

Product datasheet for **RG215249**

SCN2A (NM_001040142) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	SCN2A (NM_001040142) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	SCN2A
Synonyms:	BFIC3; BFIS3; BFNIS; DEE11; EA9; EIEE11; HBA; HBSCI; HBSCII; Na(v)1.2; NAC2; Nav1.2; SCN2A1; SCN2A2
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)
ORF Nucleotide Sequence:	>RG215249 representing NM_001040142 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**GCGATCGCC**

ATGGCACAGTCAGTGCTGGTACCGCCAGGACCTGACAGCTTCCGCTTCTTTACCAGGGAATCCCTTGCTG
CTATTGAACAACGCATTGCAGAAGAGAAAGCTAAGAGACCCAAACAGGAACGCAAGGATGAGGATGATGA
AAATGGCCCAAAGCCAAACAGTGACTTGGGAAGCAGGAAAATCTCTTCCATTTATTTATGGAGACATTCCT
CCAGAGATGGTGTGTCAGTGCCCTGGAGGATCTGGACCCCTACTATATCAATAAGAAAACGTTTATAGTAT
TGAATAAAGGGAAAGCAATCTCTCGATTGAGTCCACCCCTGCCCTTTACATTTTAACTCCCTTCAACCC
TATTAGAAAATTAGCTATTAAGATTTTGGTACATTCCTTTATTCAATATGCTCATTATGTGCAGGATTCCT
ACCAACTGTGATTTATGACCATGAGTAACCCCTCCAGACTGGACAAAGAATGTGGAGTATACCTTTACAG
GAATTTATACTTTTGAATCACTTATTAATAACTTGAAGGGGCTTTTGTGTTAGAAGATTTACATTTT
ACGGGATCCATGGAATTGGTTGGATTTACAGTCATTACTTTTGCATATGTGACAGATTTGTGGACCTG
GGCAATGTCTCAGCGTTGAGAACATTCAGAGTTCTCCGAGCATTGAAAACAATTTAGTCATTCCAGGCC
TGAAGACCATTGTGGGGCCCTGATCCAGTCAGTGAAGAAGCTTTCTGATGTCATGATCTTGACTGTGTT
CTGTCTAAGCGTGTGGCTAATAGGATTGCAGTTGTTTCATGGCAACCTACGAAATAAATGTTTGCAA
TGGCCTCCAGATAATTCCTTTGAAATAAATATCACTTCTTCTTTAAACAATTCATTGGATGGGAATG
GTACTACTTTCAATAGGACAGTGAGCATATTTAACTGGGATGAATATATTGAGGATAAAAAGTCACATTTTA
TTTTTTAGAGGGGCAAAATGATGCTCTGCTTTGTGGCAACAGCTCAGATGCAGGCCAGTCTCCTGAAGGA
TACATCTGTGTGAAGGCTGGTAGAAACCCCAACTATGGCTACACGAGCTTTGACACCTTTAGTTGGGCTT
TTTTGTCTTATTTGCTCTCATGACTCAAGACTTCTGGGAAAACCTTTATCAACTGACACTACGTGCTGC
TGGGAAAACGTACATGATATTTTTGTGCTGGTCAATTTCTTGGGCTCATTCTATCTAATAAATTTGATC
TTGGCTGTGGTGGCCATGGCCTATGAGGAACAGAATCAGGCCACATTGGAAGAGGCTGAACAGAAGGAAG
CTGAATTCAGCAGATGCTCGAACAGTTGAAAAGCAACAAGAAGAAGCTCAGGCCGAGCTGCAGCCGC



ATCTGCTGAATCAAGAGACTTCAGTGGTCTGGTGGGATAGGAGTTTTTTCAGAGAGTTCTTCAGTAGCA
TCTAAGTTGAGCTCCAAAAGTAAAAAGAGCTAAAAACAGAAGAAAAAGAAAACAGAAAGAACAGT
CTGGAGAAGAAGAGAAAAATGACAGAGTCCGAAAATCGGAATCTGAAGACAGCATAAAGAAGAAAGTTT
CCGTTTTTCTTGGAAGGAAGTAGGCTGACATATGAAAAGAGATTTTCTTCTCCACACCAGTCTTACTG
AGCATCCGTGGCTCCCTTTTCTCCAAGACGCAACAGTAGGGCGAGCCTTTTCAGTTCAGAGGTGCGAG
CAAAGGACATTGGCTCTGAGAATGACTTTGCTGATGATGACACAGCACCTTTGAGGACAATGACAGCCC
AAGAGACTCTGTTCGTGCCGCACAGCATGGAGAACGGCCACAGCAATGTCAGCCAGGCCAGCCGT
GCCTCCAGGGTGCCTCCCATCCTGCCATGAATGGGAAGATGCATAGCGCTGTGGACTGCAATGGTGTGG
TCTCCCTGGTCGGGGGCCCTTACCCTCACATCTGCTGGGCAGCTCCTACCAGAGGGCACAACACTGTA
AACAGAAATAAGAAAGAGACGGTCCAGTCTTATCATGTTTCCATGGATTTATTGGAAGATCCTACATCA
AGGCAAAGAGCAATGAGTATAGCCAGTATTTGACCAACACCATGGAAGAAGTGAAGAATCCAGACAGA
AATGCCACCATGCTGGTATAAATTTGCTAATATGTGTTTGGATTGGGACTGTTGTAACCATGGTTAAA
GGTGAAACACCTTGTCAACCTGGTTGTAATGGACCCATTTGTTGACCTGGCCATCACCATCTGCATTGTC
TTAAATACACTCTTCATGGCTATGGAGCACTATCCCATGACGGAGCAGTTCAGCAGTGTACTGTCTGTTG
GAAACCTGGTCTTACAGGGATCTTACAGCAGAAATGTTTCTCAAGATAATTGCCATGGATCCATATTA
TTACTTTCAAGAAGGCTGGAATATTTTTGATGGTTTTATTGTGAGCCTTAGTTTAAATGGAAGTGGTTTGG
GCAAAATGTGGAAGGATTGTCAGTCTCCGATCATTCCGGCTGCTCCGAGTTTTCAAGTTGGCAAAATCTT
GGCCAACCTAAATATGCTAATTAAGATCATTGGCAATTTCTGTGGGGCTCTAGGAAACCTCACCTTGGT
ATTGGCCATCATCGTCTTCAATTTTGTGTGGTGGCATGCAGCTCTTGGTAAGAGCTACAAGAATGT
GTCTGCAAGATTTCCAATGATTGTGAACCCCACGCTGGCACATGCATGACTTTTTCCACTCCTTCTCTGA
TCGTGTTCCGCGTGTGTGGAGAGTGGATAGAGACCATGTGGGACTGTATGGAGGTGCTGGCCAAAC
CATGTGCCCTTACTGTCTTCATGATGGTCATGGTATTGGAATCTAGTGGTCTGAACTCTTCTTGCC
TTGCTTTTGTGAGTTCCTTCACTTCTGACAACTTCTGCTGCCACTGATGATGATAACGAAATGAATACTCC
AGATTGCTGTGGGAAGGATGCGAGAAAGGAATCGATTTTGTAAAAAGAAAAATACGTGAATTTATTACAGAA
AGCCTTTGTTAGGAAGCAGAAAGCTTTAGATGAAATTAACCGCTTGAAGATCTAAATAATAAAAAGAC
AGCTGTATTTCCAACCATACCACCATAGAAATAGGCAAAGACCTCAATTATCTCAAAGACGGAAATGGAA
CTACTAGTGGCATAGGCAGCAGTGTAGAAAAATATGTCGTGGATGAAAGTGATTACATGTCATTTATAAA
CAACCCTAGCCTCACTGTGACAGTACCAATTTGCTGTTGGAGAATCTGACTTTGAAAAATTAATACTGAA
GAATTCAGCAGCGAGTCAAGATGAGAGAAAGCAAAGAGAAGCTAAATGCAACTAGTTTCTGAAAGGCA
GCACGGTTGATATTGGAGCTCCCGCCGAGGAGAAACAGCCTGAGGTTGAACTGAGGAATCCCTGAAAC
TGAAGCCTGTTTTACAGAAGACTGTGTACGGAAGTTCAAGTGTGTCAGATAAGCATAGAAGAAGGCAAA
GGGAAACTCTGGTGAATTTGAGGAAAACATGCTATAAGATAGTGGAGCAAAATGGTTCGAAACCTTCA
TTGCTTTCATGATTCTGCTGAGCAGTGGGGCTCTGGCCTTTGAAGATATATACATTGAGCAGCGAAAAAC
CATTAAGACCATGTTAGAATATGCTGACAAGTTTTCACTTACATATTCTGGAATGCTGCTAAAAG
TGGGTTGCATATGGTTTTCAAGTGTATTTACCAATGCCTGGTGTGGCTAGACTTCTGATTGTTGATG
TCTCACTGGTTAGCTTAACTGCAAAATGCCTTGGTTACTCAGAAGTGGTGGCCATCAAAATCCCTCAGAAC
ACTAAGAGCTCTGAGGCCACTGAGAGCTTTGTCCCGTTTGAAGGAATGAGGGTTGTTGTAATGCTCTT
TTAGGAGCCATTCATCTATCATGAATGACTTCTGGTTTGTCTGATCTTTGGCTAATATTCAAGTATCA
TGGGAGTGAATCTTTTGTGCAAGTTTTACCATTGTATTAATTACACCACTGGAGAGATGTTTGTATG
AAGCGTGGTCAACAACACTACAGTGAAGTGAAGCTCTCATTGAGAGCAATCAAAGTCCAGGTGGAATAAT
GTGAAAGTAAACTTTGATAACGTAGGACTTGGATATCTGTCTCTACTTCAAGTAGCCACGTTTAAGGGAT
GGATGGATATTATGATGCAGCTGTTGATTACGAAATGTAGAATTACAACCAAGTATGAAGACAACCT
GTACATGTATCTTTATTTGTCATCTTTATTTTGGTTTCTTTACCTTGAATCTTTTCAATGGT
GTCATCATAGATAACTTCAACCAACAGAAAAAGAGTTTGGAGGTCAAGACATTTTTATGACAGAAGAAC
AGAAGAAATACTACAATGCAATGAAAAACTGGGTTCAAAGAAACCACAAAAACCCATACCTCGACCTGC
TAACAAATCCAAGGAATGGTCTTTGATTTTGAACCAACAAGTCTTTGATATCAGCATCATGATCCCTC
ATCTGCCTTAACATGGTCAACATGATGGTGGAAACCGATGACCAGAGTCAAGAAATGACAACATTTCTGT
ACTGGATTAATCTGGTGTATTGTTCTGTTCACTGGAGAATGTGTGCTGAAACTGATCTCTCTTGGTTA
CTACTATTTCACTATTGGATGGAATATTTTTGATTTTGGTGGTCAATCTCTCCATTGTAGGAATGTTT
CTGGCTGAACTGATAGAAAAGTATTTTGTGCCCTACCCTGTTCCGAGTGTCCGTCTTGGCAGGATTG
GCCGAATCCTACGTCTGATCAAAGGAGCAAAGGGGATCCGCACGCTGCTCTTTGCTTTGATGATGTCCT
TCCTGCGTTGTTAACATCGCCCTCCTTCTTTCTGGTGTGTTTCTACGCCATCTTTGGGATGTCC

AATTTTGCCTATGTTAAGAGGGAAGTTGGGATCGATGACATGTTCAACTTTGAGACCTTTGGCAACAGCA
 TGATCTGCCTGTTCCAAATTACAACCTCTGCTGGCTGGGATGGATTGCTAGCACCTATTCTTAATAGTGG
 ACCTCCAGACTGTGACCCTGACAAAGATCACCCCTGGAAGCTCAGTTAAAGGAGACTGTGGGAACCATCT
 GTTGGGATTTCTTTTTTGTGAGTTACATCATCATATCCTTCTGGTTGTGGTGAACATGTACATCGCGG
 TCATCTGGGAACTTCAGTGTGCTACTGAAGAAAGTGCAGAGCCTCTGAGTGAGGATGACTTTGAGAT
 GTTCTATGAGGTTTGGGAGAAGTTGATCCCGATGCGACCCAGTTATAGAGTTTGCCAAACTTTCTGAT
 TTTGCAGATGCCCTGGATCCTCCTCTTCTCATAGCAAAACCCAAAGTCCAGCTCATTGCCATGGATC
 TGCCCATGGTGAGTGGTACCGGATCCACTGTCTTGACATCTTATTTGCTTTTACAAAGCGTGTTTGGG
 TGAGAGTGGAGAGATGGATGCCCTTGAATACAGATGGAAGAGCGATTTCATGGCATCAAACCCCTCCAAA
 GTCTCTTATGAGCCATTACGACCACGTTGAAACGCAAAACAAGAGGAGGTGTCTGCTATTATTATCCAGA
 GGGCTTACAGACGCTACCTCTTGAAGCAAAAAGTTAAAAAGGTATCAAGTATATAACAAGAAAGACAAAGG
 CAAAGAATGTGATGGAACACCCATCAAAGAAGATACTCTCATTGATAAAGTGAATGAGAATCAACTCCA
 GAGAAAACCGATATGACGCTTCCACCAGTCTCCACCCTCGTATGATAGTGTACCAAACCCAGAAAAAG
 AAAAATTTGAAAAAGACAAATCAGAAAAGGAAGACAAAGGAAAGATATCAGGAAAAGTAAAAAG

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence:

>RG215249 representing NM_001040142
 Red=Cloning site Green=Tags(s)

MAQSVLVPPGPDSEFRFFTTRESLAAIEQRIAEKAKRKPQERKDEDDENGPKPNSDLEAGKSLPFIYGDIP
 PEMVSVPLEDLDPYYINKKTFIVLNKGGKAI SRFSATPALYILTPFNP IRKLAIKILVHSLFNMLIMCTIL
 TNCVFM TMSNPPDWTKNVEYTF TGIYTFESLIKILARGFCLEDF FFLRDPWNWLDFTVITFAVYVTEFVDL
 GNVSALRTFRVLRALKTISVIPGLKTIVGALIQSVKKLSDVMILTVFCLSVFALIGLQLFMGNLRNKCLQ
 WPPDNSSFEINITSFFNNSLDGNGTTFNRTVSIFNWEYIEDKSHFYFLEGQNDALLCGNSSDAGQCPEG
 YICVKAGRNPNGYTSFDTFSWAFSLFRLMTQDFWENLYQLTLRAAGKTYMIFVFLVIFLGSFYLINLI
 LAVVAMAYEEQNQATLEAEQKEAEFQQMLEQLKKQEEAQAASRAESRDFSGAGGIGVFSESSVA
 SKLSSKSEKELNRRKKKKQKEQSGEEEKNDVRKSESEDSIRRKGRFRSLEGSRLTYEKRFSSPHQSL
 SIRGSLFSPRRNSRASLFSFRGRAKDIGSENDFADEHSTFEDNDSRRDLSFVPHRHGERRHSNVSQASR
 ASRVLPI LPMNGKMHSAVDCNGVSVLVGGPSTLTSAGQLLPEGTTTETEIRKRRSSSYHVSMDLLEDPTS
 RQRAMSIASILTNTMEELLESRQKCPPCWYK FANMCLIWDCCKPWLKVKHLVNLVMDPFVDLAITICIV
 LNTLFMAMEHYPMTEQFSSVLSVGNLVFTGIFTAEMFLKIIAMDPIYFQEGWNIFDGFIVLSLMEGL
 ANVEGLSVLRSFRLLRVFKLAKSWPTLNMLIKIIGNSVGLGNLTLVLAIVFIFAVVGMQLFGKSYKEC
 VCKISNDCELPRWHMHDFHFSFLIVFRVLCGEWIETMWDCEVAGQTMCLTVFMMVMVIGNLVVNLFLA
 LLLSSFSDNLAATDDD NEMNQLI AVGRMQKGIDFV KRKIREFIQKAFVRKQKALDEIKPLEDLNKKD
 SCISNHTTIEIGKDLNLYKDGNGTTSIGIGSSVEKYVVDES DYMSFINNPSLTVTVPIAVGESDFENLNT
 EFSSSESDMEESKEKLNATSSSEGSTVDIGAPAEQE QPEVEPEESLEPEACFTEDCVRKFKCCQISIEEGK
 GKLWWNLRKTCYKIVEHNWFETFIVFMILLSSGALAFEDIYIEQRKTIKTMLEYADKVFTYIFILEMLLK
 WVAYGFQYFTNAWCWLDLFLIVDVSLSLTANALGYSELGAIKSLRTRLRALRPLRALSRFEGMRVVNAL
 LGAIPSIMNVLLVCLIFWLIFSIMGVNLFAGKFYHCINYYTTGEMFDVSVVNNYSECKALIESNQTARWKN
 VKVNFNDVGLGYLSLLQVATFKGWMDIMYAAVDSRNVELQPKYEDNLYMYLYFVIFIIFGSFFTLNLFIG
 VIIDNFNQKKKFGGQDIFMTEEQKKYNNAMKLGSKPKQKPIPRPANKFQGMVDFVTKQVFDISIMIL
 ICLNMVTMMVETDDQSQEMTNILYWINLVFIVLFTGECVLKLI SLRYYYFTIGWNIFDFVIVLSIVGMF
 LAELIEKYFVSPTLFRVIRLARIGRILRLIKGAKGIRTLFALMMSLPALFNIGLLLFLVMFIYAFGMS
 NFAYVKREVGIDDMFNFTFGNSMICLFQITTSAGWDGLLAPILNSGPPDCDPDKDHPGSSVKGDCGNPS
 VGIFFFVSYIIISFLVVVNMYIAVILENF SVATEESAEP LSEDDFEMFYEVWEKFPDPATQFIEFAKLS
 FADALDPLLLIAKPNKVLIAMDLPMVSGDRIHCLDILFAFTKRVLGESGEMDALRIQMEERFASNSPK
 VSYEPITTTLRKQEEVSAIIIQRAYRRYLLKQVKVSSIIYKDKGKECDGTPIKEDTLIDKLNENSTP
 EKDTMTPSTTSPPSYDSVTKPEKEKFEKDKSEKEDKGDIRESKK

TRTRPLE - GFP Tag - V

Restriction Sites:

Sgfl-MluI

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.

RefSeq: [NM_001040142.2](#)

RefSeq Size: 8810 bp

RefSeq ORF: 6018 bp

Locus ID: 6326

UniProt ID: [Q99250](#)

Cytogenetics: 2q24.3

Protein Families: Druggable Genome, Ion Channels: Sodium, Transmembrane

Gene Summary: Voltage-gated sodium channels are transmembrane glycoprotein complexes composed of a large alpha subunit with four repeat domains, each of which is composed of six membrane-spanning segments, and one or more regulatory beta subunits. Voltage-gated sodium channels function in the generation and propagation of action potentials in neurons and muscle. This gene encodes one member of the sodium channel alpha subunit gene family. Allelic variants of this gene are associated with seizure disorders and autism spectrum disorder. Alternative splicing results in multiple transcript variants. [provided by RefSeq, Nov 2016]