

Product datasheet for **RG214432**

SCN7A (NM_002976) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Tag:	TurboGFP
Symbol:	SCN7A
Synonyms:	NaG; Nav2.1; Nav2.2; SCN6A
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)

ORF Nucleotide Sequence: >RG214432 representing NM_002976
Red=Cloning site Blue=ORF Green=Tags(s)

TTTGTGAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGTTGGCTTCACCAGAACCTAAGGGCCTTGTTCCCTTCACTAAAGAGTCTTTTGAACCTATAAAACAGC
ATATTGCTAAAACACATAATGAAGACCATGAAGAAGAAGACTTAAAGCCAACTCCTGATTTGGAAGTTGG
CAAAAGCTTCCATTTATTTATGGAACCTTTCTCAAGGAATGGTGTGAGAGCCCTTGAAGATGTGGAC
CCATATTACTACAAGAAAAAATACTTTTCATAGTATTAATAAAAAATAGAACAATCTTCAGATTCAATG
CGGCTTCCATCTTGTGTACATTGTCTCCTTTCAATTGTATTAGAAGAACAACATCAAGGTTTTGGTACA
TCCCTTTTTCCAAGTGTATTCTAATTAGTGTCTGATTGATTGCGTATTCATGTCCTGACTAATTTG
CCAAAATGGAGACCAGTATTAGAGAATACTTTGCTTGAATTTACACATTTGAAATACTTGTAAAACCTCT
TTGCAAGAGGTGTCTGGCAGGATCATTTTCTCCTCGGTGATCCATGGAAGTGGCTCGATTTGAGCGT
AACTGTGTTTGAAGTTATTATAAGATACTCACCTCTGGACTTCATTCCAACGCTTCAAAGTCAAGAACT
TTGAGAATTTTAAAAATTATTCCTTTAAATCAAGGTCTGAAATCCCTTGTAGGGGTCTGATCCACTGCT
TGAAGCAGCTTATTGGTGTCTTATCCTAACTCTGTTTTTCTGAGCATATTTCTCTAATTGGGATGGG
GCTCTTCATGGGCAACTTGAACATAAATGTTTTTCGATGGCCCCAAGAGAATGAAAATGAACCCCTGCAC
AACAGAACTGGAACCCATATTATATTCGAGAAACAGAAAACCTTTTATTATTTGGAAGGAGAAAGATATG
CTCTCCTTTGTGGCAACAGGACAGATGCTGGTCAGTGTCTGAAGGATATGTGTGTGAAAAAGCTGGCAT
AAATCCTGATCAAGGCTTCACAAATTTTGACAGTTTTGGCTGGGCCTTATTGCCCCTATTTGCGTTAATG
GCTCAGGATTACCCTGAAGTACTTTATCACCAGATACTTTATGCTTCTGGGAAGGTCTACATGATTTTT
TTGTGGTGGTAAGTTTTTTGTTTTCTTTTATATGGCAAGTTTGTCTTAGGCATACTTGCCATGGCCTA
TGAAGAAGAAAAGCAGAGAGTTGGTGAAATATCTAAGAAGATTGAACCAAAATTTCAACAGACTGGAAAA
GAACCTCAAGAAGGAAATGAACAGATGAGGCCAAGACCATACAAAATAGAAATGAAGAAAAGGTCAACAA
TTTCCACAGACACATCATTGGATGTGTGGAAGATGCTACTCTCAGACATAAGGAAGAACTTGAAAAATC
CAAGAAGATATGCCCATTATACTGGTATAAGTTTGCTAAAACCTTTCTGATCTGGAATTGTTCTCCCTGT
TGGTTAAAATTGAAGAGTTTGTCCATAGGATTATAATGGCACCATTTACTGATCTTTTCTTATCATAT



GCATAATTTTAAACGTATGTTTTCTGACCTTGGAGCATTATCCAATGAGTAAACAACTAACACTCTTCT
CAACATTGGAACCTGGTTTTCTTGGAAATTTTACAGCAGAAATGATTTTTAAATAATTGCAATGCAT
CCATATGGGTATTTCCAAGTAGGTTGGAACATTTTGTAGCATGATAGTTCATGGTTAATAGAAC
TTTGTCTAGCAAAATGTTGCAGGAATGGCTCTTCTCGATTATTCAGGATGTTAAGAATTTTCAAGTTGGG
AAAGTATTGGCCAACATTCCAGATTTTGTGTGGTCTCTTAGTAACATCATGGGTGGCCCTGAAAGACTTG
GTCCTGTTGTTGTTACATTTCATCTTCTTCTGCTGCATTGGCATGAAGCTGTTTGGTAAGAATTATG
AAGAATTTGTCTGCCACATAGACAAAGACTGTCAACTCCACGCTGGCACATGCATGACTTTTTCCACTC
CTTCCTGAATGTGTCCGAATTCCTGTGGAGAGTGGGTAGAGACCTTGTGGGACTGTATGGAGGTTGCA
GGCCAATCCTGGTGATTCCTTTTTACCTGATGGTCATTTTAATTGGAAATTTACTGGTACTTTACCTGT
TTCTGGCATTGGTGAGCTCATTTAGTTCATGCAAGGATGTAACAGCTGAAGAGAATAATGAAGCAAAAAA
TCTCCAGCTTGCAGTGGCAAGAATTAAGGAATAAACTATGTGCTTCTTAAATACTATGCAAAACA
CAAAATGTCCCAAGGACACAATGGACCATGTAATGAGGTATATGTTAAGAAGATATTTCTGACCATA
CCCTTTCTGAATTGAGCAACACCCAAGATTTTCTCAAAGATAAGGAAAAAGCAGTGGCACAGAGAAAAA
CGCTACTGAAATGAGAGCCAATCACTTATCCCCAGTCTAGTGTCTCAGAACTGTACCAATTGCTTCA
GGAGAATCTGATATAGAAAATCTGGATAATAAGGAGATTGAGAGTAAGTCTGGTGATGGAGGCAGCAAG
AGAAAAATAAGCAATCTAGCTCATCTGAATGCAGTACTGTTGATATTGCTATCTCTGAAGAAGAAGAAAT
GTTCTATGGAGGTGAAAGATCAAGCATCTGAAAAATGGTTGCAGACGCGGATCTTCACTTGGTCAAATC
AGTGGAGCATCCAAGAAAGGAAAAATCTGGCAGAACATCAGGAAAACCTGCTGCAAGATTGTAGAGAACA
ATTGGTTTAAAGTGTATTATGGGCTTGTTACTCTGCTCAGCACTGGCACTCTGGCTTTTGAAGATATATA
TATGGATCAGAGAAAGACAATTAATAATTTTATTAGAATATGCTGACATGATCTTACTTATATCTTCATT
CTGGAATGCTTCTAAATGGATGGCATATGGTTTTAAGGCCTATTTCTCTAATGGCTGGTACAGGCTGG
ACTTCGTGGTTGTTATTGTGTTTTGTCTTAGCTTAATAGGCAAACTCGGAAGAACTAAAACCTCTTAT
TTCCATGAAATTCCTTCGGCCCTCAGAGTCTATCTCAATTTGAAAGAATGAAGGTGGTTGTGAGAGCT
TTGATCAAAACAACCTTACCCACTTTGAATGTGTTTCTGTCTGCCTGATGATCTGGCTGATTTTTAGTA
TCATGGGAGTAGACTTATTGTCTGGCAGATTCTATGAATGCATTGACCCACAAGTGGAGAAAGGTTTC
TTCATCTGAAGTCATGAATAAGAGTCGGTGTGAAAGCCTTCTGTTAACGAATCCATGCTATGGGAAAAA
GCAAAAATGAACCTTTGATAATGTTGGAATGGTTTCTTTCTGCTTCAAGTAGCAACATTTAATGGAT
GGATCACTATTATGAATTCAGCAATTGATTCTGTTGCTGTTAATATACAGCCTCATTTTGAAGTCAACAT
CTACATGTATTGTTACTTTATCAACTTTATTATATTTGGAGTATTTCTCCCTCTGAGTATGCTGATTACT
GTTATTATTGATAATTTCAACAAGCATAAAATAAGCTGGGAGGCTCAAATATCTTTATAACGGTTAAAC
AGAGAAAACAGTACCGCAGGCTGAAGAAGCTAATGTATGAGGATTCTCAAAGACCAGTACCTCGCCCAT
AAACAAGCTCCAAGGATTCATCTTTGATGTGGTAACAAGCCAAGCTTTTAAATGTCATTGTTATGGTTCTT
ATATGTTTCCAAGCAATAGCCATGATGATAGACACTGATGTTGAGAGTCTACAAATGTCCATTGCTCTCT
ACTGGATTAACCTCAATTTTGTATGCTATATACTATGGAATGTATACTGAAGCTCATCGCTTTCCGTTG
TTTTTATTTACCATTCGCTGGAACATTTTGATTTTATGGTGGTTATTTCTCCATCAGGACTATGT
CTGCCTATGACAGTAGGATCCTACCTTGTGCCTCCTCACTTGTCGAACGTGATACTTCTCTCAGGATCA
TTCACATGCTGCTCTTGGAAGGACCAAGGTGTTTATAATCTGATGCTTCTTTGATGCTGTCCCT
CCCAGCATTATTGAACATATCTTCTCATCTTCTGCTCATGTTTATGCGGTATTTGGAATGTAT
AATTTTGCCTATGTTAAAAAGAAGCTGGAATTAATGATGTGTCTAATTTTGAACCTTTGGCAACAGTA
TGCTCTGTCTTTTCAAGTTGCAATATTTGCTGGTTGGGATGGGATGCTTGATGCAATTTTCAACAGTAA
ATGGTCTGACTGTGATCCTGATAAAATTAACCCTGGGACTCAAGTTAGAGGAGATTGTGGGAACCCCTCT
GTTGGGATTTTTATTTGTCAGTTATATCCTCATATCATGGCTGATCATTGTAATATGTACATTGTTG
TTGTCATGGAGTTTTTAAATATTGCTTCTAAGAAGAAAAACAAGACCTTGAGTGAAGATGATTTTAGGAA
ATTCCTTTGAGGTATGGAAAAGGTTTGATCCTGATAGGACCCAGTACATAGACTCTAGCAAGCTTTGAGAT
TTTGCAGCTGCTCTTGATCCTCTCTTTTATGCAAAACCAACAAAGGCCAGCTCATTGCTTTGGACC
TCCCCATGGCTGTTGGGACAGAAATTCATTGCCTCGATATCTTACTTGCTTTTACAAGAGAGTTATGGG
TCAAGATGTGAGGATGGAGAAAGTTGTTTCAAGAAATAGAAATCAGGGTTTTTGTAGCCAACCTTTTAAG
ATCACATGTGAGCCAATTACGACTACTTTGAAACGAAAACAAGAGGCAGTTTCAGCAACCATCATTCAAC
GTGCTTATAAAAAATTACCGCTTGAGGCGAAATGACAAAAATACATCAGATATTATGATAGATGGTGA
CAGAGATGTTATGCTACTAAAGAAGGTGCCTATTTTGACAAAGCTAAGGAAAAGTCACCTATTCAAAGC
CAGATC

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence:

>RG214432 representing NM_002976

Red=Cloning site Green=Tags(s)

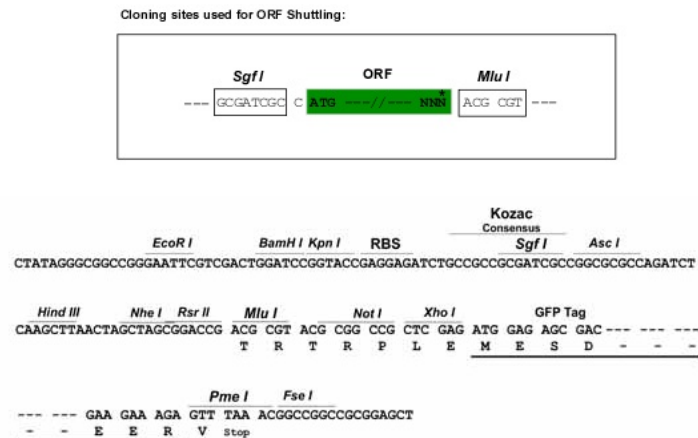
MLASPEPKGLVPFTKESFELIKQHIKTHNEDHEEEDLKPTPDLEVGGKLPFIYGNLSQGMVSEPLEDVD
 PYYYKKNTFIVLNKNRTIFRFNAASILCTLSFNCIRRTTIKVLVHPFFQLFILISVLIDCVFMSLTNL
 PKWRPVLENTLLGIYTFEILVKLFARGVWAGSFSLGDPWNWLDVSVTVFEVIIRYSPLDFIPTLTQTART
 LRILKIPLNQGLKSLVGLIHCLKQLIGVILTLFSLIFSLIGMGLFMGNLKHKCFRWPQENENETLH
 NRTGNPPYYIRETENFYYLEGERYALLCGNRTDAGQCPEGYVCVKAGINPDQGFNFDSFGWALFALFRLM
 AQDYPEVLVHQILYASGKVYMIFFVVVSFLFSFYMASLFLGILAMAYEEEEKQVRGEISKKIEPKFQQTGK
 ELQEGNETDEAKTIQIEMKKRSPISDTSLDVLEDAHLRHKKELEKSKKICPLWYWKFAKFTLIWNCSPC
 WLKLKEFVHRIIMAPFTDLFLIICILNVCFLEHYPMKQNTLLNIGNLVFIGIFTAEMIFKIAMH
 PYGYFQVGWNI FDSMIVFHGLIELCLANVAGMALLRLFRMLRIFKLGKYWPTFQILMWSLSNSWVAKDL
 VLLLTFFIFFSAAFGLKFGKNYEEFVCHIDKDCQLPRWHMHDFHSLNVFRILCGEWVETLWDCMEVA
 GQSWCIPFYLMLVILIGNLLVYLFLALVSSFSSCKDVAEENNEAKNLQAVARIKKGINYVLLKILCKT
 QNVPKDTMDHVNEVYVKEDISDHTLSELSNTQDFLDKKEKSSGTEKNATENESQSLIPSPSVSETVPIAS
 GESDIENLDNKEIQSKSGDGGSKKIKQSSSSSECSTVDIAISEEEEMFYGGERSKHLKNGCRGSSSLGQI
 SGASKKGKIWNIRKTCCKIVENNWFKCFIGLVTLSTGTALAFEDIYMDQRKTIKILLEYADMIFTYIFI
 LEMLLKWMAYGFKAYFSNGWYRLDFVVVIVFCLSLIGKTRTELKPLISMKFLRPLRVLSQLFERMKVVVRA
 LIKTTPLTNVFLVCLMIWLFISIMGVDLFAGRFYECIDPTSGERFSPSEVMNKSRCESLLFNESMLWEN
 AKMNFNDVNGNFLSLLQVATFNGWITIMNSAIDSVAVNIQPHFEVNIYMYCYFINFIIFGVFLPLSMLIT
 VIIDNFKHKIKLGGSNIFITVKQRKQYRRLKKLMYEDSQRPVPRPLNKLQGFIFDVVTSQAFNVIVMVL
 ICFQAIAMMIDTDVQSLQMSIALYWINSIFVMLYTMECILKLIARCFYFTIAWNIFDFMVVIFSITGLC
 LPMTVGSYLVPVSLVQLILLRIHMLRLGKGPVFNHMLPLMLSLPALLNIILLIFLVMFIYAVFGMY
 NFAYVKKEAGINDVSNFETFGNSMLCLFQVAIFAGWDGMLDAIFNSKWSDCDPKINPGTQVRGDCGNPS
 VGIFYFVSYLISWLIIVNMYIVVMEFLNIASKKKNKTLSEDDFRKFFQVWKRFPDRTQYIDSSKLS
 FAAALDPPLFMAKPNKGQLIALDLPMAVGDRIHCLDILLAFTRVMGQDVRMEKVVSIEISGFLLANPFK
 ITCEPITTTLLKRKQEAVSATIIQRAYKNYRLRRNDKNTSDIHMIDGDRDVHATKEGAYFDKAKEKSPIQS
 QI

TRTRPLE - GFP Tag - V

Restriction Sites:

SgfI-MluI

Cloning Scheme:



ACCN:

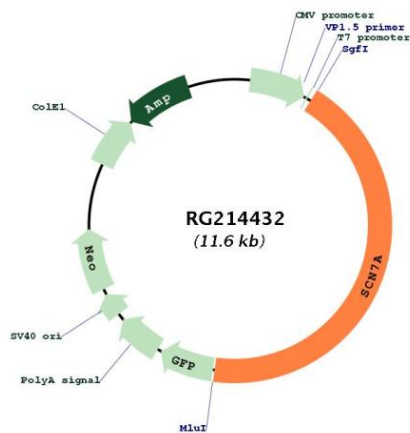
NM_002976

ORF Size:	5046 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
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.
Note:	Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.
RefSeq:	NM_002976.4
RefSeq Size:	7186 bp
RefSeq ORF:	5049 bp
Locus ID:	6332
UniProt ID:	Q01118
Cytogenetics:	2q24.3
Protein Families:	Druggable Genome, Ion Channels: Other, Transmembrane

Gene Summary:

This gene encodes one of the many voltage-gated sodium channel proteins. For proper functioning of neurons and muscles during action potentials, voltage-gated sodium channels direct sodium ion diffusion for membrane depolarization. This sodium channel protein has some atypical characteristics; the similarity between the human and mouse proteins is lower compared to other orthologous sodium channel pairs. Also, the S4 segments, which sense voltage changes, have fewer positive charged residues that in other sodium channels; domain 4 has fewer arginine and lysine residues compared to other sodium channel proteins. Several alternatively spliced transcript variants exist, but the full-length natures of all of them remain unknown. [provided by RefSeq, Dec 2011]

Product images:



Circular map for RG214432