

DESCRIPTION

Source	Chinese Hamster Ovary cell line, CHO-derived human Notch-2 protein		
	Human Notch-2 (Leu26-Gln530) Accession # Q04721	IEGRMD	Human IgG ₁ (Pro100-Lys330)
	N-terminus		C-terminus

N-terminal Sequence Analysis	Leu26
Structure / Form	Disulfide-linked homodimer
Predicted Molecular Mass	80.6 kDa (monomer)

SPECIFICATIONS

SDS-PAGE	115 kDa, reducing conditions
Activity	Measured by its binding ability in a functional ELISA. Immobilized rhNotch-2/Fc Chimera can bind rrJagged-1/Fc Chimera with an apparent $K_D < 10$ nM.
Endotoxin Level	<0.01 EU per 1 µg of the protein by the LAL method.
Purity	>90%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 500 µg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 3 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Human Notch-2 is a 300 kDa type I transmembrane glycoprotein that is one of four human Notch homologues involved in developmental processes (1-3). Although Notch proteins are structurally and functionally similar, deletion of either Notch-1 or Notch-2 is lethal, showing that not all functions overlap (4, 5). Mice with hypomorphic Notch-2 show defects in the development of kidney, heart and eyes (6). Notch-2 is upregulated in mature B cells and is critical for differentiation to splenic marginal zone B cells (7). Notch-2 is also preferentially expressed in choroid plexus epithelia and neuronal precursors (8, 9). Human Notch-2 is synthesized as a 2471 amino acid (aa) precursor that contains a 25 aa signal sequence, a 1652 aa extracellular domain (ECD), and a 794 aa transmembrane (TM) and cytoplasmic segment. The ECD contains 35 EGF-like repeats and three Lin-12/Notch repeats, while the cytoplasmic region shows six ankyrin repeats, a glutamine-rich domain and a PEST sequence. Binding of ligands, including Jagged and Delta-like molecules in humans, has been localized to the 11th and 12th EGF-like repeats of Notch (10). Notch receptors undergo post-translational furin-type proteolytic cleavage (11). This forms a heterodimer through the interaction of a hydrophobic area in the ligand-binding extracellular region with the TM/cytoplasmic portion (11, 12). 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 (13). Human Notch-2 ECD (aa 26-30) shows 93%, 93%, 96% and 96% aa identity with the corresponding regions of mouse, rat, canine, and bovine Notch-2, respectively. This region also exhibits approximately 60% aa identity with human Notch-1 and Notch-3.

References:

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