

## DESCRIPTION

|                           |                                                                                                                                                                                                                                                                             |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b> | Human                                                                                                                                                                                                                                                                       |
| <b>Specificity</b>        | Detects human Notch-3 in direct ELISAs and Western blots. In direct ELISAs, approximately 50% cross-reactivity with recombinant mouse Notch-3 is observed and less than 5% cross-reactivity with recombinant human (rh) Notch-1 and rhNotch-2 is observed.                  |
| <b>Source</b>             | Polyclonal Sheep IgG                                                                                                                                                                                                                                                        |
| <b>Purification</b>       | Antigen Affinity-purified                                                                                                                                                                                                                                                   |
| <b>Immunogen</b>          | Mouse myeloma cell line NS0-derived recombinant human Notch-3<br>Ala40-Glu467<br>Accession # Q9UM47                                                                                                                                                                         |
| <b>Conjugate</b>          | Alexa Fluor 488<br>Excitation Wavelength: 488 nm<br>Emission Wavelength: 515-545 nm                                                                                                                                                                                         |
| <b>Formulation</b>        | Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide<br><br>*Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions. |

## 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>Western Blot</b>                            | Optimal dilution of this antibody should be experimentally determined. |
| <b>Blockade of Receptor-ligand Interaction</b> | Optimal dilution of this antibody should be experimentally determined. |

## PREPARATION AND STORAGE

|                                |                                                                                                                   |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>Shipping</b>                | The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below. |
| <b>Stability &amp; Storage</b> | Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied                          |

## BACKGROUND

Human Notch-3 is part of the Notch family of type I transmembrane glycoproteins involved in a number of early-event developmental processes (1). The extracellular domain of Notch receptors interact with the extracellular domain of transmembrane ligands Jagged, Delta, and Serrate expressed on the surface of a neighboring cell. In both vertebrates and invertebrates, Notch signaling is important for specifying cell fates and for defining boundaries between different cell types. The Notch molecule is synthesized as a 2321 amino acid (aa) precursor that contains an 39 aa signal sequence, a 1603 aa extracellular region, a 21aa transmembrane (TM) segment and a 658 aa cytoplasmic domain. The large Notch extracellular domain has 34 EGF-like repeats followed by three notch/Lin-12 repeats (LNR) (2). The 11<sup>th</sup> and 12<sup>th</sup> EGF-like repeats of Notch have been shown to be both necessary and sufficient for binding the ligands Serrate and Delta, in *Drosophila* (3). Notch-3 has the same biochemical mechanism of signal transduction as Notch-1, where a series of cleavage 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.

Mutations in Notch-3 in humans cause an autosomal dominant condition called CADASIL (cerebral autosomal dominant arteriopathy with subcortical infarcts and leukoencephalopathy). This disorder is characterized by recurrent ischemic strokes at an early age without any underlying vascular risk and progressive dementia. Nearly all mutations leading to this disorder are clustered in the first 5 EGF repeats of the Notch-3 gene (5). Human Notch-3 shows 90% aa identity to mouse Notch-3 over the entire protein.

## PRODUCT SPECIFIC NOTICES

This product is provided under an agreement between Life Technologies Corporation and R&D Systems, Inc., and the manufacture, use, sale or import of this product is subject to one or more US patents and corresponding non-US equivalents, owned by Life Technologies Corporation and its affiliates. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). The sale of this product is expressly conditioned on the buyer not using the product or its components (1) in manufacturing; (2) to provide a service, information, or data to an unaffiliated third party for payment; (3) for therapeutic, diagnostic or prophylactic purposes; (4) to resell, sell, or otherwise transfer this product or its components to any third party, or for any other commercial purpose. Life Technologies Corporation will not assert a claim against the buyer of the infringement of the above patents based on the manufacture, use or sale of a commercial product developed in research by the buyer in which this product or its components was employed, provided that neither this product nor any of its components was used in the manufacture of such product. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, Cell Analysis Business Unit, Business Development, 29851 Willow Creek Road, Eugene, OR 97402, Tel: (541) 465-8300. Fax: (541) 335-0354.