OriGene Technologies, Inc.
9620 Medical Center Drive, Ste 200
Rockville, MD 20850, US
Phone: +1-888-267-4436
https://www.origene.com
techsupport@origene.com
EU: info-de@origene.com
CN: techsupport@origene.cn

Product datasheet for TR500534

Dll1 Mouse shRNA Plasmid (Locus ID 13388)

Product data:

Product Type:	shRNA Plasmids
Product Name:	Dll1 Mouse shRNA Plasmid (Locus ID 13388)
Locus ID:	13388
Synonyms:	Delta1
Vector:	pRS (TR20003)
E. coli Selection:	Ampicillin
Mammalian Cell Selection:	Puromycin
Format:	Retroviral plasmids
Components:	Dll1 - Mouse, 4 unique 29mer shRNA constructs in retroviral untagged vector(Gene ID = 13388). 5µg purified plasmid DNA per construct 29-mer scrambled shRNA cassette in pRS Vector, TR30012, included for free.
RefSeq:	BC057400, BC065063, NM_007865, NM_007865.1, NM_007865.2, NM_007865.3
UniProt ID:	Q61483
Summary:	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,

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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 mes

shRNA Design: These shRNA constructs were designed against multiple splice variants at this gene locus. To be certain that your variant of interest is targeted, please contact techsupport@origene.com. If you need a special design or shRNA sequence, please utilize our custom shRNA service.

Performance Guaranteed:

OriGene guarantees that the sequences in the shRNA expression cassettes are verified to correspond to the target gene with 100% identity. One of the four constructs at minimum are guaranteed to produce 70% or more gene expression knock-down provided a minimum transfection efficiency of 80% is achieved. Western Blot data is recommended over qPCR to evaluate the silencing effect of the shRNA constructs 72 hrs post transfection. To properly assess knockdown, the gene expression level from the included scramble control vector must be used in comparison with the target-specific shRNA transfected samples.

For non-conforming shRNA, requests for replacement product must be made within ninety (90) days from the date of delivery of the shRNA kit. To arrange for a free replacement with newly designed constructs, please contact Technical Services at techsupport@origene.com. Please provide your data indicating the transfection efficiency and measurement of gene expression knockdown compared to the scrambled shRNA control (Western Blot data preferred).