

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

Cat. No.:	HY-P72970
Synonyms:	Delta-like protein 1; Delta1; DLL1-EC; DLL1-TMIC; DLL1
Species:	Mouse
Source:	HEK293
Accession:	Q61483 (Q18-Q516)
Gene ID:	13388
Molecular Weight:	Approximately 65 kDa

PROPERTIES

AA Sequence	<pre> M G R R S A L A L A V V S A L L C 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 D 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 K N G A S C T D L E D S F 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 L G F S G F N C E K K M D L C G S S P C S N G A K C V D L G N S Y L C R C Q A 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 K 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 P N C Q </pre>
Biological Activity	<ol style="list-style-type: none"> 1. Measured by its ability to bind human NOTCH1 in a functional ELISA. 2. Measured by the ability of the immobilized protein to enhance BMP2-induced alkaline phosphatase activity in C3H10T1/2 mouse embryonic fibroblast cells. The ED₅₀ for this effect is typically 2-20 µg/mL.
Appearance	Solution
Formulation	Supplied as a 0.2 µm filtered solution of PBS, pH 7.4, 20% Glycerol.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	N/A.
Storage & Stability	Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles.
Shipping	Shipping with dry ice.

DESCRIPTION

Background

Delta-like protein 1 (DLL1) is a transmembrane ligand for NOTCH1, NOTCH2, and NOTCH3 receptors, engaging in both cis and trans interactions with the extracellular domain (ECD) of Notch receptors. Following transinteraction, DLL1-expressing cells generate mechanical force through clathrin-mediated endocytosis, requiring ligand ubiquitination, EPN1 interaction, and actin polymerization. These events induce Notch receptor extracellular domain (NECD) transendocytosis, activating Notch signaling, including 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 across various tissues and the immune system, orchestrating intercellular communication to regulate cell lineage, specification, patterning, and morphogenesis, affecting differentiation and proliferation. In brain development, DLL1 regulates neuronal differentiation and neocortex development, while in cerebellar development, it influences Bergmann glial monolayer formation. DLL1 contributes to immune system development, muscle development, pancreatic cell development, arterial identity maintenance, angiogenesis, goblet cell differentiation, inner ear development, and nephron development through the Notch signaling pathway. DLL1 functions as a homodimer and interacts with various proteins, playing a diverse role in cellular processes.

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

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