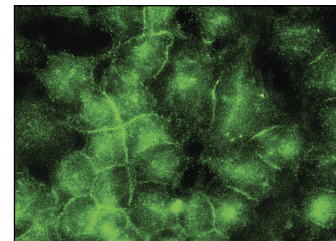
STORAGE

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

DATA



Western blot analysis of gp130 phosphorylation in untreated (A,C) and lambda protein phosphatase (sc-200312A) treated (B,D) c4 whole cell lysates. Antibodies tested include p-gp130 (Ser 782)-R: sc-12978-R (A,B) and gp130 (M-20): sc-656 (C,D).



gp130 (M-20): sc-656. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization.

SELECT PRODUCT CITATIONS

1. Starr, R., et al. 1997. A family of cytokine-inducible inhibitors of signalling. *Nature* 387: 917-921.
2. Bouraoui, Y., et al. 2008. Pro-inflammatory cytokines and prostate-specific antigen in hyperplasia and human prostate cancer. *Cancer Detect. Prev.* 32: 23-32.
3. García-Tuñón, I., et al. 2008. OSM, LIF, its receptors, and its relationship with the malignance in human breast carcinoma (*in situ* and in infiltrative). *Cancer Invest.* 26: 222-229.
4. Joly, S., et al. 2008. Leukemia inhibitory factor extends the lifespan of injured photoreceptors *in vivo*. *J. Neurosci.* 28: 13765-13774.
5. Kinoshita, M.O., et al. 2009. Lipid rafts enriched in phosphatidylglucoside direct astroglial differentiation by regulating tyrosine kinase activity of epidermal growth factor receptors. *Biochem. J.* 419: 565-575.
6. Hafeez, B.B., et al. 2011. Genetic ablation of PKC ϵ inhibits prostate cancer development and metastasis in transgenic mouse model of prostate adenocarcinoma. *Cancer Res.* 71: 2318-2327.
7. Vellaichamy, E., et al. 2014. Genetically altered mutant mouse models of guanylyl cyclase/natriuretic peptide receptor-A exhibit the cardiac expression of proinflammatory mediators in a gene-dose-dependent manner. *Endocrinology* 155: 1045-1056.

RESEARCH USE

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


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