SANTA CRUZ BIOTECHNOLOGY, INC.

IL-6Rα (H-300): sc-13947

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

IL-6 activates intracellular signaling through binding a receptor consisting of a ligand-binding protein (IL-6Rα) and a second protein. IL-6 first binds to IL-6Rα (also known as gp80), which subsequently associates with a gp130 dimer. The active signaling complex consists of, at minimum, IL-6, IL-6Rα and a dimer of two gp130 proteins that are linked by a disulfide bond. A soluble form of IL-6Rα, namely sIL-6Rα, 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 β2) 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: IL6R (human) mapping to 1q21.3; Il6ra (mouse) mapping to 3 F1.

SOURCE

IL-6Rα (H-300) is a rabbit polyclonal antibody raised against amino acids 169-468 of IL-6Rα of human origin.

PRODUCT

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

APPLICATIONS

IL-6Rα (H-300) is recommended for detection of IL-6Rα of human and, to a lesser extent, mouse and rat origin by Western Blotting (starting dilution 1:200, 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 IL-6Rα siRNA (h): sc-35663, IL-6Rα siRNA (m): sc-40065, IL-6Rα shRNA Plasmid (h): sc-35663-SH, IL-6Rα shRNA Plasmid (m): sc-40065-SH, IL-6Rα shRNA (h) Lentiviral Particles: sc-35663-V and IL-6Rα shRNA (m) Lentiviral Particles: sc-40065-V.

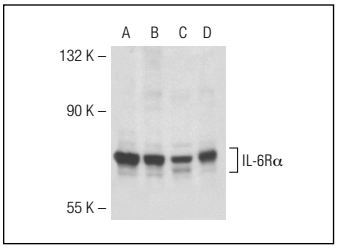
Molecular Weight of IL-6Rα: 80 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, BJAB whole cell lysate: sc-2207 or Hep G2 cell lysate: sc-2227.

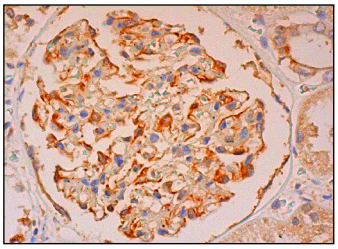
STORAGE

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

DATA



IL-6Rα (H-300): sc-13947. Western blot analysis of IL-6Rα expression in BJAB (**A**), HeLa (**B**) and Hep G2 (**C**) whole cell lysates and human recombinant IL-6Rα.



IL-6Rα (H-300): sc-13947. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing membrane staining of cells in glomeruli.

SELECT PRODUCT CITATIONS

1. Li, F.J., et al. 2005. A rapid translocation of CD45RO but not CD45RA to lipid rafts in IL-6-induced proliferation in myeloma. Blood 105: 3295-3392.
2. Jablonska, B., et al. 2006. The growth capacity of bone marrow CD34 positive cells in culture is drastically reduced in a murine model of Down syndrome. C. R. Biol. 329: 726-732.
3. Ropelle, E.R., et al. 2010. IL-6 and IL-10 anti-inflammatory activity links exercise to hypothalamic Insulin and leptin sensitivity through IKKβ and ER stress inhibition. PLoS Biol. 8: e1000465.
4. Kushiro, K., et al. 2012. Adipocytes promote B16BL6 melanoma cell invasion and the epithelial-to-mesenchymal transition. Cancer Microenviron. 5: 73-82.
5. Maldonado-Cervantes, M.I., et al. 2012. Autocrine modulation of glucose transporter SGLT2 by IL-6 and TNF-α in LLC-PK_1 cells. J. Physiol. Biochem. 68: 411-420.
6. Libertini, S.J., et al. 2012. The interleukin 6 receptor is a direct transcriptional target of E2F3 in prostate tumor derived cells. Prostate 72: 649-660.
7. Nerstedt, A., et al. 2013. Pharmacological activation of AMPK suppresses inflammatory response evoked by IL-6 signalling in mouse liver and in human hepatocytes. Mol. Cell. Endocrinol. 375: 68-78.

RESEARCH USE

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