SANTA CRUZ BIOTECHNOLOGY, INC.

LIFR (H-7): sc-515492

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

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.
3. Hibi, M., et al. 1990. Molecular cloning and expression of an IL-6 signal transducer, gp130. Cell 63: 1149-1157.
4. Davis, S., et al. 1993. LIFRb and gp130 as heterodimerizing signal transducers of the tripartide CNTF receptor. Science 260: 1805-1808.
5. Murakami, M., et al. 1993. Critical cytoplasmic region of the interleukin-6 signal transducer gp130 is conserved in the cytokine receptor family. Science 260: 1808-1810.
6. Müllberg, J., et al. 1994. The soluble human IL-6 receptor. Mutational characterization of the proteolytic cleavage site. J. Immunol. 152: 4958-4968.
7. Kishimoto, T., et al. 1994. Cytokine signal transduction. Cell 76: 253-262.
8. Hilton, D.J., et al. 1994. Cloning of a murine IL-11 receptor α-chain; requirement for gp130 for high affinity binding and signal transduction. EMBO J. 13: 4765-4775.

CHROMOSOMAL LOCATION

Genetic locus: LIFR (human) mapping to 5p13.1.

SOURCE

LIFR (H-7) is a mouse monoclonal antibody raised against amino acids 878-1097 of LIFR 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.

RESEARCH USE

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

APPLICATIONS

LIFR (H-7) is recommended for detection of LIFR of 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 shRNA Plasmid (h): sc-35808-SH and LIFR shRNA (h) Lentiviral Particles: sc-35808-V.

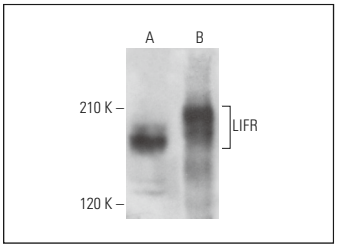
Molecular Weight of LIFR: 190 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or human placenta extract: sc-363772.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



LIFR (H-7): sc-515492. Western blot analysis of LIFR expression in HeLa whole cell lysate (**A**) and human placenta tissue extract (**B**).

SELECT PRODUCT CITATIONS

1. Zhao, D., et al. 2021. Feed-forward activation of Stat3 signaling limits the efficacy of c-Met inhibitors in esophageal squamous cell carcinoma (ESCC) treatment. Mol. Carcinog. 60: 481-496.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.