

Delta-4 (A-20): sc-18641

BACKGROUND

The LIN-12/Notch family of transmembrane receptors is believed to play a central role in development by regulating cell fate decisions. Notch proteins have been found to be overexpressed or rearranged in human tumors. Ligands for Notch include Jagged, Jagged-2 and Delta. While blocking the differentiation of progenitor cells into the B-cell lineage, Delta promotes the emergence of a population of cells with T-cell/NK-cell characteristics. The protein is a membrane protein expressed in heart, pancreas, brain and muscle during gastrulation and early organogenesis and in adult heart and lung. Delta-4 is a membrane protein that activates Notch-1 and Notch-4. It is expressed in a wide range of adult and fetal tissues, especially in vascular endothelium.

REFERENCES

1. Simpson, P. 1994. The Notch receptors. Austin, TX: R.G. Landes Company
2. Bettenhausen, B., et al. 1995. Transient and restricted expression during mouse embryogenesis of Dll1, a murine gene closely related to *Drosophila* Delta. *Development* 121: 2407-2418.
3. Girard, L., et al. 1996. Frequent provirus insertional mutagenesis of Notch1 in thymomas of MMTVD/Myc transgenic mice suggests a collaboration of c-Myc and Notch1 for oncogenesis. *Genes Dev.* 10: 1930-1944.
4. Shutter, J.R., et al. 2000. Dll4, a novel Notch ligand expressed in arterial endothelium. *Genes Dev.* 14: 1313-1318.
5. Jaleco, A.C., et al. 2001. Differential effects of Notch ligands Delta-1 and Jagged-1 in human lymphoid differentiation. *J. Exp. Med.* 7: 991-1002.

CHROMOSOMAL LOCATION

Genetic locus: Dll4 (mouse) mapping to 2 E5.

SOURCE

Delta-4 (A-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Delta-4 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.

Blocking peptide available for competition studies, sc-18641 P, (100 µg 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.

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.

APPLICATIONS

Delta-4 (A-20) is recommended for detection of precursor and mature Delta-4 of mouse and rat 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Delta-4 siRNA (m): sc-39668, Delta-4 shRNA Plasmid (m): sc-39668-SH and Delta-4 shRNA (m) Lentiviral Particles: sc-39668-V.

Molecular Weight of Delta-4: 75 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.

SELECT PRODUCT CITATIONS

1. Wu, M., et al. 2007. Imaging hematopoietic precursor division in real time. *Cell Stem Cell* 1: 541-554.
2. Shimizu, T., et al. 2009. Notch signaling induces osteogenic differentiation and mineralization of vascular smooth muscle cells: role of Msx2 gene induction via Notch-RBP-Jk signaling. *Arterioscler. Thromb. Vasc. Biol.* 29: 1104-1111.
3. Huang, Y., et al. 2011. Resuscitating cancer immunosurveillance: selective stimulation of DLL1-Notch signaling in T cells rescues T-cell function and inhibits tumor growth. *Cancer Res.* 71: 6122-6131.