Active Recombinant Human DLL4 protein, Fc/Avi-tagged, Biotinylated

Cat. No. DLL4-051H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Biotinylated Recombinant Human DLL4(Ser27-Pro524) protein, fused to Fc/Avi tag at the C-terminus, was expressed in CHO cells .
Species	Human
Source	CHO
ProteinLength	Ser27-Pro524
Description	Delta-like protein 4 (DLL4) is a type I membrane protein belonging to the Delta/Serrate/Lag2 (DSL) family of Notch ligands (1). Notch signaling is an evolutionarily conserved pathway that controls cell fate and is required in multiple developmental processes including vascular development, hematopoiesis, somatogenesis, myogenesis, and neurogenesis (2-4). Dysregulation in the Notch pathway is associated with various human diseases. In mammals, four Notch homologs (Notch 1 to 4) and five ligands (DLL 1, 3 and 4, Jagged 1 and 2) have been identified. Notch ligands are transmembrane proteins with a DSL motif necessary for Notch binding, tandem EGF repeats, a transmembrane region and a short intracellular domain (ICD). Notch ligands are categorized into two subfamilies based on the presence of an extracellular cysteine-rich domain and insertions that interrupt some EGF repeats in the Jagged but not the Delta ligand family. Interactions of Notch receptors with their ligands results in reciprocal regulated intramembrane proteolysis (RIP) (4). RIP is a mechanism for transmembrane signal transduction that involves

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	the sequential processing by a disintegrin metalloprotease (ADAM) and then by presenilin/ gamma secretase, resulting in shedding of the extracellular domains and the generation of the soluble ICD signaling fragments, respectively. The Notch ICD translocates to the nucleus and interacts with transcriptional coactivators, resulting in the transcription of target genes. The ICDs of the Notch ligands have also been shown to translocate to the nucleus where they may have a signaling function (5, 6). DLL4 is expressed highly and selectively within the arterial endothelium and has been shown to function as a ligand for Notch 1 and Notch 4. Human and mouse DLL4 share 86% amino acid sequence identity (1). Our Avi-tag Biotinylated human DLL4 features biotinylation at a single site contained within the Avi-tag, a unique 15 amino acid peptide. Protein orientation will be uniform when bound to streptavidin-coated surface due to the precise control of biotinylation and the rest of the protein is unchanged so there is no interference in the protein's bioactivity.
Predicted N Terminal	Ser27
Form	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose.
Bio-activity	Measured by its binding ability in a functional ELISA. When Recombinant Human Notch-1 Fc Chimera is coated at 250 ng/mL (100 μL/wll), Biotinylated Recombinant Human DLL4 Fc Chimera Measured by its binding ability in a functional ELISA. When Recombinant Human Notch-1 Fc Chimera is coated at 250 ng/mL (100 μL/wll), Biotinylated Recombinant Human DLL4 Fc Chimera Avi-tag protein binds with an ED50 of 0.012-0.12 μg/mL.
Molecular Mass	94-112 kDa, under reducing conditions
Endotoxin	<0.10 EU per 1 μg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by

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	Coomassie® Blue Staining.
Applications	Bioactivity
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.3 months, -20 to -70 °C under sterile conditions after reconstitution.
Reconstitution	Reconstitute at 250 µg/mL in PBS.
Conjugation	Biotin

GENE INFORMATION

Gene Name	DLL4 delta-like 4 (Drosophila) [Homo sapiens]
Official Symbol	DLL4
Synonyms	DLL4; delta-like 4 (Drosophila); delta like 4 homolog (Drosophila); delta-like protein 4; delta4; delta 4; delta ligand 4; notch ligand DLL4; delta-like 4 homolog; delta-like 4 protein; notch ligand delta-2; drosophila Delta homolog 4; hdelta2; MGC126344;
Gene ID	54567
mRNA Refseq	NM_019074
Protein Refseq	NP_061947
MIM	605185

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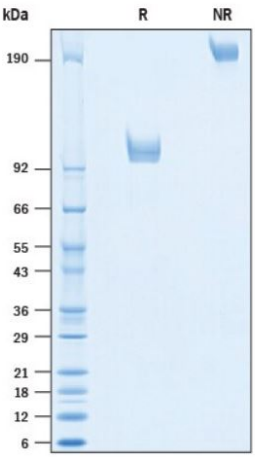
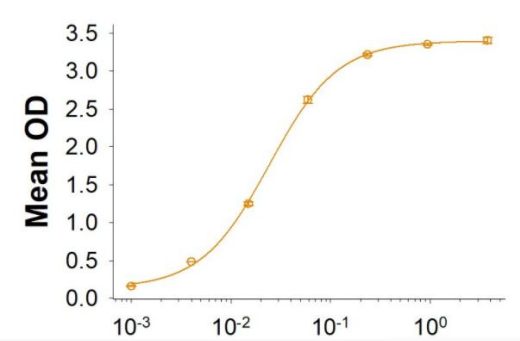
UniProt ID	Q9NR61
SDS-PAGE	 2 μg/lane Protein was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining.
Binding Activity	

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