

**DESCRIPTION**

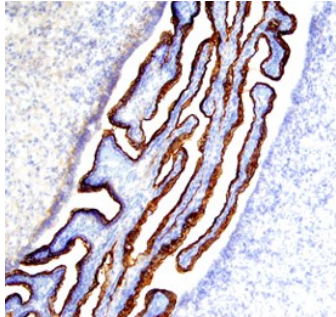
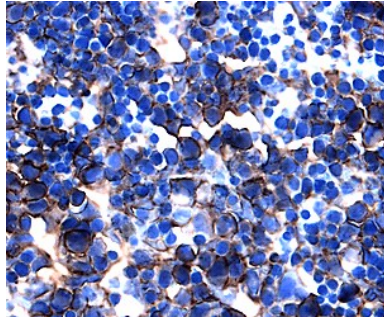
<b>Species Reactivity</b>	Rat
<b>Specificity</b>	Detects rat Notch-2 in direct ELISAs and Western blots. In direct ELISAs and Western blots, approximately 5% cross-reactivity with recombinant rat Notch-1 is observed, and less than 1% cross-reactivity with recombinant mouse Notch-3 is observed.
<b>Source</b>	Polyclonal Goat IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant rat Notch-2 Leu26-Glu492 Accession # Q9QW30
<b>Endotoxin Level</b>	<0.10 EU per 1 µg of the antibody by the LAL method.
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

**APPLICATIONS**

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	<b>Recommended Concentration</b>	<b>Sample</b>
<b>Western Blot</b>	0.1 µg/mL	Recombinant Rat Notch-2 Fc Chimera (Catalog # 1190-NT)
<b>Flow Cytometry</b>	2.5 µg/10 <sup>6</sup> cells	Rat splenocytes
<b>Immunohistochemistry</b>	5-15 µg/mL	See Below
<b>CyTOF-ready</b>	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	
<b>Blockade of Receptor-ligand Interaction</b>	In a functional ELISA, 2-5 µg/mL of this antibody will block 50% of the binding of 200 ng/mL of Recombinant Rat Jagged-1 Fc Chimera (Catalog # 599-JG) to immobilized Recombinant Rat Notch-2 Fc Chimera (Catalog # 1190-NT) coated at 5 µg/mL (100 µL/well). At 20 µg/mL, this antibody will block >90% of the binding.	

**DATA**

<p><b>Immunohistochemistry</b></p>  <p><b>Notch-2 in Rat Brain.</b> Notch-2 was detected in perfusion fixed frozen sections of rat brain (choroid plexus) using 5 µg/mL Goat Anti-Rat Notch-2 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1190) overnight at 4 °C. Tissue was stained with the Anti-Goat HRP-DAB Cell &amp; Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). View our protocol for <a href="#">Chromogenic IHC Staining of Frozen Tissue Sections</a>.</p>	<p><b>Immunohistochemistry</b></p>  <p><b>Notch-2 in Embryonic Rat Liver.</b> Notch-2 was detected in immersion fixed frozen sections of embryonic rat liver (15 d.p.c.) using 1.7 µg/mL Goat Anti-Rat Notch-2 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1190) overnight at 4 °C. Tissue was stained with the Anti-Goat HRP-DAB Cell &amp; Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). View our protocol for <a href="#">Chromogenic IHC Staining of Frozen Tissue Sections</a>.</p>
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**PREPARATION AND STORAGE**

<b>Reconstitution</b>	Reconstitute at 0.2 mg/mL in sterile PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>• 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>• 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

#### BACKGROUND

Rat Notch-2 is a 300 kDa, type I transmembrane glycoprotein involved in a number of early-event developmental processes (1). In both vertebrates and invertebrates, Notch signaling is important for specifying cell fates and for defining boundaries between different cell types. The molecule is synthesized as a 2472 amino acid (aa) precursor that contains a putative 27 aa signal sequence, a 1650 aa extracellular region, a 23 aa transmembrane (TM) segment and a 772 aa cytoplasmic domain (2). The large Notch extracellular domain has 36 EGF-like repeats followed by three notch/Lin-12 repeats (LNR). Of the 36 EGF-like repeats, the 11<sup>th</sup> and 12<sup>th</sup> EGF-like repeats have been shown to be both necessary and sufficient for binding the ligands Serrate and Delta, in *Drosophila* (3). Cell surface Notch receptor is thought to be a heterodimer consisting of the ligand binding extracellular region associated with the remaining transmembrane protein, as a result of post-translational proteolytic cleavage by a furin-like enzyme. Upon ligand binding, additional proteolysis events result in the release of the Notch intracellular domain (NICD). NICD translocates into the nucleus and initiates transcription of Notch-responsive genes (4). Thus Notch acts as both a ligand-binding receptor and a nuclear factor that regulates transcription. In addition, an alternative Notch signaling pathway that is mediated by the full-length, uncleaved form of Notch-1 at the cell surface has been reported to suppress differentiation of myoblasts in response to ligand binding (5). Rat Notch-2 shows 92% and 95% aa identity to human and mouse Notch-2 extracellular domains, respectively. Relative to the extracellular region of rat Notch-1, rat Notch-2 exhibits 56% aa identity.

#### References:

1. Weinmaster, G. (2000) *Curr. Opin. Genet. Dev.* **10**:363.
2. Weinmaster, G. (1992) *Development* **116**:931.
3. Rebay, I. *et al.* (1991) *Cell* **67**:687.
4. Mumm, J.S. and R. Kopan (2000) *Dev. Biol.* **228**:151.
5. Bush, G. *et al.* (2001) *Dev. Biol.* **229**:494.