SANTA CRUZ BIOTECHNOLOGY, INC.

LIFR (C-19): sc-659

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 (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 (C-19) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of LIFR 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.

Blocking peptide available for competition studies, sc-659 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

LIFR (C-19) is recommended for detection of LIF receptor of mouse, rat and human 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).

LIFR (C-19) is also recommended for detection of LIF receptor in additional species, including equine, canine, bovine and porcine.

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

Molecular Weight of LIFR: 190 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, HeLa whole cell lysate: sc-2200 or WEHI-231 whole cell lysate: sc-2213.

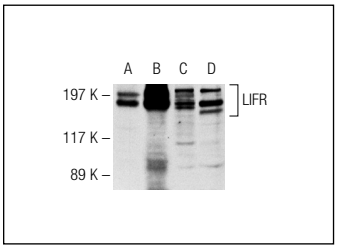
STORAGE

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

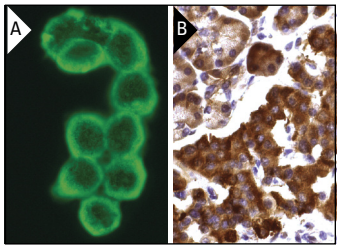
RESEARCH USE

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

DATA



LIFR (C-19): sc-659. Western blot analysis of LIF receptor expression in K-562 (**A**), HeLa (**B**), WEHI-231 (**C**) and MM-142 (**D**) whole cell lysates.



LIFR (C-19): sc-659. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane staining (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cyto-plasmic staining of islet of langerhans and glandular cells (**B**).

SELECT PRODUCT CITATIONS

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2. Woods, A.M., et al. 2008. Leukemia inhibitory factor protein and receptors are expressed in the bovine adrenal cortex and increase cortisol and decrease adrenal androgen release. Domest. Anim. Endocrinol. 35: 217-230.
3. Hendriks, J.J., et al. 2008. Leukemia inhibitory factor modulates production of inflammatory mediators and myelin phagocytosis by macrophages. J. Neuroimmunol. 204: 52-57.
4. Yu, M., et al. 2008. Interleukin-6 cytokine family member oncostatin M is a hair-follicle-expressed factor with hair growth inhibitory properties. Exp. Dermatol. 17: 12-19.
5. Larsen, J.V., et al. 2010. Sortilin facilitates signaling of ciliary neurotrophic factor and related helical type 1 cytokines targeting the gp130/leukemia inhibitory factor receptor b heterodimer. Mol. Cell. Biol. 30: 4175-4187.
6. Sanz-Moreno, V., et al. 2011. ROCK and JAK1 signaling cooperate to control actomyosin contractility in tumor cells and stroma. Cancer Cell 20: 229-245.
7. Spofford, C.M., et al. 2011. Evaluation of leukemia inhibitory factor (LIF) in a rat model of postoperative pain. J. Pain 12: 819-832.
8. Nogueira-Silva, C., et al. 2012. Leukemia inhibitory factor in rat fetal lung development: expression and functional studies. PLoS ONE 7: e30517.
9. Eddie, S.L., et al. 2012. Developmentally regulated IL6-type cytokines signal to germ cells in the human fetal ovary. Mol. Hum. Reprod. 18: 88-95.