Datasheet for ABIN3135412

DLL1 Protein (AA 18-722) (rho-1D4 tag)

1 Image

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Overview

Quantity:	1 mg
Target:	DLL1
Protein Characteristics:	AA 18-722
Origin:	Mouse
Source:	Insect Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This DLL1 protein is labelled with rho-1D4 tag.
Application:	SDS-PAGE (SDS), Western Blotting (WB), ELISA, Crystallization (Crys)

Product Details

Sequence:	QVWSSGVFEL KLQEFVNKKG LLGNRNCCRG GSGPPCACRT FFRVCLKHYQ ASVSPEPPCT YGSAVTPVLG VDSFSLPDGA GIDPAFSNPI RFPFGFTWPG TFSLIIEALH TDSPDDLATE NPERLISRLT TQRHLTVGEE WSQDLHSSGR TDLRYSYRFV CDEHYYGEGC SVFCRPRDDA FGHFTCGDRG EKMCDPGWKG QYCTDPICLP GCDDQHGYCD KPGECKCRVG WQGRYCDECI RYPGCLHGTC QQPWQCNCQE GWGGLFCNQD LNYCTHHKPC RNGATCTNTG QGSYTCSCRP GYTGANCELE VDECAPSPCK NGASCTDLED SFSCTCPPGF YGKVCELSAM TCADGPCFNG GRCSDNPDGG YTCHCPLGFS GFNCEKKMDL CGSSPCSNGA KCVDLGNSYL CRCQAGFSGR YCEDNVDDCA SSPCANGGTC RDSVNDFSCT CPPGYTGKNC SAPVSRCEHA PCHNGATCHQ RGQRYMCECA QGYGGPNCQF LLPEPPPGPM VVDLSERHME SQGGPFPWVA VCAGVVLVLL LLLGCAAVVV CVRLKLQKHQ PPPEPCGGET ETMNNLANCQ REKDVSVSII GATQIKNTNK KADFHGDHGA EKSSFKVRYP TVDYNLVRDL KGDEATVRDT HSKRDTKCQS QSSAGEEKIA PTLRGGEIPD RKRPESVYST SKDTKYQSVY VLSAEKDECV IATEV

Product Details

	Sequence without tag. Tag location is at the discretion of the manufacturer. If you have a special request, please contact us.
Characteristics:	• Made in Germany - from design to production - by highly experienced protein experts. • Mouse Dll1 Protein (raised in Insect Cells) purified by multi-step, protein-specific process to ensure crystallization grade. • State-of-the-art algorithm used for plasmid design (Gene synthesis). This protein is a made to order protein and will be made for the first time for your order. Our experts in the lab will ensure that you receive a correctly folded protein. The big advantage of ordering our made-to-order proteins in comparison to ordering custom made proteins from other companies is that there is no financial obligation in case the protein cannot be expressed or purified. In the unlikely event that the protein cannot be expressed or purified we do not charge anything (other companies might charge you for any performed steps in the expression process for custom-made proteins, e.g. fees might apply for the expression plasmid, the first expression experiments or purification optimization). When you order this made-to-order protein you will only pay upon receival of the correctly folded protein. With no financial risk on your end you can rest assured that our experienced protein experts will do everything to make sure that you receive the protein you ordered. The concentration of our recombinant proteins is measured using the absorbance at 280nm. The protein's absorbance will be measured in several dilutions and is measured against its specific reference buffer. The concentration of the protein is calculated using its specific absorption coefficient. We use the Expasy's protparam tool to determine the absorption coefficient of each protein.
Purification:	Three step purification of membrane proteins expressed in baculovirus infected SF9 insect cells: 1. Membrane proteins are fractioned by ultracentrifugation and subsequently solubilized with different detergents (detergent screen). Samples are analyzed by Western blot. 2. The best performing detergent is used for solubilization and the proteins are purified via their rho1D4 tag via two rho1D4 antibody columns: one DTT resistant, the other one not. Eluate fractions are analyzed by Western blot. 3. Protein containing fractions of the best purification are subjected to second purification step through size exclusion chromatograph. Eluate fractions are analyzed by SDS-PAGE and Western blot.
Purity:	>95 % as determined by SDS PAGE, Size Exclusion Chromatography and Western Blot.
Sterility:	0.22 µm filtered

Product Details

Endotoxin Level:	Protein is endotoxin-free.
Grade:	Crystallography grade

Target Details

Target:	DLL1
Alternative Name:	Dll1 (DLL1 Products)
Background:	Transmembrane ligand protein of NOTCH1, NOTCH2 and NOTCH3 receptors that binds the extracellular domain (ECD) of Notch receptor in a cis and trans fashion manner (PubMed:21985982, PubMed:10958687). Following transinteraction, ligand cells produce mechanical force that depends of a clathrin-mediated endocytosis, requiring ligand ubiquitination, EPN1 interaction, and actin polymerisation, these events promote Notch receptor extracellular domain (NECD) transendocytosis and triggers Notch signaling through induction of cleavage, hyperphosphorylation, and nuclear accumulation of the intracellular domain of Notch receptors (NICD) (PubMed:10958687, PubMed:18676613). Is required for embryonic development and maintenance of adult stem cells in many different tissues and immune systeme, the DLL1-induced Notch signaling is mediated through an intercellular communication that regulates cell lineage, cell specification, cell patterning and morphogenesis through effects on differentiation and proliferation (PubMed:17194759, PubMed:19562077, PubMed:18997111, PubMed:23695674, PubMed:16495313, PubMed:21238454, PubMed:22282195, PubMed:7671806, PubMed:17960184, PubMed:22529374, PubMed:19389377, PubMed:23699523, PubMed:19144989, PubMed:23688253, PubMed:23806616, PubMed:26114479, PubMed:22940113, PubMed:25220152, PubMed:20081190, PubMed:21572390, PubMed:22096075). Plays a role in brain development at different level, namely by regulating neuronal differentiation of neural precursor cells via cell-cell interaction, most likely through the lateral inhibitory system in an endogenous level dependent-manner (PubMed:7671806, PubMed:18997111). During neocortex development, Dll1-Notch signaling transmission is mediated by dynamic interactions between intermediate neurogenic progenitors and radial glia, the cell-cell interactions are mediated via dynamic and transient elongation processes, likely to reactivate/maintain Notch activity in neighboring progenitors, and coordinate progenitor cell division and differentiation across radial and zonal boundaries (PubMed:23699523). During cerebellar development, regulates Bergmann glial monolayer formation and its morphological maturation through a Notch signaling pathway (PubMed:23688253). At the retina and spinal cord level, regulates neurogenesis by preventing the premature differentiation of neural progenitors and also by maintaining progenitors in spinal

cord through Notch signaling pathway (PubMed:19389377, PubMed:26114479). Also controls neurogenesis of the neural tube in a progenitor domain-specific fashion along the dorsoventral axis (PubMed:20081190). Maintains quiescence of neural stem cells and plays a role as a fate determinant that segregates asymmetrically to one daughter cell during neural stem cells mitosis, resulting in neuronal differentiation in Dll1-inheriting cell (PubMed:23695674). Plays a role in immune systeme development, namely the development of all T-cells and marginal zone (MZ) B cells (PubMed:15146182, PubMed:19217325). Blocks the differentiation of progenitor cells into the B-cell lineage while promoting the emergence of a population of cells with the characteristics of a T-cell/NK-cell precursor (By similarity). Upon MMP14 cleavage, negatively regulates Notch signaling in haematopoietic progenitor cells to specifically maintain normal B-cell development in bone marrow (PubMed:21572390). Also plays a role during muscle development. During early development, inhibits myoblasts differentiation from the medial dermomyotomal lip and later regulates progenitor cell differentiation (PubMed:17194759). Directly modulates cell adhesion and basal lamina formation in satellite cells through Notch signaling. Maintains myogenic progenitors pool by suppressing differentiation through down-regulation of MYOD1 and is required for satellite cell homing and PAX7 expression (PubMed:22940113). During craniofacial and trunk myogenesis suppresses differentiation of cranial mesoderm-derived and somite-derived muscle via MYOD1 regulation but in cranial mesoderm-derived progenitors, is neither required for satellite cell homing nor for PAX7 expression (PubMed:25220152). Also plays a role during pancreatic cell development. During type B pancreatic cell development, may be involved in the initiation of proximodistal patterning in the early pancreatic epithelium (PubMed:22529374). Stimulates multipotent pancreatic progenitor cells proliferation and pancreatic growth by maintaining HES1 expression and PTF1A protein levels (PubMed:22096075). During fetal stages of development, is required to maintain arterial identity and the responsiveness of arterial endothelial cells for VEGFA through regulation of KDR activation and NRP1 expression (PubMed:19144989). Controls sprouting angiogenesis and subsequent vertical branch formation througth regulation on tip cell differentiation (PubMed:22282195). Negatively regulates goblet cell differentiation in intestine and controls secretory fat commitment through lateral inhibition in small intestine (PubMed:21238454, PubMed:21915337). Plays a role during inner ear development, negatively regulates auditory hair cell differentiation (PubMed:16495313). Plays a role during nephron development through Notch signaling pathway (PubMed:23806616). Regulates growth, blood pressure and energy homeostasis (PubMed:19562077). {ECO:0000250|UniProtKB:O00548, ECO:0000250|UniProtKB:P97677, ECO:0000269|PubMed:10958687, ECO:0000269|PubMed:15146182, ECO:0000269|PubMed:16495313, ECO:0000269|PubMed:17194759, ECO:0000269|PubMed:17960184,

Target Details

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Molecular Weight:	77.9 kDa Including tag.
UniProt:	Q61483
Pathways:	Notch Signaling, Stem Cell Maintenance

Application Details

Application Notes:	In addition to the applications listed above we expect the protein to work for functional studies as well. As the protein has not been tested for functional studies yet we cannot offer a gurantee though.
Comment:	Protein has not been tested for activity yet. In cases in which it is highly likely that the recombinant protein with the default tag will be insoluble our protein lab may suggest a higher molecular weight tag (e.g. GST-tag) instead to increase solubility. We will discuss all possible options with you in detail to assure that you receive your protein of interest.
Restrictions:	For Research Use only

Handling

Format:	Liquid
Buffer:	100 mM NaCL, 20 mM Hepes, 10% glycerol. pH value is at the discretion of the manufacturer.
Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-80 °C
Storage Comment:	Store at -80°C.

Handling

Expiry Date:	Unlimited (if stored properly)

Images

Image 1. „Crystallography Grade“ protein due to multi-step, protein-specific purification process