10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

NOTCH1 Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP6218a

Product Information

Application	IHC-P, E
Primary Accession	P46531
Reactivity	Human, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB2197/2198
Calculated MW	272505

Additional Information

Gene ID	4851
Other Names	Neurogenic locus notch homolog protein 1, Notch 1, hN1, Translocation-associated notch protein TAN-1, Notch 1 extracellular truncation, NEXT, Notch 1 intracellular domain, NICD, NOTCH1, TAN1
Target/Specificity	This NOTCH1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide selected from the C-terminal region of human NOTCH1.
Dilution	IHC-P~~1:100~500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	NOTCH1 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	NOTCH1
Synonyms	TAN1
Function	Functions as a receptor for membrane-bound ligands Jagged-1 (JAG1), Jagged-2 (JAG2) and Delta-1 (DLL1) to regulate cell-fate determination. Upon

	ligand activation through the released notch intracellular domain (NICD) it forms a transcriptional activator complex with RBPJ/RBPSUH and activates genes of the enhancer of split locus. Affects the implementation of differentiation, proliferation and apoptotic programs. Involved in angiogenesis; negatively regulates endothelial cell proliferation and migration and angiogenic sprouting. Involved in the maturation of both CD4(+) and CD8(+) cells in the thymus. Important for follicular differentiation and possibly cell fate selection within the follicle. During cerebellar development, functions as a receptor for neuronal DNER and is involved in the differentiation of Bergmann glia. Represses neuronal and myogenic differentiation. May play an essential role in postimplantation development, probably in some aspect of cell specification and/or differentiation. May be involved in mesoderm development, somite formation and neurogenesis. May enhance HIF1A function by sequestering HIF1AN away from HIF1A. Required for the THBS4 function in regulating protective astrogenesis from the subventricular zone (SVZ) niche after injury. Involved in determination of left/right symmetry by modulating the balance between motile and immotile (sensory) cilia at the left-right organiser (LRO).
Cellular Location	Cell membrane {ECO:0000250|UniProtKB:Q01705}; Single-pass type I membrane protein. Late endosome membrane; Single-pass type I membrane protein. Note=Non-activated receptor is targeted for lysosomal degradation via the endosomal pathway; transport from late endosomes to lysosomes requires deuibiquitination by USP12.
Tissue Location	In fetal tissues most abundant in spleen, brain stem and lung. Also present in most adult tissues where it is found mainly in lymphoid tissues

Background

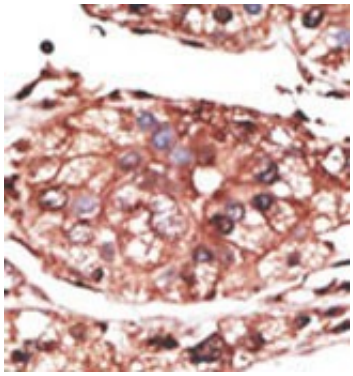
NOTCH1 functions as a receptor for membrane-bound ligands Jagged1, Jagged2 and Delta1 to regulate cell-fate determination. Upon ligand activation through the released notch intracellular domain (NICD) it forms a transcriptional activator complex with RBP-J kappa and activates genes of the enhancer of split locus. This protein effects the implementation of differentiation, proliferation and apoptotic programs, and may be important for normal lymphocyte function. In altered form, it may contribute to transformation or progression in some T-cell neoplasms. In fetal tissues it is most abundant in spleen, brain stem and lung. NOTCH1 is also present in most adult tissues where it is found mainly in lymphoid tissues. NOTCH1 is synthesized in the endoplasmic reticulum as an inactive form which is proteolytically cleaved by a furin-like convertase in the trans-Golgi network before it reaches the plasma membrane to yield an active, ligand-accessible form. Cleavage results in a C-terminal fragment N(TM) and a N-terminal fragment N(EC). Following ligand binding, it is cleaved by TNF-alpha converting enzyme (TACE) to yield a membrane-associated intermediate fragment called notch extracellular truncation (NEXT). This fragment is then cleaved by presenilin dependent gamma-secretase to release a notch-derived peptide containing the intracellular domain (NICD) from the membrane NOTCH1 truncation is associated with T-cell acute lymphoblastic leukemia. NOTCH1 contains a putative 5 ANK repeats and 36 EGF-like domains.

References

Gray, G.E., et al., Am. J. Pathol. 154(3):785-794 (1999). Matsuno, K., et al., Nat. Genet. 19(1):74-78 (1998). Ellisen, L.W., et al., Cell 66(4):649-661 (1991).

Images

Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody,



followed by AEC staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.

Citations

- The Expression of Notch 1 and Notch 3 in Gallbladder Cancer and Their Clinicopathological Significance.
- Involvement of microRNA-451 in resistance of the MCF-7 breast cancer cells to chemotherapeutic drug doxorubicin.