SANTA CRUZ BIOTECHNOLOGY, INC.

LIF (E-10): sc-515931

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Embryonic stem (ES) cells are the focus of much research and represent great therapeutic potential as they can be propagated indefinitely in an undifferentiated state while possessing the ability to differentiate into all embryonic germ layers (endoderm, ectoderm and mesoderm) both *in vivo* and *in vitro*. LIF (leukemia inhibitory factor), also known as MLPLI (melanoma-derived LPL inhibitor), HILDA, DIA or CDF, is a 202 amino acid secreted protein and lymphoid factor that participates in the maintenance of ES cell pluripotency by suppressing spontaneous ES cell differentiation. Secreted LIF precursor is further processed into a biologically active glycoprotein. Expressed by a wide variety of cells including activated T lymphocytes, monocytes, mast cells and neuronal cells, LIF is suggested to promote survival and growth of axons *in vitro* and is involved in immune tolerance at the maternal-fetal interface. LIF may also participate in fat and bone metabolism and regulate epithelial conversion during kidney development.

REFERENCES

1. Gough, N.M., et al. 1988. Molecular cloning and expression of the human homologue of the murine gene encoding myeloid leukemia-inhibitory factor. Proc. Natl. Acad. Sci. USA 85: 2623-2627.
2. Patterson, P.H. 1994. Leukemia inhibitory factor, a cytokine at the interface between neurobiology and immunology. Proc. Natl. Acad. Sci. USA 91: 7833-7835.

CHROMOSOMAL LOCATION

Genetic locus: LIF (human) mapping to 22q12.2; Lif (mouse) mapping to 11 A1.

SOURCE

LIF (E-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 81-102 within an internal region of LIF of human origin.

PRODUCT

Each vial contains 200 µg IgG_3 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

LIF (E-10) is recommended for detection of LIF 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 LIF siRNA (h): sc-37222, LIF siRNA (m): sc-37223, LIF siRNA (r): sc-156093, LIF shRNA Plasmid (h): sc-37222-SH, LIF shRNA Plasmid (m): sc-37223-SH, LIF shRNA Plasmid (r): sc-156093-SH, LIF shRNA (h) Lentiviral Particles: sc-37222-V, LIF shRNA (m) Lentiviral Particles: sc-37223-V and LIF shRNA (r) Lentiviral Particles: sc-156093-V.

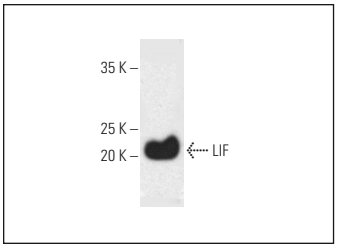
Molecular Weight of LIF precursor: 22 kDa.

Molecular Weight of mature glycosylated LIF: 40-45 kDa.

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



LIF (E-10): sc-515931. Western blot analysis of human recombinant LIF.

SELECT PRODUCT CITATIONS

1. Zheng, D., et al. 2021. Cynaropicrin shows antitumor progression potential in colorectal cancer through mediation of the LIFR/STATs axis. Front. Cell Dev. Biol. 8: 605184.
2. Erbas, E. and Gedikli, S. 2022. Investigation of the endometrial receptivity status in experimental hypothyroid-induced female rats. Iran. J. Basic Med. Sci. 25: 1077-1083.
3. Xu, S., et al. 2022. Leukemia inhibitory factor is a therapeutic target for renal interstitial fibrosis. EBioMedicine 86: 104312.

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.