SANTA CRUZ BIOTECHNOLOGY, INC.

LIF (N-18): sc-1336

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.

CHROMOSOMAL LOCATION

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

SOURCE

LIF (N-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of LIF 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-1336 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

LIF (N-18) is recommended for detection of precursor and mature LIF 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).

LIF (N-18) is also recommended for detection of precursor and mature LIF in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for LIF siRNA (h): sc-37222, LIF siRNA (m): sc-37223, LIF shRNA Plasmid (h): sc-37222-SH, LIF shRNA Plasmid (m): sc-37223-SH, LIF shRNA (h) Lentiviral Particles: sc-37222-V and LIF shRNA (m) Lentiviral Particles: sc-37223-V.

Molecular Weight of LIF precursor: 22 kDa.

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

Positive Controls: PC-12 cell lysate: sc-2250 or JAR cell lysate: sc-2276.

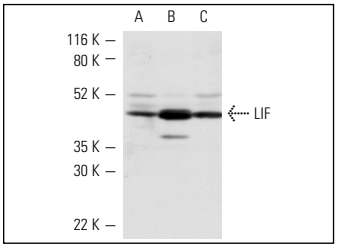
RESEARCH USE

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

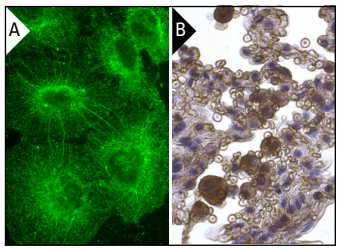
STORAGE

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

DATA



LIF (N-18): sc-1336. Western blot analysis of LIF expression in PC-12 (**A**), JAR (**B**) and Jurkat (**C**) cells.



LIF (N-18): sc-1336. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane and cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human lung tissue showing cytoplasmic and membrane staining of macrophages and pneumocytes cells (**B**).

SELECT PRODUCT CITATIONS

1. Raymond, E.G., et al. 2000. Effect of the Yuzpe regimen of emergency contraception on markers of endometrial receptivity. Hum. Reprod. 15: 2351-2355.
2. Suzuki, S., et al. 2000. Immunohistochemical detection of leukemia inhibitory factor after focal cerebral ischemia in rats. J. Cereb. Blood Flow Metab. 20: 661-668.
3. 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.
4. Pedersen, M.Ø., et al. 2010. Bio-released gold ions modulate expression of neuroprotective and hematopoietic factors after brain injury. Brain Res. 1307: 1-13.
5. Levy, C.S., et al. 2010. Tumor necrosis factor α induces LIF expression through ERK1/2 activation in mammary epithelial cells. J. Cell. Biochem. 110: 857-865.
6. Kulak, J., et al. 2011. Treatment with bazedoxifene, a selective estrogen receptor modulator, causes regression of endometriosis in a mouse model. Endocrinology 152: 3226-3232.
7. Fu, H., et al. 2011. Acupuncture on the endometrial morphology, the serum estradiol and progesterone levels, and the expression of endometrial leukaemia-inhibitor factor and osteopontin in rats. Evid. Based Complement. Alternat. Med. 2011: 606514.
8. Spofford, C.M., et al. 2011. Evaluation of leukemia inhibitory factor (LIF) in a rat model of postoperative pain. J Pain 12: 819-832.
9. Zeaiter, Z., et al. 2011. *Helicobacter pylori* induces expression and secretion of oncostatin M in macrophages *in vitro*. Dig. Dis. Sci. 56: 689-697.
10. Nogueira-Silva, C., et al. 2012. Leukemia inhibitory factor in rat fetal lung development: expression and functional studies. PLoS ONE 7: e30517.