

Product datasheet for RC233199

NOS1 (NM_001204213) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	NOS1 (NM_001204213) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	NOS1
Synonyms:	bNOS; IHPS1; N-NOS; NC-NOS; nNOS; NOS
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin
ORF Nucleotide Sequence:	>RC233199 representing NM_001204213 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGGGCTCCATCATGCATCCTTCTCAGCATGCAAGGAGGCTGAAGACGTCGGCACAAAAGGACAGCTCT
TCCCTCTCGCAAAGAGTTTATTGATCAATACTATTCAATTAAGATTTGGCTCCAAAGCCACAT
GGAAAGGCTGGAAGAGGTGAACAAAGAGATCGACACCACTAGCACTTACCAGCTCAAGGACACAGAGCTC
ATCTATGGGGCCAAGCACGCCTGGCGGAATGCCTCGCGCTGTGTGGGCAGGATCCAGTGGTCCAAGCTGC
AGGTATTCGATGCCCGTACTGCACCACGGCCACGGGATGTTCAACTACATCTGTAACCATGTCAAGTA
TGCCACCAACAAAGGGAACCTCAGGTCTGCCATCACCATATCCCCAGAGGACAGACGGCAAGCAGCAGC
TTCCGAGTCTGGAACCTCCAGCTCATCCGCTACGCTGGCTACAAGCAGCCTGACGGCTCCACCCTGGGGG
ACCCAGCCAATGTGCAGTTCACAGAGATATGCATACAGCAGGGCTGGAACCCGCTAGAGGCGCTTCGA
TGTCTGCCGCTCCTGCTTCAGGCCAACGGCAATGACCTGAGCTCTTCCAGATTCCTCCAGAGCTGGTG
TTGGAAGTTCCCATCAGGCACCCCAAGTTTGTGAGTGGTTCAAGGACCTGGGGCTGAAGTGGTACGGCTCC
CGCCGCTGTC AACATGCTCCTAGAGATTGGCGGCCTGGAGTTCAGCGCCTGTCCCTTCAAGTGGTGGTA
CATGGGCACAGAGATTGGTGTCCGCGACTACTGTGACAACCTCCGCTACAATATCCTGGAGGAAGTGCC
AAGAAGATGAACTTAGACATGAGGAAGACGTCCTCCCTGTGGAAGGACCGGCTGGTGGAGATCAATA
TCGCGGTTCTCTATAGCTTCCAGAGTGACAAAGTACCATTGTTGACCATCACTCCGCCACCGAGTCCCT
CATTAAGCACATGGAGAATGAGTACCGCTGCCGGGGGGCTGCCCTGCCGACTGGGTGGATCGTGCC
CCCATGTCCGGAAGCATCACCCCTGTGTTCCACCAGGAGATGCTCAACTACCGGCTCACCCCTCCTTCG
AATACCAGCTGATCCCTGGAACACGCATGTCTGGAAAGGCACCAACGGGACCCCAAAAGCGGCGAGC
CATTGGCTTCAAGAAGCTAGCAGAAGCTGTCAAGTTCTCGCCAAGCTGATGGGGCAGGCTATGGCCAAG
AGGGTGAAGCGACCATCCTCTATGCCACAGAGACAGGCAATCGCAAGCTTATGCAAGACCTTGTGTG
AGATCTTCAAACACGCCCTTTGATGCCAAGGTGATGTCCATGGAAGAATATGACATTGTGCACCTGGAACA
TGAACCTCTGGTCTTGTGGTCACCAGCACCTTTGGCAATGGAGATCCCCCTGAGAATGGGGAGAAATTC
GGCTGTGCTTGTGGAATGAGGCACCCCAACTCTGTGCAGGAAGAAAGGAGCTACAAGTCCGAT



[View online >](#)

TCAACAGCGTCTCCTCTACTCTGACTCCCAAAAATCATCAGGCGATGGGCCCGACCTCAGAGACAACT
 TGAGAGTCTGGACCCCTGGCCAATGTGAGGTTCTCAGTTTTTGGCCTCGGCTCACGAGCATACCCTCAC
 TTTTGGCCTTCGGACACGCTGTGGACACCCTCCTGGAAGAACTGGGAGGGGAGAGGATCCTGAAGATGA
 GGAAGGGGATGAGCTCTGTGGGAGGAAGAGGCTTTGAGGACCTGGGCCAAGAAGGCTTCAAGGCAGC
 CTGTGATGTCTTCTGTGTGGGAGATGATGTCAACATTGAAAGGCCAACAAATCCCTCATCAGCAATGAT
 CGCAGCTGGAAGAGAAACAAGTCCGCCTCACCTTTGTGGCCGAAGCTCCAGAACTCACACAAGTCTAT
 CCAATGTCCACAAAAAGCGAGTCTCAGCTGCCCGGCTCCTTAGCCGTCAAACCTCCAGACCCCTAAATC
 CAGTCGGTCAACTATCTTCGTGCGTCTCCACACCAACGGGAGCCAGGAGCTGCAGTACCAGCCTGGGGAC
 CACCTGGGTGTCTTCCCTGGCAACCACGAGGACCTCGTGAATGCCCTGATCGAGCGGCTGGAGGACGCGC
 CGCCTGTCAACCAGATGGTAAAAGTGGAACTGCTGGAGGAGCGGAACACGGCTTTAGGTGTCATCAGTAA
 CTGGACAGACGAGCTCCGCCTCCCGCCCTGCACCATCTCCAGGCCTTCAAGTACTACCTGGACATCACC
 ACGCCACCAACGCCTCTGCAGCTGCAGCAGTTGCTCCCTAGCTACCAGCGAGAAGGAGAAGCAGCGTC
 TGCTGGTCTCAGCAAGGGTTTGCAGGAGTACGAGGAATGAAAATGGGGCAAGAACCCACCATCGTGA
 GGTGCTGGAGGAGTTCCATCTATCCAGATGCCGGCCACCCTGCTCCTGACCCAGCTGCTCCTGCTGCAG
 CCCCCTACTATTCCATCAGCTCCTCCCAGACATGTACCCTGATGAAGTGCACCTCACTGTGGCCATCG
 TTTCTACCGCACTCGAGATGGAGAAGGACCAATTCACCACGGCGTATGCTCCTCCTGGTCAACCCGGAT
 ACAGGCTGACGAACTGGTCCCCTGTTTCGTGAGAGGAGCACCCAGCTTCCACCTGCCCGGAACCCCAA
 GTCCTGTCATCCTCGTTGGACCAGGCACCGGCATTGCCCTTTCCGAAGCTTCTGGCAACAGCGGCAAT
 TTGATATCCAACACAAAGGAATGAACCCCTGCCCATGGTCTGGTCTTTCGGGTGCCGCAATCCAAGAT
 AGATCATATCTACAGGGAAGAGACCCTGCAGGCCAAGAACAAGGGGGTCTTACAGAGCTGTACACGGCT
 TACTCCCGGGAGCCAGACAAACCAAGAAGTACGTGCAGGACATCCTGCAGGAGCAGCTGGCGGAGTCTG
 TGTACCGAGCCCTGAAGGAGCAAGGGGGCCACATATACGTCTGTGGGGACGTACCATGGCTGCTGATGT
 CCTCAAAGCCATCCAGCGCATCATGACCAGCAGGGGAAGCTCTCGGCAGAGGACGCCGGCTATTATC
 AGCCGGATGAGGGATGACAACCGATACCATGAGGATATTTTGGAGTACCCTGCCAAGCTACGAAGTGA
 CCAACCGCTTAGATCTGAGTCCATTGCCTTATTGAAGAGAGCAAAAAAGACACCGATGAGTTTTTCAG
 CTCC

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC233199 representing NM_001204213
 Red=Cloning site Green=Tags(s)

MGSIMHPSQHARRPEDVTRKQLFPLAKEFIDQYSSIKRFGSKAHMERLEEVNKEIDTTSTYQLKDEL
 IYGAKHAWRNASRCVGRIQWSKLQVFDARDCTTAHGFMFNYICNHVKYATNKGNLRSAITIFPQRTDGKHD
 FRVWNSQLIRYAGYKQPDGSLGDPANVQFTEICIQGWKPPRGRFDVLPDLLQANGNDPELFIQIPPELV
 LEVPIRHPKFEWFKDLGLKWYGLPAVSNMLLEIGGLEFSACPFSGWYMGTEIGVRDYCDNSRYNILEEVA
 KKMNLDMRKTSSLWKDQALVEINIAVLYSFQSDKVTIVDHHSESFIKHMENEYRCRGGCPADWWIWP
 PMSGSITPVFHQEMLNRYLTPSFEYQPDPNWTHVWKGNTGTPTKRRAIGFKLAEAVKFSAKLMGQAMAK
 RVKATILYATETGKSQAYAKTLCEIFKHAFDAKVMSEEDIVHLEHETLVLVVSTFGNDPPENGEKF
 GCALMEMRHPNSVQEERKSYKVRFNVSYSYSDSQSSGDGPDLDNFESAGPLANVRFVFLGSRAYPH
 FCAFGHAVDTLLEELGGERILKMREGDELCEQEEAFRTWAKKVFKAACDVFVCGDDVNIEKANNSLISND
 RSWKRNKFRLTFVAEPELTQGLSNVHKKRVSAARLLSRQNLQSPKSSRSTIFVRLHTNGSQELQYQPGD
 HLGVFPGNHEDLVNALIERLEDAPPVNMVKVELLEERNTALGVISNWTDELRLPPCTIFQAFKYLDIT
 TPPTPLQLQQFASLATSEKEKQRLVLVSKGLQEYEEWKWGNPTIVEVLEEFPSIQMPATLLLTQLSLLQ
 PRYYSISSPDMYPDEVHITVAIVSYRTRDGEPIHHGVCSSWLNRIQADELVPCFVRGAPSFHLPRNPQ
 VPCILVPGTGIAPFRSFQQRQFDIQHKGMNCPMVLVFGCRQSKIDHIYREETLQAKNKGVFRELYTA
 YSREPKPKKYVQDILQEQLAESVYRALKEQGGHIYVCGDVTMAADVLKAIQRIMTQQGKLSAEDAGVFI
 SRMRDDNRYHEDIFGVTLRTYEVTNRLRSESI AFIEESKKTDEVFSS

TRTRPLEQKLI SEEDLAANDILDYKDDDDKV

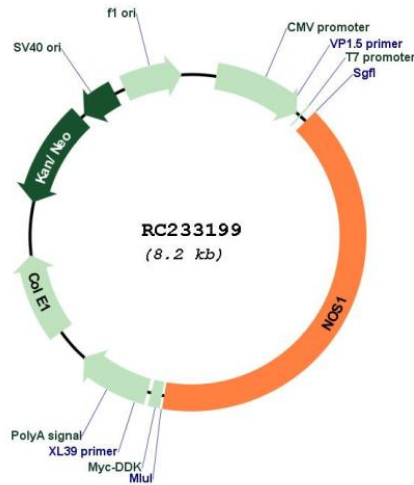
Restriction Sites:

SgfI-MluI

Cloning Scheme:



Plasmid Map:



ACCN: NM_001204213

ORF Size: 3294 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:	<ol style="list-style-type: none">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:	<u>NM_001204213.1, NP_001191142.1</u>
RefSeq Size:	10781 bp
RefSeq ORF:	3297 bp
Locus ID:	4842
UniProt ID:	<u>P29475</u>
Cytogenetics:	12q24.22
Protein Families:	Druggable Genome
Protein Pathways:	Alzheimer's disease, Amyotrophic lateral sclerosis (ALS), Arginine and proline metabolism, Calcium signaling pathway, Long-term depression, Metabolic pathways, Pathways in cancer, Small cell lung cancer
MW:	125.6 kDa
Gene Summary:	The protein encoded by this gene belongs to the family of nitric oxide synthases, which synthesize nitric oxide from L-arginine. Nitric oxide is a reactive free radical, which acts as a biologic mediator in several processes, including neurotransmission, and antimicrobial and antitumoral activities. In the brain and peripheral nervous system, nitric oxide displays many properties of a neurotransmitter, and has been implicated in neurotoxicity associated with stroke and neurodegenerative diseases, neural regulation of smooth muscle, including peristalsis, and penile erection. This protein is ubiquitously expressed, with high level of expression in skeletal muscle. Multiple transcript variants that differ in the 5' UTR have been described for this gene but the full-length nature of these transcripts is not known. Additionally, alternatively spliced transcript variants encoding different isoforms (some testis-specific) have been found for this gene.[provided by RefSeq, Feb 2011]