

Lefty-A (Q-22): sc-133732

BACKGROUND

The TGF β superfamily is composed of numerous growth and differentiation factors, including transforming growth factor (TGF) 1, 2 and 3; growth/differentiation factor (GDF) 1 through 9; Mullerian inhibiting substance (MIS); bone morphogenic protein (BMP) 2 through 8; glial cell line-derived neurotrophic factor (GDNF); inhibins α , β -A, β -B and β -C; Lefty and Nodal. Members of the TGF superfamily are involved in embryonic development and adult tissue homeostasis. Lefty-A and Lefty-B are homologues of murine Lefty-1 and Lefty-2. Lefty-1 is required for left-right axis determination as a regulator of Lefty-2 and Nodal. It is a secreted protein expressed on the left side of developing embryos. The expression of Lefty-1 is mostly in the prospective floor plate (PFP) although weak expression can be seen in the lateral-plate mesoderm (LPM). It is involved in establishing left-right asymmetry of the organ systems of mammals. Lefty-A plays a role in endometrial bleeding. Mutations in this gene have been associated with left-right axis malformations, particularly in the heart and lungs. Some types of infertility have been associated with dysregulated expression of this gene in the endometrium.

REFERENCES

1. Massague, J., Cheifetz, S., Igotz, R.A. and Boyd, F.T. 1987. Multiple type- β transforming growth factors and their receptors. *J. Cell Physiol. Suppl.* 5: 43-47.
2. Massague, J. 1990. The transforming growth factor- β family. *Ann. Rev. Cell Biol.* 6: 597-641.
3. Meno, C., Saijoh, Y., Fujii, H., Ikeda, M., Yokoyama, T., Yokoyama, M., Toyoda, Y. and Hamada, H. 1996. Left-right asymmetric expression of the TGF β -family member Lefty in mouse embryos. *Nature* 381: 151-155.
4. Kothapalli, R., Buyuksal, I., Wu, S.Q., Chegini, N. and Tabibzadeh, S. 1997. Detection of EBAF, a novel human gene of the transforming growth factor β superfamily association of gene expression with endometrial bleeding. *J. Clin. Invest.* 99: 2342-2350
5. McPherron, A.C., Lawler, A.M. and Lee, S.J. 1997. Regulation of skeletal muscle mass in mice by a new TGF β superfamily member. *Nature* 387: 83-90.
6. Meno, C., Shimono, A., Saijoh, Y., Yashiro, K., Mochida, K., Ohishi, S., Noji, S., Kondoh, H. and Hamada, H. 1998 Lefty-1 is required for left-right determination as a regulator of Lefty-2 and Nodal. *Cell* 94: 287-297.

CHROMOSOMAL LOCATION

Genetic locus: LEFTY2 (human) mapping to 1q42.12.

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 or our catalog for detailed protocols and support products.

SOURCE

Lefty-A (Q-22) is an affinity purified rabbit polyclonal antibody raised against synthetic Lefty-A peptide of human origin.

PRODUCT

Each vial contains 50 μ g IgG in 500 μ l PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

APPLICATIONS

Lefty-A (Q-22) is recommended for detection of Lefty-A of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Lefty-A siRNA (h): sc-39789, Lefty-A shRNA Plasmid (h): sc-39789-SH and Lefty-A shRNA (h) Lentiviral Particles: sc-39789-V.

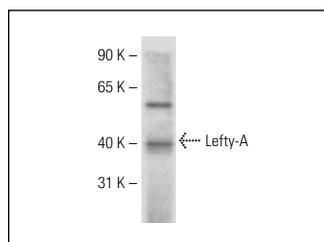
Molecular Weight of Lefty-A: 41 kDa.

Positive Controls: RPMI B226 whole cell lysate.

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).

DATA



Lefty-A (Q-22): sc-133732. Western blot analysis of Lefty-A expression in RPMI B226 whole cell lysate.

RESEARCH USE

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