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Datasheet for ABIN3135411 DLL1 Protein (AA 18-545) (His tag)

Image



Overview

Quantity:	1 mg
Target:	DLL1
Protein Characteristics:	AA 18-545
Origin:	Mouse
Source:	Insect Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This DLL1 protein is labelled with His tag.
Application:	SDS-PAGE (SDS), Western Blotting (WB), ELISA, Crystallization (Crys)

Product Details

	special request, please contact us.
	Sequence without tag. Tag location is at the discretion of the manufacturer. If you have a
	RGQRYMCECA QGYGGPNCQF LLPEPPPGPM VVDLSERHME SQGGPFPW
	YCEDNVDDCA SSPCANGGTC RDSVNDFSCT CPPGYTGKNC SAPVSRCEHA PCHNGATCHQ
	GRCSDNPDGG YTCHCPLGFS GFNCEKKMDL CGSSPCSNGA KCVDLGNSYL CRCQAGFSGR
	GYTGANCELE VDECAPSPCK NGASCTDLED SFSCTCPPGF YGKVCELSAM TCADGPCFNG
	RYPGCLHGTC QQPWQCNCQE GWGGLFCNQD LNYCTHHKPC RNGATCTNTG QGSYTCSCRP
	FGHFTCGDRG EKMCDPGWKG QYCTDPICLP GCDDQHGYCD KPGECKCRVG WQGRYCDECI
	NPERLISRLT TQRHLTVGEE WSQDLHSSGR TDLRYSYRFV CDEHYYGEGC SVFCRPRDDA
	YGSAVTPVLG VDSFSLPDGA GIDPAFSNPI RFPFGFTWPG TFSLIIEALH TDSPDDLATE
Sequence:	QVWSSGVFEL KLQEFVNKKG LLGNRNCCRG GSGPPCACRT FFRVCLKHYQ ASVSPEPPCT

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Product Details	
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:	Two step purification of proteins expressed in baculovirus infected SF9 insect cells:
	 In a first purification step, the protein is purified from the cleared cell lysate using three different His-tag capture materials: high yield, EDTA resistant, or DTT resistant. Eluate fractions are analyzed by SDS-PAGE. Protein containing fractions of the best purification are subjected to second purification step through size exclusion chromatography. 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
Endotoxin Level:	Protein is endotoxin free.
Grade:	Crystallography grade

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arget Details
arget Details

Target:	DLL1
Alternative Name:	DII1 (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,
	DII1-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 Bcell 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 downregulation 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:000548, ECO:0000250|UniProtKB:P97677, ECO:0000269|PubMed:10958687, ECO:0000269|PubMed:15146182, ECO:0000269|PubMed:16495313, ECO:0000269|PubMed:17194759, ECO:0000269|PubMed:17960184, ECO:0000269|PubMed:18676613, ECO:0000269|PubMed:18997111, ECO:0000269|PubMed:19144989, ECO:0000269|PubMed:19217325, ECO:0000269|PubMed:19389377, ECO:0000269|PubMed:19562077, ECO:0000269|PubMed:20081190, ECO:0000269|PubMed:21238454, ECO:0000269|PubMed:21572390, ECO:0000269|PubMed:21915337,

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Target Details

	ECO:0000269 PubMed:21985982, ECO:0000269 PubMed:22096075,
	EC0:0000269 PubMed:22282195, EC0:0000269 PubMed:22529374,
	EC0:0000269 PubMed:22940113, EC0:0000269 PubMed:23688253,
	EC0:0000269 PubMed:23695674, EC0:0000269 PubMed:23699523,
	EC0:0000269 PubMed:23806616, EC0:0000269 PubMed:25220152,
	ECO:0000269 PubMed:26114479, ECO:0000269 PubMed:7671806}.
Molecular Weight:	58.4 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.
Expiry Date:	Unlimited (if stored properly)

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

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