

## Delta-like protein 1/DLL1 Protein, Rat (HEK293, His)

Cat. No.:	HY-P75295
Synonyms:	Delta-like protein 1; Delta1; DLL1-EC; DLL1-TMIC; DLL1
Species:	Rat
Source:	HEK293
Accession:	P97677 (Q18-S534)
Gene ID:	84010
Molecular Weight:	Approximately 81.7 kDa

### PROPERTIES

AA Sequence	<pre> Q V W S S G V F E L   K L Q E F V N K K G   L L G N R N C C R G   G S G P P C A C R T F F R V C L K H Y Q   A S V S P E P P C T   Y G S A V T P V L G   V D S F S L P D G A G I D P A F S N P I   R F P F G F T W P G   T F S L I I E A L H   T D S P D D L A T E N P E R L I S R L T   T Q R H L T V G E E   W S Q D L H S S G R   T D L R Y S Y R F V C D E H Y Y G E G C   S V F C R P R D D A   F G H F T C G E R G   E K M C D P G W K G Q Y C T D P I C L P   G C D D Q H G Y C D   K P G E C K C R V G   W Q G R Y C D E C I R Y P G C L H G T C   Q Q P W Q C N C Q E   G W G G L F C N Q D   L N Y C T H H K P C R N G A T C T N T G   Q G S Y T C S C R P   G Y T G A N C E L E   V D E C A P S P C R N G G S C T D L E D   S Y S C T C P P G F   Y G K V C E L S A M   T C A D G P C F N G G R C S D N P D G G   Y T C H C P A G F S   G F N C E K K I D L   C S S S P C S N G A K C V D L G N S Y L   C R C Q T G F S G R   Y C E D N V D D C A   S S P C A N G G T C R D S V N D F S C T   C P P G Y T G R N C   S A P V S R C E H A   P C H N G A T C H Q R G Q R Y M C E C A   Q G Y G G A N C Q F   L L P E P P P D L I   V A A Q G G S </pre>
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 µm filtered solution of PBS, 20% Glycerol, pH 7.4. Normally 5% - 8% trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH <sub>2</sub> O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

### DESCRIPTION

## Background

Delta-like protein 1 (DLL1), a transmembrane ligand protein of NOTCH1, NOTCH2, and NOTCH3 receptors, engages in both cis and trans interactions with the extracellular domain (ECD) of Notch receptors. Following transinteraction, ligand cells induce mechanical force through clathrin-mediated endocytosis, ligand ubiquitination, EPN1 interaction, and actin polymerization. These events facilitate Notch receptor extracellular domain (NECD) transendocytosis, triggering Notch signaling by cleavage, hyperphosphorylation, and nuclear accumulation of the intracellular domain of Notch receptors (NICD). DLL1 is crucial for embryonic development and the maintenance of adult stem cells in various tissues and the immune system, regulating cell lineage, specification, patterning, and morphogenesis through differentiation and proliferation effects. It plays a vital role in brain development, modulating neuronal differentiation and neurogenesis in different contexts. DLL1 also contributes to immune system development, inhibiting B-cell lineage differentiation while promoting the emergence of T-cell/NK-cell precursors. Additionally, DLL1 regulates muscle development, pancreatic cell development, arterial identity maintenance, angiogenesis, goblet cell differentiation in the intestine, inner ear development, nephron development, and various physiological processes, including growth, blood pressure, and energy homeostasis. DLL1 interacts with several proteins, including TJP1, MAGI1, PSEN1, MFAP5, MIB1, NEURL1B, SYNJ2BP, MAGI2, MAGI3, MPDZ, and NOTCH1, playing a multifaceted role in diverse cellular processes.

**Caution: Product has not been fully validated for medical applications. For research use only.**

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