

Delta-3 (C-17): sc-66513

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-phosphin (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

1. Bulman, M.P., et al. 2000. Mutations in the human Delta homologue, DLL3, cause axial skeletal defects in spondylocostal dysostosis. *Nat. Genet.* 24: 438-441.
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.

CHROMOSOMAL LOCATION

Genetic locus: DLL3 (human) mapping to 19q13.2.

SOURCE

Delta-3 (C-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus 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.

Blocking peptide available for competition studies, sc-66513 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

Delta-3 (C-17) is recommended for detection of Delta-3 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

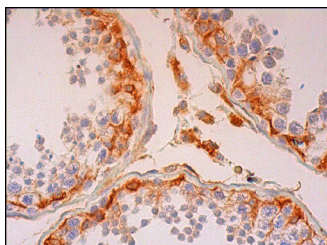
Suitable for use as control antibody for Delta-3 siRNA (h): sc-62206, Delta-3 shRNA Plasmid (h): sc-62206-SH and Delta-3 shRNA (h) Lentiviral Particles: sc-62206-V.

Molecular Weight of Delta-3: 65 kDa.

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) 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. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



Delta-3 (C-17): sc-66513. Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing membrane and cytoplasmic staining of cells in seminiferous ducts and cytoplasmic staining of Leydig cells.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.