

DESCRIPTION

Species Reactivity	Mouse/Rat
Specificity	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.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant rat Notch-1 Arg20-Glu488 (Ala208Thr, Asp334Glu) Accession # Q07008
Conjugate	Alexa Fluor 488 Excitation Wavelength: 488 nm Emission Wavelength: 515-545 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *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.

CyTOF-ready	Optimal dilution of this antibody should be experimentally determined.
Western Blot	Optimal dilution of this antibody should be experimentally determined.
Blockade of Receptor-ligand Interaction	Optimal dilution of this antibody should be experimentally determined.
Flow Cytometry	Optimal dilution of this antibody should be experimentally determined.
Immunocytochemistry	Optimal dilution of this antibody should be experimentally determined.
Immunohistochemistry	Optimal dilution of this antibody should be experimentally determined.

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. 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 11th and 12th 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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