

LIFR (A-10): sc-515337

BACKGROUND

IL-6 activates intracellular signaling through binding a receptor consisting of an 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 (LIFR) 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: LIFR (human) mapping to 5p13.1; Lifr (mouse) mapping to 15 A1.

SOURCE

LIFR (A-10) is a mouse monoclonal antibody raised against amino acids 878-1097 of LIFR of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

LIFR (A-10) is available conjugated to agarose (sc-515337 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515337 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515337 PE), fluorescein (sc-515337 FITC), Alexa Fluor[®] 488 (sc-515337 AF488), Alexa Fluor[®] 546 (sc-515337 AF546), Alexa Fluor[®] 594 (sc-515337 AF594) or Alexa Fluor[®] 647 (sc-515337 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-515337 AF680) or Alexa Fluor[®] 790 (sc-515337 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

LIFR (A-10) is recommended for detection of LIFR 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for LIFR siRNA (h): sc-35808, LIFR siRNA (m): sc-35809, LIFR siRNA (r): sc-270619, LIFR shRNA Plasmid (h): sc-35808-SH, LIFR shRNA Plasmid (m): sc-35809-SH, LIFR shRNA Plasmid (r): sc-270619-SH, LIFR shRNA (h) Lentiviral Particles: sc-35808-V, LIFR shRNA (m) Lentiviral Particles: sc-35809-V and LIFR shRNA (r) Lentiviral Particles: sc-270619-V.

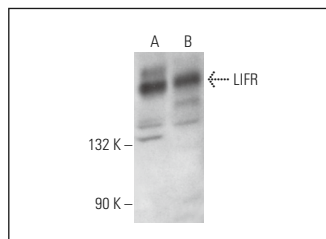
Molecular Weight of LIFR: 190 kDa.

Positive Controls: Sol8 cell lysate: sc-2249, HeLa whole cell lysate: sc-2200 or MM-142 cell lysate: sc-2246.

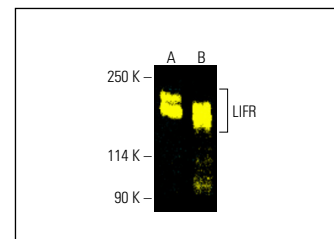
STORAGE

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

DATA



LIFR (A-10): sc-515337. Western blot analysis of LIFR expression in HeLa (A) and MM-142 (B) whole cell lysates.



LIFR (A-10): sc-515337. Fluorescent western blot analysis of LIFR expression in HeLa (A) and Sol8 (B) whole cell lysates. Blocked with UltraCruz[®]. Blocking Reagent: sc-516214. Detection reagent used: m-IgG₁ BP-CFL 488: sc-533661.

SELECT PRODUCT CITATIONS

1. Liu, S.C., et al. 2018. Cytoplasmic LIF reprograms invasive mode to enhance NPC dissemination through modulating YAP1-FAK/PXN signaling. *Nat. Commun.* 9: 5105.
2. Woosley, A.N., et al. 2019. TGFβ promotes breast cancer stem cell self-renewal through an IL6/LIFR signaling axis. *Oncogene* 38: 3794-3811.
3. Rosado-Olivieri, E.A., et al. 2020. Identification of a LIF-responsive, replication-competent subpopulation of human β cells. *Cell Metab.* 31: 327-338.e6.
4. Bian, S.B., et al. 2021. Leukemia inhibitory factor promotes gastric cancer cell proliferation, migration, and invasion via the LIFR-Hippo-YAP pathway. *Ann. N.Y. Acad. Sci.* 1484: 74-89.
5. Rosebrock, D., et al. 2022. Enhanced cortical neural stem cell identity through short SMAD and WNT inhibition in human cerebral organoids facilitates emergence of outer radial glial cells. *Nat. Cell Biol.* 24: 981-995.
6. Takata, S., et al. 2022. LIF-IGF axis contributes to the proliferation of neural progenitor cells in developing rat cerebrum. *Int. J. Mol. Sci.* 23: 13199.
7. Liu, T., et al. 2023. Intrahepatic paracrine signaling by cardiotrophin-like cytokine factor 1 ameliorates diet-induced NASH in mice. *Hepatology* 78: 1478-1491.
8. Xi, X., et al. 2023. Leukemia inhibitory factor impairs the function of peripheral γδT cells in patients with colorectal cancer. *Immunol. Invest.* 52: 210-223.
9. Wang, X., et al. 2023. Hedgehog pathway orchestrates the interplay of histone modifications and tailors combination epigenetic therapies in breast cancer. *Acta Pharm. Sin. B* 13: 2601-2612.

RESEARCH USE

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

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