

Lunatic Fringe (P-16): sc-324094

BACKGROUND

Three mammalian fringe family members, namely Manic Fringe, Radical Fringe and Lunatic Fringe, have been identified as proteins related to *Drosophila* Fringe, a protein involved in development. Fringe proteins act upstream of the Notch signaling pathway and are involved in boundary determination during segmentation. Each mammalian fringe displays different patterns of expression, though all are expressed in the mouse embryo as well as in many adult tissues. Lunatic Fringe, also known as LFNG or SCDO3, is a 379 amino acid single-pass type II membrane protein that localizes to the membrane of the Golgi apparatus. Functioning as a glycosyltransferase, Lunatic Fringe acts as a critical mediator of somite patterning and segmentation and plays a fundamental role in initiating the elongation of O-linked fucose residues that are attached to Notch molecules. Defects in the gene encoding Lunatic Fringe are the cause of autosomal recessive spondylocostal dysostosis 3 (SCDO3), a disorder that arises during embryonic development and is characterized by rib anomalies and multiple vertebrate segmentation. Three isoforms of Lunatic Fringe are expressed due to alternative splicing events.

REFERENCES

1. Johnston, S.H., et al. 1997. A family of mammalian fringe genes implicated in boundary determination and the Notch pathway. *Development* 124: 2245-2254.
2. May, W.A., et al. 1997. EWS/FLI1-induced Manic Fringe renders NIH 3T3 cells tumorigenic. *Nat. Genet.* 17: 495-497.
3. Laufer, E., et al. 1997. Expression of Radical Fringe in limb-bud ectoderm regulates apical ectodermal ridge formation. *Nature* 386: 366-373.
4. Thelu, J., et al. 1998. Differential expression pattern of the three fringe genes is associated with epidermal differentiation. *J. Invest. Dermatol.* 111: 903-906.
5. McGrew, M.J., et al. 1998. The Lunatic Fringe gene is a target of the molecular clock linked to somite segmentation in avian embryos. *Curr. Biol.* 8: 979-982.

CHROMOSOMAL LOCATION

Genetic locus: LFNG (human) mapping to 7p22.3.

SOURCE

Lunatic Fringe (P-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Lunatic Fringe 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-324094 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

Lunatic Fringe (P-16) is recommended for detection of Lunatic Fringe of 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); non cross-reactive with Manic Fringe or Radical Fringe.

Lunatic Fringe (P-16) is also recommended for detection of Lunatic Fringe in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Lunatic Fringe siRNA (h): sc-39490, Lunatic Fringe shRNA Plasmid (h): sc-39490-SH and Lunatic Fringe shRNA (h) Lentiviral Particles: sc-39490-V.

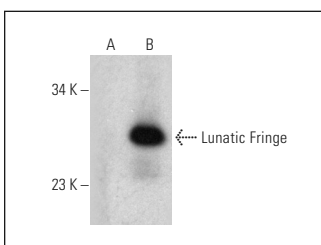
Molecular Weight of Lunatic Fringe: 42 kDa.

Positive Controls: Lunatic Fringe (h): 293T Lysate: sc-113463.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Lunatic Fringe (P-16): sc-324094. Western blot analysis of Lunatic Fringe expression in non-transfected: sc-117752 (A) and human Lunatic Fringe transfected: sc-113463 (B) 293T whole cell lysates.

STORAGE

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

MONOS
Satisfaction
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Try **Lunatic Fringe (TT-07): sc-100756**, our highly recommended monoclonal alternative to Lunatic Fringe (P-16).