

Notch 3 (2107-2240): sc-4475 WB

BACKGROUND

The LIN-12/Notch family of transmembrane receptors is believed to play a central role in development by regulating cell fate decisions. To date, four Notch homologs have been identified in mammals and have been designated Notch 1, Notch 2, Notch 3 and Notch 4. The Notch genes are expressed in a variety of tissues in both the embryonic and adult organism, suggesting that the genes are involved in multiple signaling pathways. The Notch proteins have been found to be overexpressed or rearranged in human tumors. Ligands for Notch include Jagged, Jagged2 and Delta. Jagged can activate Notch and prevent myoblast differentiation by inhibiting the expression of muscle regulatory and structural genes. Jagged2 is thought to be involved in the development of various tissues whose development is dependent upon epithelial-mesenchymal interactions. Normal Delta expression is restricted to the adrenal gland and placenta. Delta expression has also been found in neuroendocrine tumors such as neuroblastomas and pheochromocytomas.

REFERENCES

1. Weinmaster, G., Roberts, V.J. and Lemke, G 1992. Notch 2: a second mammalian Notch gene. *Development* 116: 931-941.
2. Kopan, R. and Weintraub, H. 1993. Mouse Notch: expression in hair follicles correlates with cell fate determination. *J. Cell Biol.* 121: 631-641.
3. Laborda, J., Sausville, E.A., Hoffman, T. and Notario, V. 1993. dlk, a putative mammalian homeotic gene differentially expressed in small cell lung carcinomas and neuroendocrine tumor cell line. *J. Biol. Chem.* 268: 3817-3820.
4. Swiatek, P.J., Lindsell, C.E., del Amo, F.F., Weinmaster, G. and Gridley, T. 1994. Notch 1 is essential for postimplantation development in mice. *Genes Dev.* 8: 707-719.
5. Simpson, P. 1994. *The Notch Receptors*. Austin, TX: R.G. Landes Company.
6. Lindsell, C.E., Shawber, C.J., Boulter, J. and Weinmaster, G 1995. Jagged: a mammalian ligand that activates Notch 1. *Cell* 80: 909-917.
7. Uyttendaele, H., Marazzi, G., Wu, G., Yan, Q., Sassoon, D. and Kitajewski, J. 1996. Notch 4/int-3, a mammary proto-oncogene, is an endothelial cell-specific mammalian Notch gene. *Development* 122: 2251-2259.
8. Girard, L., Hanna, Z., Beaulieu, N., Hoemann, C.D., Simard, C., Kozak, C.A. and Jolicoeur, P. 1996. Frequent provirus insertional mutagenesis of Notch 1 in thymomas of MMTVD/Myc transgenic mice suggests a collaboration of c-Myc and Notch 1 for oncogenesis. *Genes Dev.* 10: 1930-1944.
9. Valsecchi, C., Ghezzi, C., Ballabio, A., and Rugarli, E.I. 1997. Jagged2: a putative Notch ligand expressed in the apical ectodermal ridge and in sites of epithelial-mesenchymal interactions. *Mech. Dev.* 69: 203-207.

CHROMOSOMAL LOCATION

Genetic locus: NOTCH3 (human) mapping to 19p13.2-p13.1; notch3 (mouse) mapping to 17 A3.3.

SOURCE

Notch 3 (2107-2240) is expressed in *E. coli* as a 42 kDa tagged fusion protein corresponding to amino acids 2107-2240 of Notch 3 of mouse origin.

PRODUCT

Notch 3 (2107-2240) is purified from bacterial lysates (>98%) by column chromatography; supplied as 10 µg protein in 0.1 ml SDS-PAGE loading buffer.

APPLICATIONS

Notch 3 (2107-2240) is suitable as a Western blotting control for sc-5593.

STORAGE

Store at -20°. 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.