SANTA CRUZ BIOTECHNOLOGY, INC.

Notch 4 (H-225): sc-5594

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The LIN-12/Notch transmembrane receptors are believed to play a central role in development by regulating cell fate decisions. Four Notch homologs (Notch 1, Notch 2, Notch 3 and Notch 4) have been identified in mammals. The Notch genes are expressed in a variety of embryonic and adult tissues, suggesting that the genes are involved in multiple signaling pathways. Notch proteins have been found to be overexpressed or rearranged in human tumors. Ligands for Notch include Jagged1, Jagged2 and Delta. Jagged1 can activate Notch and prevent myoblast differentiation by inhibiting the expression of muscle regulatory and structural genes. Jagged2 may be involved in tissue development that is dependent upon epithelial-mesenchymal interactions. In addition to its normal expression in the adrenal gland and placenta, Delta expression has also been found in neuroendocrine tumors.

CHROMOSOMAL LOCATION

Genetic locus: NOTCH4 (human) mapping to 6p21.32; Notch4 (mouse) mapping to 17 B1.

SOURCE

Notch 4 (H-225) is a rabbit polyclonal antibody raised against amino acids 1779-2003 of Notch 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.

APPLICATIONS

Notch 4 (H-225) is recommended for detection of Notch 4 of mouse and 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), 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 Notch 4 siRNA (h): sc-40137, Notch 4 siRNA (m): sc-40138, Notch 4 shRNA Plasmid (h): sc-40137-SH, Notch 4 shRNA Plasmid (m): sc-40138-SH, Notch 4 shRNA (h) Lentiviral Particles: sc-40137-V and Notch 4 shRNA (m) Lentiviral Particles: sc-40138-V.

Molecular Weight (predicted) of Notch 4 isoforms 1/2/3: 210/61/40 kDa.

Molecular Weight (observed) of Notch 4: 117-218 kDa.

Positive Controls: JAR cell lysate: sc-2276, mouse kidney extract: sc-2255 or Jurkat whole cell lysate: sc-2204.

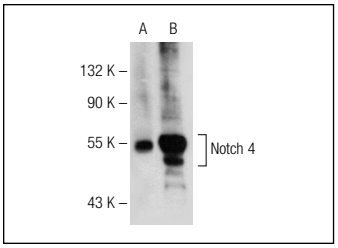
STORAGE

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

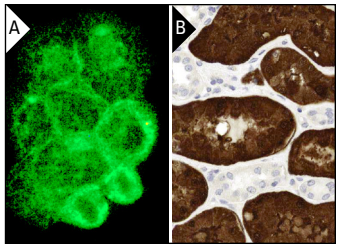
RESEARCH USE

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

DATA



Notch 4 (H-225): sc-5594. Western blot analysis of Notch 4 expression in 293T (**A**) and Jurkat (**B**) whole cell lysates.



Notch 4 (H-225): sc-5594. Immunofluorescence staining of methanol-fixed JAR cells showing membrane localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing nuclear and cytoplasmic staining of cells in tubuli. Kindly provided by The Swedish Human Protein Atlas (HPA) program (**B**).

SELECT PRODUCT CITATIONS

1. Ando, K. 2003. Induction of Notch signaling by tumor necrosis factor in rheumatoid synovial fibroblasts. Oncogene 22: 7796-7803.
2. Rockenstein, E., et al. 2005. High β-secretase activity elicits neurodegeneration in transgenic mice despite reductions in amyloid-β levels: implications for the treatment of Alzheimer disease. J. Biol. Chem. 280: 32957-32967.
3. Williams, R., et al. 2009. Notch receptor and Notch ligand expression in developing avian cartilage. J. Anat. 215: 159-169.
4. Caolo, V., et al. 2010. Feed-forward signaling by membrane-bound ligand receptor circuit: the case of NOTCH DELTA-like 4 ligand in endothelial cells. J. Biol. Chem. 285: 40681-40689.
5. Lage, K., et al. 2010. Dissecting spatio-temporal protein networks driving human heart development and related disorders. Mol. Syst. Biol. 6: 381.
6. Chen, J., et al. 2010. Hypoxia potentiates Notch signaling in breast cancer leading to decreased E-cadherin expression and increased cell migration and invasion. Br. J. Cancer 102: 351-360.
7. Hernandez, F., et al. 2011. Role of the DLL4-NOTCH system in PGF2α-induced luteolysis in the pregnant rat. Biol. Reprod. 84: 859-865.

PROTOCOLS

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