

## Product datasheet for **RC204825**

### NMNAT1 (NM\_022787) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	NMNAT1 (NM_022787) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	NMNAT1
Synonyms:	LCA9; NMNAT; PNAT1; SHILCA
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>RC204825 ORF sequence Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

ATGGAAAATCCGAGAAGACTGAAGTGGTTCTCCTTGCTTGTGGTTCATTCAATCCCATCACCAACATGC  
ACCTCAGGTTGTTTGAGCTGGCCAAGGACTACATGAATGGAACAGGAAGGTACACAGTTGTCAAAGGCAT  
CATCTCTCCTGTTGGTGATGCCTACAAGAAGAAAGGACTATTCTGCCTATCACCGGTCATCATGGCA  
GAATTGCTACCAAGAATTCTAAATGGGTGGAAGTTGATACATGGGAAAGTCTTCAGAAGGAGTGGAAG  
AGACTCTGAAGGTGCTAAGACACCATCAAGAGAAATTGGAGGCTAGTGACTGTGATCACCAGCAGAACTC  
ACCTACTCTAGAAAGGCCTGGAAGGAAGAGGAAGTGGACTGAAACACAAGATTCTAGTCAAAGAAATCC  
CTAGAGCCAAAAACAAAAGCTGTGCCAAAAGTCAAGCTGCTGTGTGGGCGAGATTATTGGAGTCCTTTG  
CTGTTCCCAATTTGTGGAAGAGTGAAGACATCACCCAAATCGTGGCCAATATGGGCTCATATGTGTTAC  
TCGGGTGGAAATGATGCTCAGAAGTTTATCTATGAATCGGATGTGCTGTGGAACACCGGAGCAACATT  
CACGTGGTGAATGAATGGATCGCTAATGACATCTCATCCAAAAATCCGGAGAGCCCTCAGAAGGGGCC  
AGAGCATTGCTACTTGGTACCAGATCTGTCCAAGAATACATTGAAAAGCATAATTTGTACAGCTCTGA  
GAGTGAAGACAGGAATGCTGGGGTCATCTGGCCCTTTGCAGAGAAACACTGCAGAAGCTAAGACA

**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
ACAAGGATGACGACGATAAGGTTTAA



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**Protein Sequence:** >RC204825 protein sequence  
Red=Cloning site Green=Tags(s)

MENSEKTEVLLACGSFNPITNMHLRFLFELAKDYMNGTGRTYVVKGIISPVGDAYKKKGLIPAYHRVIMA  
 ELATKNSKWVEVDTWESLQKEWKETLKVLRHHQEKLEASDCDHQQNSPTLERPGRKRKWTETQDSSQKKS  
 LEPKTKAVPKVKLLCGADLLESFAVPNLWKSSEDITQIVANYGLICVTRAGNDAQKF IYESDVLWKHRSNI  
 HVVNEWIANDISSTKIRRALRRGQSIRYLVPDLVQEYIEKHNL YSSESEDRNAGVILAPLQRNTAEAKT

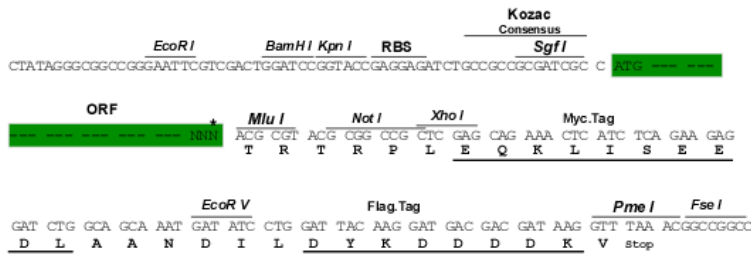
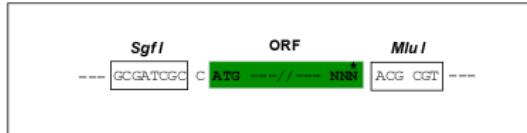
TRTRPLEQKLISEEDLAANDILDYKDDDDKV

**Chromatograms:** [https://cdn.origene.com/chromatograms/mk6063\\_g08.zip](https://cdn.origene.com/chromatograms/mk6063_g08.zip)

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**

Cloning sites used for ORF Shuttling:



\* The last codon before the Stop codon of the ORF

**ACCN:** NM\_022787

**ORF Size:** 837 bp

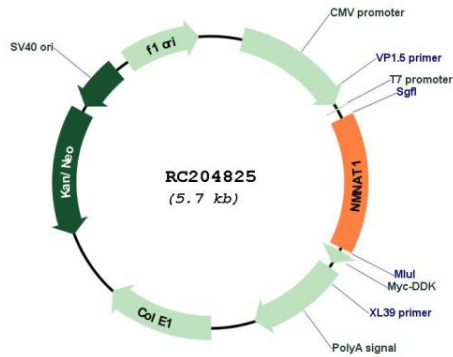
**OTI Disclaimer:** Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of 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](mailto: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](#)

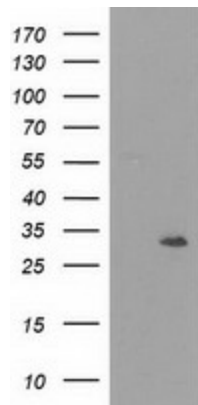
**OTI Annotation:** This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

<b>Components:</b>	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).
<b>Reconstitution Method:</b>	<ol style="list-style-type: none"><li>1. Centrifuge at 5,000xg for 5min.</li><li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li><li>3. Close the tube and incubate for 10 minutes at room temperature.</li><li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li><li>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.</li></ol>
<b>Note:</b>	Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.
<b>RefSeq:</b>	<a href="#">NM_022787.4</a>
<b>RefSeq Size:</b>	3781 bp
<b>RefSeq ORF:</b>	840 bp
<b>Locus ID:</b>	64802
<b>UniProt ID:</b>	<a href="#">Q9HAN9</a>
<b>Cytogenetics:</b>	1p36.22
<b>Domains:</b>	CTP_transf_2
<b>Protein Pathways:</b>	Metabolic pathways, Nicotinate and nicotinamide metabolism
<b>MW:</b>	31.9 kDa
<b>Gene Summary:</b>	This gene encodes an enzyme which catalyzes a key step in the biosynthesis of nicotinamide adenine dinucleotide (NAD). The encoded enzyme is one of several nicotinamide nucleotide adenylyltransferases, and is specifically localized to the cell nucleus. Activity of this protein leads to the activation of a nuclear deacetylase that functions in the protection of damaged neurons. Mutations in this gene have been associated with Leber congenital amaurosis 9. Alternative splicing results in multiple transcript variants. Pseudogenes of this gene are located on chromosomes 1, 3, 4, 14, and 15. [provided by RefSeq, Jul 2014]

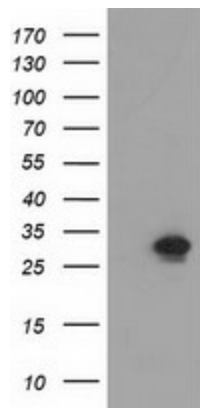
Product images:



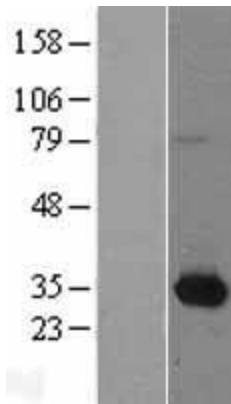
Circular map for RC204825



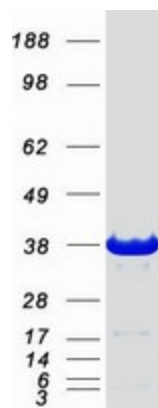
HEK293T cells were transfected with the pCMV6-ENTRY control (Left lane) or pCMV6-ENTRY NMNAT1 (RC204825, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-NMNAT1 ([TA502219]). Positive lysates [LY402948] (100ug) and [LC402948] (20ug) can be purchased separately from OriGene.



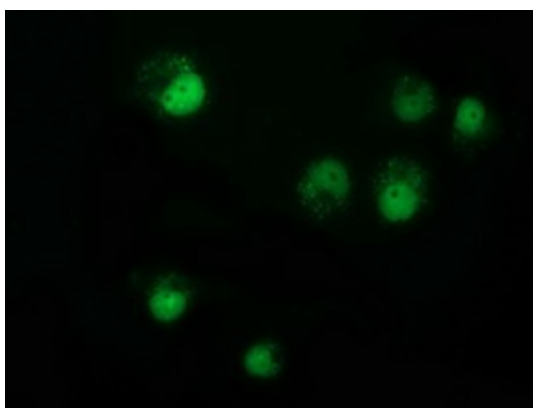
HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY NMNAT1 (Cat# RC204825, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-NMNAT1(Cat# [TA502220]). Positive lysates [LY402948] (100ug) and [LC402948] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY402948]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC204825 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified NMNAT1 protein (Cat# [TP304825]). The protein was produced from HEK293T cells transfected with NMNAT1 cDNA clone (Cat# RC204825) using MegaTran 2.0 (Cat# [TT210002]).



Anti-NMNAT1 mouse monoclonal antibody ([TA502219]) immunofluorescent staining of COS7 cells transiently transfected by pCMV6-ENTRY NMNAT1 (RC204825).