

## DESCRIPTION

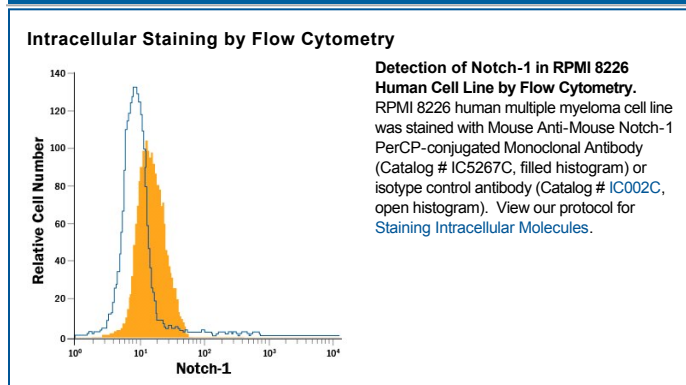
|                           |  |
|---------------------------|--|
| <b>Species Reactivity</b> | Mouse  |
| <b>Specificity</b>        | Detects mouse Notch-1 in direct ELISAs.  |
| <b>Source</b>             | Monoclonal Mouse IgG <sub>1</sub> Clone # N1A  |
| <b>Purification</b>       | Protein A or G purified from hybridoma culture supernatant   |
| <b>Immunogen</b>          | Mouse embryonic fibroblast cell line PA317-derived recombinant mouse Notch-1<br>Accession # Q01705   |
| <b>Conjugate</b>          | PerCP (Peridinin-chlorophyll Protein Complex)<br>Excitation Wavelength: 482 and 564 nm<br>Emission Wavelength: 675 nm  |
| <b>Formulation</b>        | Supplied in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details.<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>Recommended Concentration</b> | <b>Sample</b> |
|---|----------------------------------|---------------|
| <b>Intracellular Staining by Flow Cytometry</b> | 10 $\mu$ L/10 <sup>6</sup> cells | See Below     |

## DATA



## 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> | <b>Protect from light. Do not freeze.</b> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, 2 to 8 °C as supplied.</li> </ul> |

**BACKGROUND**

Notch-1 is a 210-240 kDa type I transmembrane glycoprotein that is one of four Notch homologues involved in developmental processes (1-3). Notch signaling is important for maintaining stem cells and inducing differentiation, especially in the nervous system and lymphoid tissues (2-4). Notch can specify binary cell fates. For example, it promotes T cell over B cell development from a common precursor (2). Mouse Notch-1 is synthesized as a 2531 amino acid (aa) precursor that contains an 18 aa signal sequence, a 1707 aa extracellular domain (ECD) with 36 EGF-like repeats and three Lin-12/notch repeats (LNR), a 21 aa transmembrane (TM) segment and a 785 aa cytoplasmic domain that contains six ankyrin repeats, a glutamine-rich domain and a PEST sequence. The 11<sup>th</sup> and 12<sup>th</sup> EGF-like repeats, that bind ligands such as Jagged-1 and -2, plus Delta-like-1, -3, and -4 plus DNER in humans, correspond to aa 412-488 in mouse Notch-1 (5, 6). Within the 36 EGF-like repeats, N-linked and multiple O-linked glycans are known to exist. These include O-fucose, O-glucose, O-GlcNAc and O-xylose based glycans. Although the best studied modification involves fucose, the mammalian system is very complex and unlikely fully explains the facilitation of delta-like signaling with an inhibition of Jagged-induced signaling. O-linked glucose appears to be essential for Notch activation, while O-GlcNAc modifications have unclear functions (7). The Notch-1 receptor undergoes post-translational furin-type proteolytic cleavage, generating a heterodimer through the interaction of a hydrophobic area C-terminal to the LNR on the extracellular region with the transmembrane/cytoplasmic portion (8, 9). Upon ligand binding, additional sequential proteolysis by TNF-converting enzyme (ADAM17) and the presenilin-dependent  $\gamma$ -secretase results in the release of the Notch intracellular domain (NICD) which translocates into the nucleus, activating transcription of Notch-responsive genes (9, 10). Mouse Notch-1 ECD aa 19-526, which includes the first 13 EGF repeats, shows 94%, 91%, 86% and 79% aa sequence identity with corresponding regions of rat, human, canine, and chicken Notch-1, respectively. This region also exhibits 55-58% aa sequence identity with human Notch-2 and Notch-3.

**References:**

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