Human Notch-1 Biotinylated Antibody

Antigen Affinity-purified Polyclonal Sheep IgG
Catalog Number: BAF5317

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Notch-1 in Western blots. In Western blots, approximately 40% cross-reactivity with recombinant mouse Notch-1 (aa 19-526) and recombinant rat Notch-1 (aa 20-488) is observed and less than 2% cross-reactivity with recombinant human (rh) Notch-2 and rhNotch-3 is observed.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Notch-1 Ala19-Gln526 Accession # P46531
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.

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
Western Blot	0.1 µg/mL	Recombinant Human Notch-1 Fc Chimera (Catalog # 3647-TK)

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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 11th and 12th 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 γ-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:

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