gp130 (E-8): sc-376280

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.

CHROMOSOMAL LOCATION

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

SOURCE

gp130 (E-8) is a mouse monoclonal antibody raised against amino acids 365-619 of gp130 of human origin.

PRODUCT

Each vial contains 200 µg IgG$_{2a}$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

gp130 (E-8) is available conjugated to agarose (sc-376280 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-376280 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376280 PE), fluorescein (sc-376280 FITC), Alexa Fluor® 488 (sc-376280 AF488), Alexa Fluor® 546 (sc-376280 AF546), Alexa Fluor® 594 (sc-376280 AF594) or Alexa Fluor® 647 (sc-376280 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376280 AF680) or Alexa Fluor® 790 (sc-376280 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

gp130 (E-8) is recommended for detection of gp130 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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: HeLa whole cell lysate: sc-2200, WEHI-231 whole cell lysate: sc-2213 or PC-12 cell lysate: sc-2250.

STORAGE

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

DATA
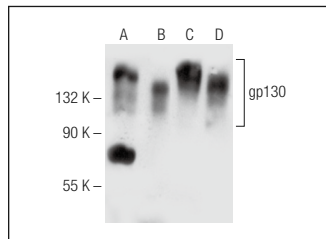
gp130 (E-8): sc-376280. Western blot analysis of gp130 expression in human placenta tissue extract (**A**) and HeLa (**B**), WEHI-231 (**C**) and PC-12 (**D**) whole cell lysates.
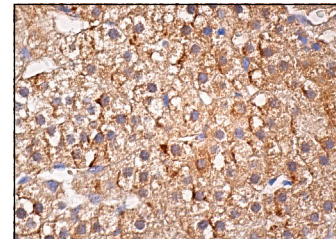
gp130 (E-8): sc-376280. Immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Specht, S., et al. 2013. SPRR2A expression in cholangiocarcinoma increases local tumor invasiveness but prevents metastasis. Clin. Exp. Metastasis 30: 877-890.

2. He, M., et al. 2018. Mesenchymal stem cells-derived IL-6 activates AMPK/mTOR signaling to inhibit the proliferation of reactive astrocytes induced by hypoxic-ischemic brain damage. Exp. Neurol. 311: 15-32.

3. Woosley, A.N., et al. 2019. TGFβ promotes breast cancer stem cell self-renewal through an ILEI/LIFR signaling axis. Oncogene 38: 3794-3811.

4. Hashwah, H., et al. 2019. The IL-6 signaling complex is a critical driver, negative prognostic factor, and therapeutic target in diffuse large B-cell lymphoma. EMBO Mol. Med. 11: e10576.

5. O'Keefe, R.A., et al. 2020. Interleukin 6 is increased in preclinical HNSCC models of acquired cetuximab resistance, but is not required for maintenance of resistance. PLoS ONE 15: e0227261.

6. Zhou, X., et al. 2020. Interleukin 35 ameliorates myocardial ischemia-reperfusion injury by activating the gp130-Stat3 axis. FASEB J. 34: 3224-3238.

7. Auckland, P., et al. 2020. CENP-F stabilizes kinetochore-microtubule attachments and limits Dynein stripping of corona cargoes. J. Cell Biol. 219: e201905018.

8. Yuan, Y., et al. 2020. The fiber metabolite butyrate reduces gp130 by targeting TRAF5 in colorectal cancer cells. Cancer Cell Int. 20: 212.

9. Huang, S.L., et al. 2021. TLR4/IL-6/IRF1 signaling regulates androgen receptor expression: a potential therapeutic target to overcome taxol resistance in ovarian cancer. Biochem. Pharmacol. 186: 114456.

RESEARCH USE

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

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