

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse Notch-1 intracellular domain in direct ELISAs.
Source	Monoclonal Mouse IgG ₁ Clone # N1A
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse embryonic fibroblast cell line PA317-derived recombinant mouse Notch-1 Accession # Q01705
Conjugate	Alexa Fluor 647 Excitation Wavelength: 650 nm Emission Wavelength: 668 nm
Formulation	Supplied 0.2 mg/mL 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
Intracellular Staining by Flow Cytometry	0.25-1 µg/10 ⁶ cells	RPMI 8226 human multiple myeloma cell line fixed with Flow Cytometry Fixation Buffer (Catalog # FC004) and permeabilized with Flow Cytometry Permeabilization/Wash Buffer I (Catalog # FC005)

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. <ul style="list-style-type: none"> 12 months from date of receipt, 2 to 8 °C as supplied.

BACKGROUND

Notch-1 is a 300 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 11th and 12th EGF-like repeats, that bind ligands such as Jagged and Delta-like families in humans, correspond to aa 412-488 in mouse Notch-1 (6). Elongation of O-linked fucose chains 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). 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 γ-secretase results in the release of the Notch intracellular domain (NICD) which translocates into the nucleus, activating transcription of Notch-responsive genes (10).

References:

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