

## Product datasheet for **RG200131**

### **NAD Synthetase (NADSYN1) (NM\_018161) Human Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	NAD Synthetase (NADSYN1) (NM_018161) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	NAD Synthetase
Synonyms:	VCRL3
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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**ORF Nucleotide Sequence:**

>RG200131 representing NM\_018161  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCCGCGATCGCC

ATGGGCCGGAAGGTGACCGTGGCCACCTGCGCACTCAACCAGTGGGCCCTGGACTTCGAGGGCAATTTGC  
 AAAGAATTTTAAAGAGTATTGAAATTGCCAAAAACAGAGGAGCAAGATACAGGCTTGGACCAGAGCTGGA  
 AATATGCGGTACGGATGTTGGGATCATTATTACGAGTGGACACCCCTTTCGACTCGTTTCAAGTCCTA  
 GCGGCCCTTCTGGAGTCTCCCGTCACTCAGGACATCATCTGCGACGTGGGGATGCCTGTAATGCACCGAA  
 ACGTCCGTACAACGAGAGTATTCCTCAACAGGAAGATCCTGCTCATCAGACCCAAGATGGCCTT  
 GGCCAATGAAGGCAACTACCGCGAGCTGCGCTGGTTCACCCCGTGGTGGAGGAGTCGGCACACAGAGGAG  
 TACTTTCTGCCTCGGATGATACAGGACCTGACAAAGCAGGAAACCGTACCCTTCGGAGATGCGGTGCTGG  
 TGACATGGGACACCTGCATTGGAAGTGAGATCTGTGAGGAGCTCTGGACACCCACAGCCCGCACATCGA  
 CATGGGCTGGATGGCGTGGAGATCATCAACAACGCTCGGGCAGCCACCACGTGCTGCGCAAAGCCAAC  
 ACCAGGTGGATCTCGTACTATGGTACCAGCAAGAACGGTGGGATTTACTTGTGGCCAAACCAGAAGG  
 GTTGCGACGGGGACCGCTGTAACGACGGCTGTGCCATGATCGCCATGAACGGAAGCGTCTTTGCTCA  
 AGGATCCCAGTTTTCTCTGGATGACGTGGAAGTCTGACGGCCACGCTGGATCTGGAGGAGCTCCGGAGC  
 TACAGGGCGGAGATTTCTCTCGAAACCTGGCGGCCAGCAGGGCGAGCCCTACCCAGAGTGAAGTGG  
 ACTTTGCCCTCTCGTCCACGAGGACTTGTCTGGACCCATCTCTGAGCCCATCGAGTGGAAATACCACAG  
 CCCTGAGGAGGAGATAAGCCTTGGACCTGCCTGCTGGCTCTGGGATTTTTAAGACGAAGTCAACAGGCA  
 GGGTTTTTGTGCCCTTGTGAGTGGCGGGTGGACAGCGCAGCCACCGCCTGCCTCATCTACTCCATGTGCT  
 GCCAGTCTCGAGGCCGTGAGGAGTGGAAATGAGGAAGTGTGGCTGATGTCCGACCATCGTGAACCA  
 GATCAGCTACACCCCGAGGATCCCGAGACCTCTGTGGACGCATACTGACCACCTGCTACATGGCCAGC  
 AAGAACTCTCCAGGAGACGTGACCCGGGCCAGAGAGTTGGCCAGCAGATTGGAAGCCACCACATCA  
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 GTCCTCGCTATCTGTTTGTCTAGTTGAGCCTCTGGTCTCGGGTGTCCACGGTGGGCTCCTCGTGTGG  
 GATCCGCCAACGTGGATGAGAGTCTCCTGGCTACCTGACCAAGTACGACTGCTCCAGTGGGACATCAA  
 CCCCATAGGCGGGATCAGCAAGACGGACCTCAGGGCCTTCGTCCAGTTCTGCATCCAGCGCTTCCAGCTT  
 CCTGCCCTGCAGAGCATCCTGTTGGCGCGGCCACCGCAGAGCTGGAGCCCTTGGCTGATGGACAGGTGT  
 CCCAGACCGACGAGGAAGATATGGGGATGACATATGCGGAGCTCTCGGTCTATGGGAAACTCAGGAAGT  
 GGCCAAGATGGGGCCCTACAGCATGTTCTGCAAACCTCTCGGCATGTGGAGACACATCTGCACCCCGAGA  
 CAGGTGCTGACAAAGTGAAGCGGTTTTTCTCCAAGTACTCCATGAACAGACACAAGATGACCACGCTCA  
 CACCCCGTACCACGCGGAGAACTACAGCCCTGAGGACAACAGGTTTGTCTGCGACATTTCTGTACAA  
 CACAAGCTGGCCTTGGCAGTTTCGGTGCATAGAAAATCAGGTGCTACAGCTCGAGAGGGCAGAGCCACAG  
 TCCCTGGACGGCGTGGAC

ACGCGTACGCGGCCGCTCGAG – GFP Tag – GTTTAA

**Protein Sequence:** >RG200131 representing NM\_018161  
Red=Cloning site Green=Tags(s)

```
MGRKVTVATCALNQWALDFEGLNQRILKSIEIAKNRGARYRLGPELEICGYGCWDHYYESDTLLHSFQVL
AALLESPTQDIICDVGMPPVHRNVRYNCRVIFLNRKILLIRPKMALANEGNYRELRFWTPWSRSRHTTE
YFLPRMIQDLTKQETVPFGDAVLVTWDTICIGSEICEELWTPHSPHIDMGLDQVEIITNASGSHHVLKRN
TRVDLVTMVTSKNGGIYLLANQKQCDGDRLYYDGCAMIAMNGSVFAQGSQFSLDDVEVLTATLDLEDVRS
YRAEISSRNLAASRASPYPRVKVDFALSCHEDLLAPISEPIEWKYHSPEEEISLGPACWLWDFLRRSQQA
GFLLPLSGGVDSAATACLIYSMCCQVCEAVRSGNEEVADVRTIVNQISYTPQDPRDLCGRILTTCYMAS
KNSSQETCTRARELAQQIGSHHISLNIDPAVKAVMGIFSLVTGKSPLFAAHGSSRENALQNVQARIRM
VLAYLFAQLSLWSRGVHGGLLVLSANVDESLLGYLTKYDCSSADINPIGGISKTDLRAFVQFCIQRFQL
PALQSILLAPATAELEPLADGQVSQTDEEDMGMTYAEHSVYGLRKYAKMGPYSMFCKLLGMWRHICTPR
QVADKVKRFFSKYSMNRHKMTTLTPAYHAENYSPEDNRFDLRPFLYNTSWPWQFRCIENQVLQLERAEPQ
SLDGVD
```

TRTRPLE - GFP Tag - V

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**



**ACCN:** NM\_018161

**ORF Size:** 2118 bp

**OTI Disclaimer:** 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.

**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\\_018161.3](#)

**RefSeq Size:** 2453 bp

**RefSeq ORF:** 2121 bp

**Locus ID:** 55191

**UniProt ID:** [Q6IA69](#)

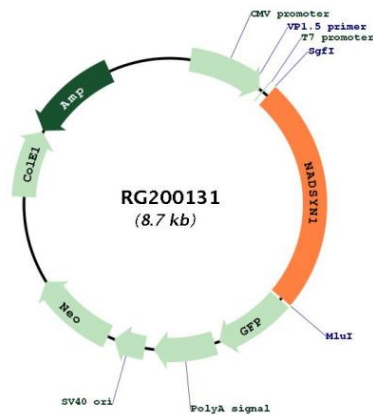
**Cytogenetics:** 11q13.4

**Domains:** CN\_hydrolase, NAD\_synthase

**Protein Pathways:** Metabolic pathways, Nicotinate and nicotinamide metabolism

**Gene Summary:** Nicotinamide adenine dinucleotide (NAD) is a coenzyme in metabolic redox reactions, a precursor for several cell signaling molecules, and a substrate for protein posttranslational modifications. NAD synthetase (EC 6.3.5.1) catalyzes the final step in the biosynthesis of NAD from nicotinic acid adenine dinucleotide (NaAD).[supplied by OMIM, Apr 2004]

## Product images:



Circular map for RG200131