

Delta-3 (H-110): sc-67270

BACKGROUND

The LIN-12/Notch family of transmembrane receptors is believed to play a central role in development by regulating cell fate decisions. Notch can be activated by several ligands including Jagged1, Jagged2 and the Delta family of proteins. Delta-3, also known as DLL3 (*Drosophila* Delta homolog 3) or SCDO1, is a single-pass type I membrane protein that can bind to and activate Notch receptors. Required to divert neurons along their specified differentiation pathways, Delta-3 can inhibit primary neurogenesis and assist in forming somite boundaries during paraxial mesoderm segmentation. Delta-3 contains six EGF-like domains, one transmembrane domain and one DSL domain which is required for proper binding to the Notch receptor. Ubiquitination by Skeleto-phin (also known as MIB2, mindbomb homolog 2) leads to endocytosis and subsequent degradation of Delta-3. Defects in the gene encoding Delta-3 are the cause of autosomal recessive spondylocostal dysostosis type 1 (SCDO1), a condition characterized by rib fusions and multiple hemivertebrae.

REFERENCES

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2. Turnpenny, P.D., et al. 2003. Novel mutations in DLL3, a somitogenesis gene encoding a ligand for the Notch signalling pathway, cause a consistent pattern of abnormal vertebral segmentation in spondylocostal dysostosis. *J. Med. Genet.* 40: 333-339.
3. Maisenbacher, M.K., et al. 2005. Molecular analysis of congenital scoliosis: a candidate gene approach. *Hum. Genet.* 116: 416-419.
4. Ladi, E., et al. 2005. The divergent DSL ligand Dll3 does not activate Notch signaling but cell autonomously attenuates signaling induced by other DSL ligands. *J. Cell Biol.* 170: 983-992.
5. Chen, J., et al. 2006. Expression of Notch signaling pathway genes in mouse embryos lacking β 4-galactosyltransferase-1. *Gene Expr. Patterns* 6: 376-382.
6. Giampietro, P.F., et al. 2006. DLL3 as a candidate gene for vertebral malformations. *Am. J. Med. Genet. A* 140: 2447-2453.
7. Geffers, I., et al. 2007. Divergent functions and distinct localization of the Notch ligands DLL1 and DLL3 *in vivo*. *J. Cell Biol.* 178: 465-476.

CHROMOSOMAL LOCATION

Genetic locus: DLL3 (human) mapping to 19q13.2; Dll3 (mouse) mapping to 7 A3.

SOURCE

Delta-3 (H-110) is a rabbit polyclonal antibody raised against amino acids 121-230 mapping within an N-terminal extracellular domain of Delta-3 of human origin.

PRODUCT

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

APPLICATIONS

Delta-3 (H-110) is recommended for detection of Delta-3 of human and, to a lesser extent, mouse and rat 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)], 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).

Delta-3 (H-110) is also recommended for detection of Delta-3 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for Delta-3 siRNA (h): sc-62206, Delta-3 siRNA (m): sc-62207, Delta-3 shRNA Plasmid (h): sc-62206-SH, Delta-3 shRNA Plasmid (m): sc-62207-SH, Delta-3 shRNA (h) Lentiviral Particles: sc-62206-V and Delta-3 shRNA (m) Lentiviral Particles: sc-62207-V.

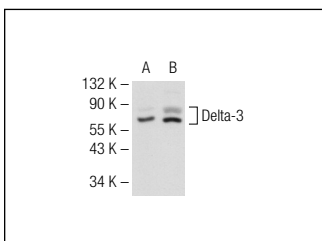
Molecular Weight of Delta-3: 65 kDa.

Positive Controls: Delta-3 (h): 293T Lysate: sc-176242.

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



Delta-3 (H-110): sc-67270. Western blot analysis of Delta-3 expression in non-transfected: sc-117752 (A) and human Delta-3 transfected: sc-176242 (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.

RESEARCH USE

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