

## LIF (M-179): sc-20087

### 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 (M-179) is a rabbit polyclonal antibody raised against amino acids 24-203 of LIF of mouse origin.

### PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

### STORAGE

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

### APPLICATIONS

LIF (M-179) is recommended for detection of 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) 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.

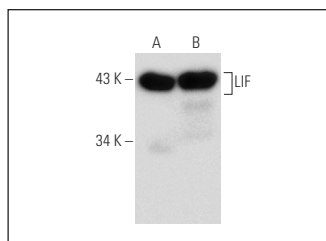
Molecular Weight of mature glycosylated LIF: 40-45 kDa.

Positive Controls: PC-12 cell lysate: sc-2250, U-87 MG cell lysate: sc-2411 or KNRK whole cell lysate: sc-2214.

### RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

### DATA



LIF (M-179): sc-20087. Western blot analysis of LIF expression in U-87 MG (A) and KNRK (B) whole cell lysates.

### SELECT PRODUCT CITATIONS

- Barnabe-Heider, F., et al. 2005. Evidence that embryonic neurons regulate the onset of cortical gliogenesis via Cardiotrophin-1. *Neuron* 48: 253-265.
- Fouladi-Nashta, A.A., et al. 2005. Characterization of the uterine phenotype during the peri-implantation period for LIF-null, MF1 strain mice. *Dev. Biol.* 281: 1-21.
- Lin, H., et al. 2008. Involvement of testicular growth factors in fetal Leydig cell aggregation after exposure to phthalate *in utero*. *Proc. Natl. Acad. Sci. USA* 105: 7218-7222.
- Spofford, C.M., et al. 2011. Evaluation of leukemia inhibitory factor (LIF) in a rat model of postoperative pain. *J. Pain* 12: 819-832.

### RESEARCH USE

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

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.