

## DESCRIPTION

|                           |                                                                                                                                                                                                                                                                             |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b> | Mouse/Rat                                                                                                                                                                                                                                                                   |
| <b>Specificity</b>        | Detects rat Notch-1 in direct ELISAs and Western blots. In direct ELISAs and Western blots, less than 5% cross-reactivity with recombinant rat Notch-2 and 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-1 Arg20-Glu488 (Ala208Thr, Asp334Glu)<br>Accession # Q07008                                                                                                                                                       |
| <b>Conjugate</b>          | Alexa Fluor 350<br>Excitation Wavelength: 346 nm<br>Emission Wavelength: 442 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>CyTOF-ready</b>                             | Optimal dilution of this antibody should be experimentally determined. |
| <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. |
| <b>Flow Cytometry</b>                          | Optimal dilution of this antibody should be experimentally determined. |
| <b>Immunocytochemistry</b>                     | Optimal dilution of this antibody should be experimentally determined. |
| <b>Immunohistochemistry</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

Rat Notch-1 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 2531 amino acid (aa) precursor that contains an 18 aa signal sequence, a 1705 aa extracellular region, a 23 aa transmembrane (TM) segment and a 785 aa cytoplasmic domain (2). The large Notch-1 extracellular domain has 36 EGF-like repeats followed by three notch/Lin-12 repeats. 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 Delta and Serrate, in *Drosophila* (3). The Notch-1 cytoplasmic domain contains six ankyrin repeats, a glutamine-rich domain and a PEST sequence. The Notch-1 receptor undergoes post-translational proteolytic cleavage by a furin-like enzyme to form a heterodimer of the 1635 aa ligand binding extracellular region and the 877 aa transmembrane protein (4). Upon ligand binding, additional sequential proteolysis by TNF-converting enzyme and the Presenilin-dependent γ-secretase results in the release of the Notch intracellular domain (NICD) which translocates into the nucleus where it functions as a transcription activator to initiate transcription of Notch-responsive genes (5). An alternative Notch signaling pathway that is mediated by the full-length form of Notch that has not been cleaved by the furin-like enzyme has also been reported (6). The rat Notch-1 extracellular domain shows 86% and 97% aa identity to human and mouse Notch-1 extracellular domains respectively. It also exhibits 56% and 50% aa identity with rat Notch-2 and Notch-3 extracellular domains, respectively.

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