

LIFR (AN-E1): sc-9995

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 β 2) 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. LIFR β and gp130 as heterodimerizing signal transducers of the tripartite 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 (AN-E1) is a mouse monoclonal antibody raised against full length soluble LIF receptor of human origin.

PRODUCT

Each vial contains 200 μ g IgG $_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

LIFR (AN-E1) is available conjugated to either phycoerythrin (sc-9995 PE) or fluorescein (sc-9995 FITC), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM.

APPLICATIONS

LIFR (AN-E1) is recommended for detection of LIFR of human origin by immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], flow cytometry (1 μ g per 1 x 10⁶ cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

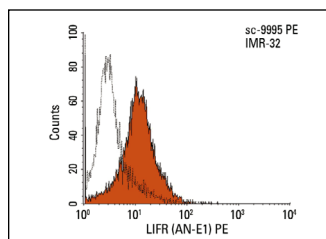
Suitable for use as control antibody for LIFR siRNA (h): sc-35808, LIFR shRNA Plasmid (h): sc-35808-SH and LIFR shRNA (h) Lentiviral Particles: sc-35808-V.

Molecular Weight of LIFR: 190 kDa.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



LIFR (AN-E1) PE: sc-9995 PE. FCM analysis of IMR-32 cells. Black line histogram represents the isotype control, normal mouse IgG $_1$ -PE: sc-2866.

SELECT PRODUCT CITATIONS

1. Hurst, S.M., et al. 2002. Secretion of oncostatin M by infiltrating neutrophils: regulation of IL-6 and chemokine expression in human mesothelial cells. *J. Immunol.* 169: 5244-5251.
2. Gulluoglu, S., et al. 2017. Leukemia inhibitory factor promotes aggressiveness of chordoma. *Oncol. Res.* 25: 1177-1188.

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.

PROTOCOLS

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