SANTA CRUZ BIOTECHNOLOGY, INC.

IL-6Rα (D-8): sc-374259

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.

CHROMOSOMAL LOCATION

Genetic locus: Il6ra (mouse) mapping to 3 F1.

SOURCE

IL-6Rα (D-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 433-460 at the C-terminus of IL-6Rα of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

IL-6Rα (D-8) is available conjugated to agarose (sc-374259 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-374259 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374259 PE), fluorescein (sc-374259 FITC), Alexa Fluor® 488 (sc-374259 AF488), Alexa Fluor® 546 (sc-374259 AF546), Alexa Fluor® 594 (sc-374259 AF594) or Alexa Fluor® 647 (sc-374259 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374259 AF680) or Alexa Fluor® 790 (sc-374259 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-374259 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

IL-6Rα (D-8) is recommended for detection of IL-6Rα of mouse and rat 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for IL-6Rα siRNA (m): sc-40065, IL-6Rα shRNA Plasmid (m): sc-40065-SH and IL-6Rα shRNA (m) Lentiviral Particles: sc-40065-V.

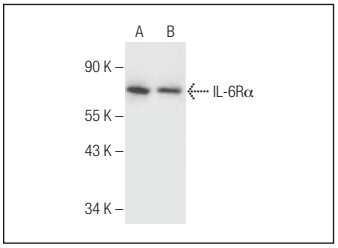
Molecular Weight of IL-6Rα: 80 kDa.

Positive Controls: M1 whole cell lysate: sc-364782, WEHI-3 cell lysate: sc-3815 or CTLL-2 cell lysate: sc-2242.

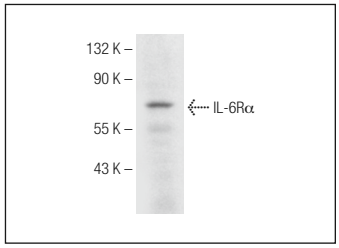
STORAGE

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

DATA



IL-6Rα (D-8): sc-374259. Western blot analysis of IL-6Rα expression in WEHI-3 (**A**) and CTLL-2 (**B**) whole cell lysates.



IL-6Rα (D-8): sc-374259. Western blot analysis of IL-6Rα expression in M1 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Sun, L., et al. 2015. Elevation of AQP4 and selective cytokines in experimental autoimmune encephalitis mice provides some potential biomarkers in optic neuritis and demyelinating diseases. Int. J. Clin. Exp. Pathol. 8: 15749-15758.
2. Li, R., et al. 2016. Lyn prevents aberrant inflammatory responses to *Pseudomonas* infection in mammalian systems by repressing a SHIP-1-associated signaling cluster. Signal Transduct. Target. Ther. 1: 16032.
3. Zhang, Y.M., et al. 2017. EBV-BART-6-3p and cellular microRNA-197 compromise the immune defense of host cells in EBV-positive Burkitt lymphoma. Mol. Med. Rep. 15: 1877-1883.
4. Kaminska, K., et al. 2018. Effects of cell-cell crosstalk on gene expression patterns in a cell model of renal cell carcinoma lung metastasis. Int. J. Oncol. 52: 768-786.
5. Eid, R.A., et al. 2019. A high-fat diet rich in corn oil induces cardiac fibrosis in rats by activating JAK2/Stat3 and subsequent activation of ANG II/ TGF-1β/Smad3 pathway: the role of Ros and IL-6 *trans*-signaling. J. Food Biochem. 43: e12952.
6. Wang, Y., et al. 2020. PCC0208009, an indirect IDO1 inhibitor, alleviates neuropathic pain and co-morbidities by regulating synaptic plasticity of ACC and amygdala. Biochem. Pharmacol. 177: 113926.
7. Srivastava, T., et al. 2021. A mouse model of prenatal exposure to interleukin-6 to study the developmental origin of health and disease. Sci. Rep. 11: 13260.
8. Katashima, C.K., et al. 2022. Evidence for a neuromuscular circuit involving hypothalamic interleukin-6 in the control of skeletal muscle metabolism. Sci. Adv. 8: eabm7355.

RESEARCH USE

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