

## Product datasheet for **RG228708**

### SCN1A (NM\_001165963) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	SCN1A (NM_001165963) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	SCN1A
Synonyms:	DEE6; DEE6A; DEE6B; DRVT; EIEE6; FEB3; FEB3A; FHM3; GEFSP2; HBSCI; NAC1; Nav1.1; SCN1; SMEI
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)
ORF Nucleotide Sequence:	>RG228708 representing NM_001165963. Blue=ORF Red=Cloning site Green=Tag(s)

```
GCTCGTTTAGTGAACCGTCAGAATTTTGTAAATACGACTCACTATAGGGCGGCCGGGAATTCGTGCACTG
GATCCGGTACCGAGGAGATCTGCCGCCGCGATCGCC
ATGGAGCAAACAGTGCTTGTACCACCAGGACCTGACAGCTTCAACTTCTTACCAGAGAATCTTTGCG
GCTATTGAAAGACGCATTGCAGAAGAAAAGGCAAAGAATCCCAAACAGACAAAAAGATGACGACGAA
AATGGCCCAAAGCCAAATAGTGACTTGGAAAGCTGGAAAGAACCTTCCATTTATTTATGGAGACATTCCT
CCAGAGATGGTGTGAGAGCCCTGGAGGACCTGGACCCCTACTATATCAATAAGAAAACCTTTATAGTA
TTGAATAAAGGGAAGGCCATCTCCGGTTCAGTGCCACCTCTGCCCTGTACATTTAACTCCCTTCAAT
CCTCTTAGGAAAATAGCTATTAAGATTTTGGTACATTCATTATTCAGCATGCTAATTATGTGCACTATT
TTGACAAACTGTGTGTTTATGACAATGAGTAACCCCTCTGATTGGACAAAGAATGTAGAATACACCTTC
ACAGGAATATATACTTTTGAATCACTTATAAAAATTATTGCAAGGGGATTCTGTTTAGAAGATTTTACT
TTCCCTTCGGGATCCATGGAACCTGGCTCGATTTCACTGTCATTACATTTGGGTACGTCACAGAGTTTGTG
GACCTGGGCAATGTCTCGGCATTGAGAACATTCAGAGTTCCTCGAGCATTGAAGACGATTTCAAGTCATT
CCAGGCCCTGAAAACCATTTGTGGGAGCCCTGATCCAGTCTGTGAAGAAGCTCTCAGATGTAATGATCCTG
ACTGTGTTCTGTCTGAGCGTATTTGCTCTAATTGGGCTGCAGCTGTTTATGGGCAACCTGAGGAATAAA
TGTATACAATGGCCTCCCAACATGCTTCTTGGAGGAACATAGTATAGAAAAGAATATAACTGTGAAT
TATAATGGTACACTTATAAATGAACTGTCTTTGAGTTTGACTGGAAGTCATATATTCAAGATTCAGA
TATCATTATTTCTGGAGGGTTTTTATGATGCACTACTATGTGGAATAGCTCTGATGCAGGCCAATGT
CCAGAGGGATATATGTGTGTGAAAGCTGGTAGAAATCCCAATTATGGCTACACAAGCTTTGATACCTTC
AGTTGGGCTTTTTTGTCTTGTTCGACTAATGACTCAGGACTTCTGGGAAAATCTTTATCAACTGACA
TTACGTGCTGCTGGGAAAACGTACATGATATTTTTTGTGTTGGTCATTTTCTGGGCTCATTCTACCTA
ATAAATTTGATCCTGGCTGTGGTGGCCATGGCCTACGAGGAACAGAATCAGGCCACCTTGGAAAGAAGCA
GAACAGAAAGAGGCCGAATTTCAAGCAGATGATTGAACAGCTTAAAAAGCAACAGGAGGCAGCTCAGCAG
GCAGCAACGGCAACTGCCTCAGAACATTCAGAGAGCCAGTGCAGCAGGCAGGCTCTCAGACAGCTCA
```



[View online >](#)

TCTGAAGCCTCTAAGTTGAGTTCCAAGAGTGCTAAGGAAAGAAGAAATCGGAGGAAGAAAAGAAAACAG  
 AAAGAGCAGTCTGGTGGGGAAGAGAAAGATGAGGATGAATTCAAAAATCTGAATCTGAGGACAGCATC  
 AGGAGGAAAGGTTTTTCGCTTCTCCATTGAAGGGAACCGATTGACATATGAAAAGAGGTAATCCTCCCA  
 CACCAGTCTTTGTTGAGCATCCGTGGCTCCCTATTTTACCAAGGCGAAATAGCAGAACAAGCCTTTTC  
 AGCTTTAGAGGGCGAGCAAAGGATGTGGGATCTGAGAAGGACTTCGCAGATGATGAGCACAGCACCTTT  
 GAGGATAACGAGAGCCGTAGAGATTCTTGTGTTGTCCTCGACGACACGGAGAGAGACGCCAACAGCAAC  
 CTGAGTCAGACCAGTAGGTATCCCGGATGCTGGCAGTGTTCAGCGAAATGGGAAGATGCACAGCACT  
 GTGGATTGCAATGGTGTGGTTTCTTGGTTGGTGGACCTTCAGTTCTACATCGCCTGTTGGACAGCTT  
 CTGCCAGAGGTGATAATAGATAAGCCAGCTACTGATGACAATGGAACAACCACTGAAACTGAAATGAGA  
 AAGAGAAGGTCAAGTTCTTTCCACGTTTCCATGGACTTTCTAGAAGATCCTTCCCAAAGGCAACGAGCA  
 ATGAGTATAGCCAGCATTCTAACAAATACAGTAGAAGAACTTGAAGAATCCAGGCAGAAATGCCACCC  
 TGTGTTGATAAAATTTCCAACATATTCTAATCTGGGACTGTTCTCCATATTGGTTAAAAGTGAACAT  
 GTTGTCAACCTGGTCGTGATGGACCCATTTGTTGACCTGGCCATCACCATCTGTATTGTCTAAACT  
 CTTTTCATGGCCATGGAGCACTATCCAATGACGGACCATTTCAATAATGTGCTTACAGTAGGAACTTG  
 GTTTTCACTGGGATCTTTACAGCAGAAATGTTTCTGAAAATTATTGCCATGGATCCTTACTATTATTC  
 CAAGAAGGCTGGAATATCTTTGACGGTTTTATTGTGACGCTTAGCCTGGTAGAATTTGGACTCGCCAA  
 GTGGAAGGATTATCTGTTCTCCGTTTCAATTCGATTGCTGCGAGTTTTCAAGTTGGCAAAATCTTGCCCA  
 ACGTTAAATATGCTAATAAAGATCATCGGCAATCCGTGGGGGCTCTGGGAAATTAACCCTCGTCTTG  
 GCCATCATCGTCTTCAATTTTGGCGTGGTGGCATGCAGCTCTTGGTAAAAGCTACAAAGATTGTGTC  
 TGCAAGATCGCCAGTGATTGTCAACTCCCACGCTGGCAGATGAATGACTTCTTCCACTCCTTCTGATT  
 GTGTTCCGCGTGTGTGGGGAGTGGATAGAGACCATGTGGGACTGTATGGAGGTTGCTGGTCAAGCC  
 ATGTGCCTTACTGTCTTATGATGGTGTGTTGAAACCTAGTGGTCTGAATCTCTTTCTGGCC  
 TTGCTTCTGAGCTCATTTAGTGACAGACAACCTTGACGCCACTGATGATGATAATGAAATGAATAATCTC  
 CAAATTGCTGTGGATAGGATGCACAAAGGAGTAGCTTATGTGAAAAGAAAATATATGAATTTATTCAA  
 CAGTCTTTCATTAGGAAAACAAAAGATTTTATGATGAAATTAACCCTTGTGATCTAAAACAAGAAA  
 GACAGTTGTATGTCCAATCATAACAACAGAAATGGGAAAGATCTTACTATCTTAAAGATGTAATGGA  
 ACTACAAGTGGTATAGGAACTGGCAGCAGTGTGAAAAATACATTATTGATGAAAGTATTACATGTCA  
 TTCATAAACAACCCAGTCTTACTGTGACTGTACCAATGCTGTAGGAGAATCTGACTTTGAAAATTTA  
 AACACGGAAGACTTTAGTAGTGAATCGGATCTGGAAGAAAGCAAGAGAACTGAATGAAAGCAGTAGC  
 TCATCAGAAGGTAGCACTGTGGACATCGGCGACCTGTAGAAGAACAGCCCGTAGTGAACCTGAAGAA  
 ACTCTTGAACCAGAAGCTTGTCTACTGAAGGCTGTGTACAAAGATTCAAGTGTGTCAAATCAATGTG  
 GAAGAAGGAGAGGAAAACAATGGTGAACCTGAGAAGGACGTGTTCCGAATAGTTGAACATAACTGG  
 TTTGAGACCTTCAATGTTTTTATGATTCTCCTTAGTAGTGGTGTCTGGCATTGAAAGATATATATT  
 GATCAGCGAAAGACGATTAAGACGATGTTGGAATATGCTGACAAGGTTTTCACTTACATTTTCAATCTG  
 GAAATGCTTCTAAAATGGGTGGCATAATGGCTATCAACATATTTACCAATGCCTGGTGTGGCTGGAC  
 TTCTTAATTGTTGATGTTTCATTGGTCAAGTTAACAGCAAATGCCTTGGGTTACTCAGAACTGGAGCC  
 ATCAAATCTCTCAGGACACTAAGAGCTCTGAGACCTCTAAGAGCCTTATCTCGATTTGAAGGGATGAGG  
 GTGGTTGTGAATGCCCTTTTAGGAGCAATCCATCCATCATGAATGTGCTTCTGGTTGTCTTATATTC  
 TGGCTAATTTTACGATCATGGGCGTAAATTTGTTTGTGGCAAATCTACCCTGTATTAACACCACA  
 ACTGGTGACAGGTTTACATCGAAGACGTGAATAATCATACTGATTGCCTAAAACCTAATAGAAAAGAA  
 GAGACTGCTCGATGGAAAATGTGAAAGTAACTTTGATAATGTAGGATTTGGGTATCTCTTTGCTT  
 CAAGTTGCCACATTCAAAGGATGGATGATATAATGATGACAGCAGTTGATTCCAGAAATGTGGAACCT  
 CAGCCTAAGTATGAAGAAAGTCTGTACATGTATCTTTACTTTGTTATTTTATCATCTTTGGGCTCTTC  
 TTCACCTGAACCTGTTTATTGGTGTATCATAGATAATTTCAACCAGCAGAAAAAGAGTTTGGAGGT  
 CAAGACATCTTTATGACAGAAGAACAGAAGAAACTATAATGCAATGAAAAATTAGGATCGAAAAAA  
 CCGCAAAAGCCTATACCTCGACCAGGAAACAAATTTCAAGGAATGGTCTTTGACTTCGTAACCAGACAA  
 GTTTTTGACATAAGCATCATGATTCTCATCTGTCTTAACATGGTCAACATGATGGTGGAAACAGATGAC  
 CAGAGTGAATATGTGACTACCATTTTGTACGCATCAATCTGGTGTTCATTGTGCTATTTACTGGAGAG  
 TGTGACTGAAACTCATCTCTACGCCATTATTTTTACCATTGGATGGAATATTTTTGATTTTGTG  
 GTTGTCTTCTCCATTGTAGGTATGTTTCTTGGCGAGCTGATAGAAAAGTATTTCTGTGTCCCCTACC  
 CTGTTCCGAGTGATCCGTCTGTAGGATTGGCCGAATCTACGCTGATCAAAGGAGCAAAGGGGATC  
 CGCAGCTGTCTTTGCTTTGATGATGTCCCTTCTGCGTTGTTAACATCGGCCCTACTCTTCTCTA

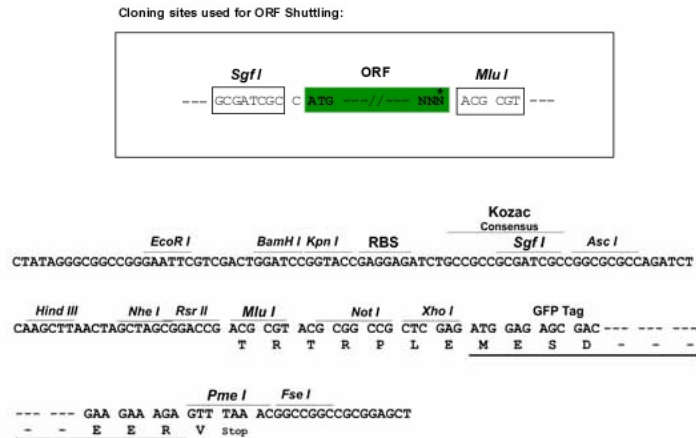
```
GTCATGTTTCATCTACGCCATCTTTGGGATGTCCAACCTTTGCCTATGTTAAGAGGGAAGTTGGGATCGAT
GACATGTTCAACTTTGAGACCTTTGGCAACAGCATGATCTGCCTATTCCAATTACAACCTCTGCTGGC
TGGGATGGATTGCTAGCACCCATTCTCAACAGTAAGCCACCCGACTGTGACCCTAATAAAGTTAACCCCT
GGAAGCTCAGTTAAGGGAGACTGTGGGAACCCATCTGTTGGAATTTCTTTTTGTGAGTTACATCATC
ATATCCTTCTGGTTGTGGTGAACATGTACATCGCGGTGATCCTGGAGAAGTTGAGTGTGCTACTGAA
GAAAGTGCAGAGCCTCTGAGTGAAGGACTTTGAGATGTTCTATGAGGTTTGGGAGAAGTTTGATCCC
GATGCAACTCAGTTCATGGAATTTGAAAAATTATCTCAGTTTGCAGCTGCGCTTGAACCGCCTCTCAAT
CTGCCACAACCAAACTCCAGCTCATTGCCATGGATTTGCCATGGTGAGTGGTGACCGGATCCAC
TGTCTTGATATCTTATTTGCTTTTACAAAAGCGGTTCTAGGAGAGAGTGGAGAGATGGATGCTCTACGA
ATACAGATGGAAGAGCGATTTCATGGCTTCCAATCCTTCCAAGGTCTCCTATCAGCCAATCACTACTACT
TTAAAACGAAAACAAGAGGAAGTATCTGCTGTCATTATTCAGCGTGCTTACAGACGCCACCTTTAAAG
CGAACTGTAAAACAAGCTTCTTTACGTACAATAAAAACAAAATCAAAGGTGGGGCTAATCTTCTTATA
AAAGAAGACATGATAATTGACAGAATAAATGAAAACCTATTACAGAAAAACTGATCTGACCATGTCC
ACTGCAGCTTGCCACCTTCTATGACCGGTGACAAAGCCAATTGTGGAAAAACATGAGCAAGAAGGC
AAAGATGAAAAAGCCAAAGGGAAA
```

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAAAC

Protein Sequence: >Peptide sequence encoded by RG228708  
 Blue=ORF Red=Cloning site Green=Tag(s)

MEQTVLVPPGPDFSFFFTRESLAAIERRIAEKAKNPKPKDKDDDENGPKPNSDLEAGKNLPIFYGDIP  
 PEMVSEPLEDLDPYYINKKTFIVLNGKKAIFRFSATSALYILTPFNPLRKAIAIKILVHSLFMSLIMCTI  
 LTNCVFMSTMSNPPDWTKNVEYFTFGIYTFESLIKIIARGFCLEDFTLRDPWNWLDFTVITFAYVTEFV  
 DLGNVSALRTFRVLRALKTISVIPGLKTIYVIGALIQSVKKLSDVMILTVFCLSVFALIGLQLFMGNLRNK  
 CIQWPPTNASLEEHSIEKNITVNYNGTLINETVFEFDWKSQYIQDSRYHYFLEGFLDALLCGNSSDAGQC  
 PEGYMCVKAGRPNPYGYTSFDTFSWAFSLFRLMTQDFWENLYQLTLRAAGKTYMIFVFLVIFLGSFYL  
 INLILAVVAMAYEEQNQATLEEAQEKEAEFQQMIEQLKKQQEAAQQAATASEHSREPSAAGRLSDSS  
 SEASKLSKSAKERRNRKRKRKQKEQSGGEEKDEDEFQKSESEDSIRRKGFRRSIEGNRLTYEKRYSSP  
 HQSLLSIRGSLFSPRRNSRTSLFSFRGRAKDVGSENDFADDEHSTFEDNESRRDSLFPVRRHGERNSN  
 LSQTSRSSRMLAVFPANGKMHSTVDCNGVVSLVGGPSVPTSPVGQLLPEVIIDKPADDDNGTTTETEMR  
 KRRSSSFHVSMDFLEDPSQRQRAMSIASILTNTVEELESRQKPPCWYKFSNIFLIWDCSPYWLKVKH  
 VVNLVVMDFVDLAITICIVLNTLFMAMEHYPMTHFNVLTVGNLVFTGIFTAEMFLKIIAMDPYFFF  
 QEGWNIIDGFIIVTSLVELGLANVEGLSVLRSFRLLRVFKLAKSWPTLNMLIKIIGNSVGALGNLTLVL  
 AIIVFIIVAVGMQLFGKSYKDCVCKIASDCQLPRWHMNDFFHSFLIVFRVLCGEWIETMWDCEVAGQA  
 MCLTVFMVMVIGNLVVNLFLALLLSSFSADNLAATDDDNEMNQLIAVDRMHKGVAYVVKRIYEFIQ  
 QSFIRKQKILDEIKPLDDLNNKDKSCMSNHTTEIGKDLVDLKDVGNTTSGIGTGSSEVKYIIDESYMS  
 FINNPSLTVTVPIAVGESDFENLNTEDFSSESDLEESKEKLNESSSSSEGSTVDIGAPVEEQPVVEPEE  
 TLEPEACFTEGCVQRFKCCQINVEEGRGKQWWNLRRTCFRIVEHNFETFIIVFMILLSSGALAFEDIYI  
 DQRKTIKTMLEYADKVFTYIFILEMLLKWVAYGYQTYFTNAWCWLDFLIVDVSLSLTANALGYSELGA  
 IKSLRTRLRALRPLRALSRFEGMRVVVNALLGAIPSIMNVLLVCLIFWLIFSIMGVNLFAGKFYHCINTT  
 TGDRFDIEDVNNHTDCLKLIERNETARWKNVKNFNDVNGFYL SLLQVATFKGWMDIMYAAVDSRVEL  
 QPKYEESLYMYLYFVIFIIFGSFFTLNLFIVGVIIDNFNQKKKFGGQDIFMTEEQKKYYNAMKLGSKK  
 PQKPIPRPGNKFGMVDFVTRQVDFDISIMILICLNMVTMMVETDDQSEYVTTILSRINLVFVLFVTE  
 CVLKLISLRHYFTIGWNIIDFVIVVILSIVGMFLAELIEKYFVSPTLFRVIRLARIGRILRLIKGAKGI  
 RTLLFALMMSLPALFNIGLLLFLVMFIYAIFGMSNFAYVKREVGIDDMFNFFETFGNSMICLFIQITTSAG  
 WDLLAPILNSKPPDCPNKVNPGSSVKGDCGNPSVGIFFFVSYIIISFLVVVNMVIAVILENFSVATE  
 ESAEPLSEDDFEMFYEVWEKFDPDATQFMEFEKLSQFAAALEPPLNLPQPNKLQLIAMDLPVMSGDRIH  
 CLDILFAFTKRVLGESGEMDALRIQMEERFMASNP SKVSYPITTTLKRKQEEVSAV IQRAYRRHLLK  
 RTVKQASFTYKNKIKGGANLLIKEDMIIDRINENSITEKTDLTMSTAACPPSYDRVTKPIVEKHEQEG  
 KDEKAKGK  
 TRTRPLEMESDESGLPAMEIECRITGTLNGVEFELVGGGEGTPEQGRMTNKMSTKGALTFSPYLLSHV  
 MGYGFYHFGTYPSGYENPFLHAINNGGYNTRIEKYEDGGVLHVSFSYRYEAGRVIGDFKVMGTGFPEP  
 SVIFTDKIIRS NATVEHLHPMGDNDLDGSFTRTFSLRDGGYSSVVD SHMHFKSAIHPSILQNGGPMFA  
 FRRVEEDHSNTELGIVEYQHAFKTPDADAGEERV

Restriction Sites: SgfI-MluI

**Cloning Scheme:**


**ACCN:** NM\_001165963

**ORF Size:** 6027 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.

**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).

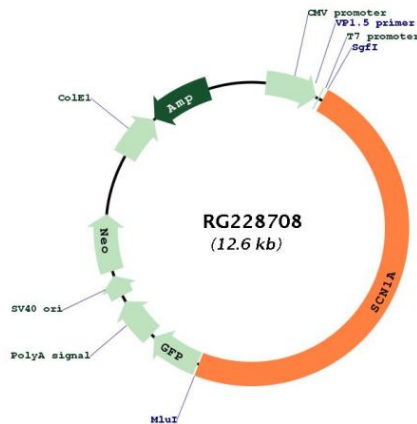
**Reconstitution Method:**

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 Size:** 8133 bp  
**RefSeq ORF:** 6030 bp  
**Locus ID:** 6323  
**UniProt ID:** [P35498](#)  
**Cytogenetics:** 2q24.3  
**Protein Families:** Druggable Genome, Transmembrane  
**MW:** 229 kDa

**Gene Summary:** Voltage-dependent sodium channels are heteromeric complexes that regulate sodium exchange between intracellular and extracellular spaces and are essential for the generation and propagation of action potentials in muscle cells and neurons. Each sodium channel is composed of a large pore-forming, glycosylated alpha subunit and two smaller beta subunits. This gene encodes a sodium channel alpha subunit, which has four homologous domains, each of which contains six transmembrane regions. Allelic variants of this gene are associated with generalized epilepsy with febrile seizures and epileptic encephalopathy. Alternative splicing results in multiple transcript variants. The RefSeq Project has decided to create four representative RefSeq records. Three of the transcript variants are supported by experimental evidence and the fourth contains alternate 5' untranslated exons, the exact combination of which have not been experimentally confirmed for the full-length transcript. [provided by RefSeq, Oct 2015]

### Product images:



Circular map for RG228708