SANTA CRUZ BIOTECHNOLOGY, INC.

# Delta-4 (T-20): sc-18639

## 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, Jagged2 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. Karanu, F.N., et al. 2001. Human homologues of Delta-1 and Delta-4 function as mitogenic regulators of primitive human hematopoietic cells. Blood 97: 1960-1967.
2. Yoneya, T., et al. 2001. Molecular cloning of Delta-4, a new mouse and human Notch ligand. J. Biochem. 129: 27-34.
3. Taylor, K.L., et al. 2002. Notch activation during endothelial cell network formation *in vitro* targets the basic HLH transcription factor HESR-1 and downregulates VEGFR-2/KDR expression. Microvasc. Res. 64: 372-383.
4. Nijjar, S.S., et al. 2002. Altered Notch ligand expression in human liver disease: further evidence for a role of the Notch signaling pathway in hepatic neovascularization and biliary ductular defects. Am. J. Pathol. 160: 1695-1703.
5. Nakatsu, M.N., et al. 2003. Angiogenic sprouting and capillary lumen formation modeled by human umbilical vein endothelial cells (HUVEC) in fibrin gels: the role of fibroblasts and Angiopoietin-1. Microvasc. Res. 66: 102-112.
6. Tohda, S., et al. 2003. Notch ligands, Delta-1 and Delta-4 suppress the self-renewal capacity and long-term growth of two myeloblastic leukemia cell lines. Int. J. Oncol. 22: 1073-1079.


## CHROMOSOMAL LOCATION

Genetic locus: DLL4 (human) mapping to 15q15.1.

## SOURCE

Delta-4 (T-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Delta-4 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-18639 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.

## APPLICATIONS

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

Delta-4 (T-20) is also recommended for detection of precursor and mature Delta-4 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Delta-4 siRNA (h): sc-39667, Delta-4 shRNA Plasmid (h): sc-39667-SH and Delta-4 shRNA (h) Lentiviral Particles: sc-39667-V.

Molecular Weight of Delta-4: 75 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203.

## 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. Liu, Z.J., et al. 2006. Inhibition of endothelial cell proliferation by Notch1 signaling is mediated by repressing MAPK and PI3K/Akt pathways and requires MAML1. FASEB J. 20: 1009-1011.
2. Karlsson, C., et al. 2009. Identification of a stem cell niche in the zone of Ranvier within the knee joint. J. Anat. 215: 355-363.


## 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.