

Product datasheet for **MC221075**

DII1 (NM_007865) Mouse Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	DII1 (NM_007865) Mouse Untagged Clone
Tag:	Tag Free
Symbol:	DII1
Synonyms:	Delta1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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Fully Sequenced ORF: >MC221075 representing NM_007865
 Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGGGCCGTCGGAGCGCGCTAGCCCTTGCCGTGGTCTCTGCCCTGCTGTGCCAGGTCTGGAGCTCCGGCG
 TATTTGAGCTGAAGCTGCAGGAGTTCGTCACAAAGAAGGGGCTGCTGGGGAACCGCAACTGCTGCCGCGG
 GGGCTCTGGCCCCCTTGCGCCTGCAGGACCTTTTCGCGTATGCCTCAAGCACTACCAGGCCAGCGTG
 TCACCGGAGCCACCCTGCACCTACGGCAGTGTGTACGCCAGTGTGGGTGTCGACTCCTTCAGCCTGC
 CTGATGGCGCAGGCATCGACCCCGCCTTCAGCAACCCCATCCGATTCCCCTTCGGCTTACCTGGCCAGG
 TACCTTCTCTGATCATTGAAGCCCTCCATACAGACTCTCCCGATGACCTCGCAACAGAAAACCCAGAA
 AGACTCATCAGCCGCTGACCACACAGAGGCACCTCACTGTGGGAGAAGAATGGTCTCAGGACCTTACA
 GTAGCGGCCGCACAGACCTCCGGTACTTTACCGGTTTGTGTGACGAGCACTACTACGGAGAAGTTG
 CTCTGTGTCTGCCGACCTCGGGATGACGCCTTTGGCCACTTACCTGCGGGGACAGAGGGGAGAAGATG
 TGGCACCTGGCTGGAAAGGCCAGTACTGCACTGACCCAATCTGTCTGCCAGGGTGTGATGACCAACATG
 GATACTGTGACAAACCAGGGGAGTGCAAGTGCAGAGTTGGCTGGCAGGGCCGCTACTGCGATGAGTGCAT
 CCGATACCCAGGTTGTCTCCATGGCACCTGCCAGCAACCCTGGCAGTGTAACTGCCAGGAAGGCTGGGGG
 GGCTTTTCTGCAACCAAGACCTGAACTACTGTACTCACCATAAGCCGTGCAGGAATGGAGCCACCTGCA
 CCAACACGGGCCAGGGGAGCTACACATGTTCTGCCGACCTGGGTATACAGGTGCCAACTGTGAGCTGGA
 AGTAGATGAGTGTCTCTAGCCCTGCAAGAACGGAGCGAGCTGCACGGACCTTGGAGACGCTTCTCT
 TGCACCTGCCCTCCCGCTTCTATGGCAAGTCTGTGAGCTGAGCGCCATGACCTGTGCAGATGGCCCTT
 GCTTCAATGGAGGACGATGTTTCAGATAACCCCTGACGGAGGCTACACCTGCCATTGGCCCTTGGGCTTCTC
 TGGCTTCAACTGTGAGAAGAAGATGGATCTGCGGCTCTTCCCCTTGTCTAACGGTGCCAAGTGTGTG
 GACCTCGGCAACTTTACCTGTGCCGCTGCCAGGCTGGCTTCTCCGGGAGGTAAGTGCAGGACAATGTGG
 ATGACTGTGCCTCTCCCGTGTGCAAATGGGGGACCTGCCGGGACAGTGTGAACGACTTCTCCTGTAC
 CTGCCACCTGGCTACACGGGCAAGAACTGCAGCGCCCTGTGAGCAGGTGTGAGCATGCACCCTGCCAT
 AATGGGGCCACCTGCCACCAGAGGGGCCAGCGCTACATGTGTGAGTGCGCCAGGGCTATGGCGCCCCA
 ACTGCCAGTTTCTGCTCCCTGAGCCACCACCAGGGCCCATGGTGGTGGACCTCAGTGAGAGGCATATGGA
 GAGCCAGGGCGGGCCCTTCCCCTGGGTGGCCGTGTGTGCCGGGTGGTGTCTTGCCTCCTGCTGCTGCTG
 GGCTGTGCTGCTGTGGTGGTCTGCGTCCGGCTGAAGCTACAGAAACACCAGCCTCCACCTGAACCCTGTG
 GGGGAGAGACAGAAACCATGAACAACCTAGCCAATTGCCAGCGGAGAAGGACGTTTCTGTTAGCATCAT
 TGGGGCTACCCAGATCAAGAACCAACAAGAAGCGGACTTTCACGGGGACCATGGAGCCGAGAAGAGC
 AGCTTTAAGTCCGATACCCCACTGTGGACTATAACCTCGTTCGAGACCTCAAGGGAGATGAAGCCACGG
 TCAGGGATACACACAGCAACGTGACACCAAGTCCAGTACAGAGCTCTGCAGGAGAAGAGAAGATCGC
 CCCAACACTTAGGGGTGGGGAGATTCTGACAGAAAAAGGCCAGAGTCTGTCTACTCTACTTCAAAGGAC
 ACCAAGTACCAGTCGGTGTATGTTCTGTCTGCAGAAAAGGATGAGTGTGTATAGCGACTGAGGT**GTAA**

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Restriction Sites: SgfI-MluI
ACCN: NM_007865
Insert Size: 2169 bp

OTI Disclaimer: Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at custsupport@origene.com or by calling 301.340.3188 option 3 for pricing and delivery.

The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. [More info](#)

Components: The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

Reconstitution Method:

1. Centrifuge at 5,000xg for 5min.
2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
3. Close the tube and incubate for 10 minutes at room temperature.
4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.

RefSeq: [NM_007865.3](#), [NP_031891.2](#)

RefSeq Size: 3444 bp

RefSeq ORF: 2169 bp

Locus ID: 13388

UniProt ID: [Q61483](#)

Cytogenetics: 17 8.95 cM

Gene 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 system; 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 DII1-inheriting cell (PubMed:23695674). Plays a role in immune system 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