

## DESCRIPTION

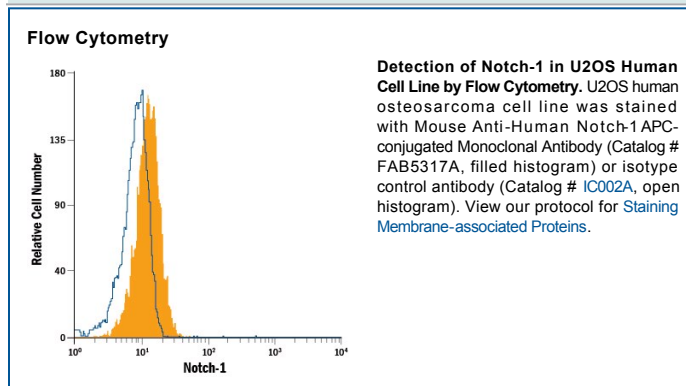
<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human Notch-1.
<b>Source</b>	Monoclonal Mouse IgG <sub>1</sub> Clone # 527425
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant human Notch-1 aa 19-526 Accession # P46531
<b>Conjugate</b>	Allophycocyanin Excitation Wavelength: 620-650 nm Emission Wavelength: 660-670 nm
<b>Formulation</b>	Supplied in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details.  *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.

	Recommended Concentration	Sample
Flow Cytometry	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

Human Notch-1 is a 300 kDa type I transmembrane glycoprotein that is one of four human 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, promoting T- over B-cell development from a common precursor (2). More than 50% of human T-lineage acute lymphoblastic leukemia (T-ALL) have activating mutations of Notch1 (1, 5). Human Notch-1 is synthesized as a 2556 amino acid (aa) precursor that contains an 18 aa signal sequence, a 1718 aa extracellular domain (ECD) with 36 EGF-like repeats and three Lin-12/Notch repeats (LNR), a 23 aa transmembrane (TM) segment and a 785 aa cytoplasmic domain containing six ankyrin repeats, a glutamine-rich domain and a PEST sequence. The 11<sup>th</sup> and 12<sup>th</sup> EGF-like repeats bind ligands including Jagged and Delta-like families in humans (6). O-fucosylation by Fringe family members at a site within this region can inhibit the interaction of Notch with Jagged ligands, thereby promoting Delta-like ligand interactions (7). Notch-1 receptor undergoes post-translational furin-type proteolytic cleavage, forming a heterodimer through interaction of a hydrophobic area C-terminal to the LNR on the 1647 aa ligand-binding extracellular region with the 891 aa transmembrane/cytoplasmic portion (8, 9). Upon ligand binding, additional sequential proteolysis by TNF-converting enzyme (ADAM-17) 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 (10). Human Notch-1 ECD aa 19 - 526, including the first 13 EGF repeats, shows 91% aa identity with corresponding regions of mouse and rat, 89% with canine, and 79% with chicken Notch-1. This region also exhibits 60% aa identity with human Notch-2 and Notch-3.

## References:

1. Ellisen, L. W. *et al.* (1991) *Cell* **66**:649.
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4. Androutsellis-Theotokis, A. *et al.* (2006) *Nature* **442**:823.
5. Weng, A. P. *et al.* (2004) *Science* **306**:269.
6. Hambleton, S. *et al.* (2004) *Structure* **12**:2173.
7. Yang, L. *et al.* (2005) *Mol. Biol. Cell* **16**:927.
8. Sanchez-Irizarry, C. *et al.* (2004) *Mol. Cell. Biol.* **24**:9265.
9. Logeat, F. *et al.* (1998) *Proc. Natl. Acad. Sci. USA* **95**:8108.
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