

## Product datasheet for **MG225928**

### **Slc8a1 (NM\_011406) Mouse Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	Slc8a1 (NM_011406) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Slc8a1
Synonyms:	AI852629; AV344025; D930008O12Rik; Ncx1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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**ORF Nucleotide Sequence:**

>MG225928 representing NM\_011406  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGCATCGCC**

ATGCTTCGATTAAGTCTCCACCCAATGTTTCAATGGGATTTTCGTCGGTAGCTCTGGTGGCTCTCTTGT  
 TTCCCATGTTGACCATATAACTGCAGATACAGAGGCAGAAACAGGAGGAAATGAAACCACTGAATGTAC  
 TGGCTCATATTACTGTAAGAAAGGGGTGATCTTGCCATTTGGGAACCCCAAGACCCATCTTTTGGGGAC  
 AAAATTGCTAGAGCAACTGTGTATTTGTGGCCATGGTCTACATGTTCTTGGAGTTTCTATTATTGCAG  
 ACCGGTTTATGTCCTCTATAGAGGTCACTACCTCTCAAGAGAAAGAAATAACGATAAAGAAACCGAATGG  
 AGAGACCACCAAGACGACGGTGAGAATCTGGAACGAGACTGTGTCGAACCTGACCTTGATGGCCCTGGGA  
 TCTTCTGCTCCTGAGATTCTCTGTCAGTCATTGAAGTGTGCGGCCATAACTCACCGCAGGGGACCTGG  
 GTCCCAGCACCATCGTGGGAAGTGTGCCTTTAACATGTTTCATCATAATCGCACTCTGTGTTACGTGGT  
 CCCTGATGGAGAGACAAGGAAGATCAAGCATCTGCGTGTGTTCTTTGTGACAGCAGCCTGGAGCATCTTT  
 GCCTATACCTGGCTTTATATAATCTTGTCTGTCAGCTCTCCTGGAGTTGTGGAGGTCTGGGAAGGCTTGC  
 TTACTTTCTTCTTTCCCATCTGCGTTGTGTTGCGGTGGGTAGCAGACAGGCGGCTTCTCTTTTACAA  
 GTATGTCTACAAGCGGTACAGGGCCGGCAAGCAGAGGGGGATGATCATTGAACATGAAGGAGACAGACCA  
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 CTCTGGTTTTGGAAGTTGATGAGAGGGACCAAGATGATGAGGAAGCCAGGCGTGAGATGGCAAGGATTCT  
 GAAGGAACCTAAGCAGAAGCATCCTGAGAAAGAAATTGAGCAATTAATAGAATTAGCCAACCTACCAGGTC  
 CTAAGTCAACAGCAGAAAAGCCGAGCATTTTACAGGATTCAAGCTACTCGCTGATGACCCGAGCTGGCA  
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 GGCTGAAAACGACCCAGTCAGTAAGATCTTCTTTGAGCAAGGAACATACCAGTGTCTAGAGAAGTGTGGT  
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 GACCCAGAAGGAAATCAGAGTTGGCATCATTGATGATGATATCTTTGAAGAAGATGAAAACCTCCTTGTG  
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 GCCAACCTATCTTCAGGAAGGTCCATGCTAGAGATCATCCGATCCCTCTACTGTAATCACCATCTCAGA  
 GGAATATGATGACAAGCAGCCACTGACCAGCAAAGAAGAGGAGGAGAGGCGCATTGCGGAAATGGGGCGC  
 CCCATCCTAGGCGAGCACACCAAGCTGGAGGTGATCATCGAAGAGTCTTACGAATTAAGAGCACTGTGG  
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 CCTGGCTTCCACTTTGGCTGCACCATTGGTCTGAAAGATTCCGTGACTGCCGTTGTGTTTGTGCTCTT  
 GGAACCTCGGTGCCAGACACATTTGCCAGCAAAGTAGCAGCTACCCAGGACCAGTATGCAGATGCGTCTA  
 TAGGCAATGTCAGTGAAGCAATGCTGTGAATGCTTCTCGGAAATCGGCGTGGCTGGTCCATTGCTGC  
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 TGGGAGGGCCCCGACTGCCAAGCTCCTCACATCTCCCTGTTTGTGCTCCTGTGGCTCTGTACATTTT  
 CTCTCCTCCCTGGAAGCCTACTGCCACATAAAGGGCTTC

**ACGCGT**ACGCGGCCGCTCGAG – GFP Tag – GTTTAA

**Protein Sequence:** >MG225928 representing NM\_011406  
 Red=Cloning site Green=Tags(s)

```
MLRLSLPPNVSMGFRLVALVALLFSHVDHITADTEAETGGNETTECTGSYYCKKGVILPIWEPQDPSFGD
KIARATVYFVAMVYMFVFLGVSIIADRFMSSIEVITSQEKEITIKKPNGETTKTTVRIWNETVSNLTLMALG
SSAPEILLSVIEVCGHNFTAGDLGPSTIVGSAAFNMFIIALCVYVVPDGETRKHKLRFVFTAAWSIF
AYTWLYIILSVSSPGVVEVWEGLLTFFFPICVVFVAVADRRLLFYKYVYKRYRAGKQRGMIEHEGDRP
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TVALTIMRRGGDLSTTVFVDFRTEGDGTANAGSDYEFTEGTVIFKPGETQKEIRVGIIDDDIFEEDENFLV
HLSNVRVSSDVSDEGILES NHASSIACLGSPSTATITIFDDDHAGIFTFEEPVTHVSESIGIMEVKVLR
SGARGNVIIPYKTIEGTARGGGEDFEDTCGELEFQNDIVKTI SVKVIDDEEYEKNKTFEIEIGEPRLVE
MSEKKALLLNELGGFTLTGKEMYQPIFRKVHARDHPIPSTVITISEEYDDKQPLTSKEEEERIAEMGR
PILGEHTKLEVIIEESYEFKSTVDKLIKKNLALVVGTSWREQFIEAITVSAGEDDDDDCEGEEKLPSC
FDYVMHFLT VFWKVLFAFVPPTEYWNWACFIVSILMIGLLTAFIGDLASHFGCTIGLKDSVTAVVFLV
GTSVPDTFASKVAATQDQYADASIGNVTGSNAVNVFLGIGVAWSIAAIYHAANGEQFKVSPGTAFSVTL
FTIFAFINVGVLRYRRRPEIGGELGGPRTAKLLTSSLFVLLWLLYIFFSSLEAYCHIKGF
```

TRTRPLE – GFP Tag – V

**Restriction Sites:**

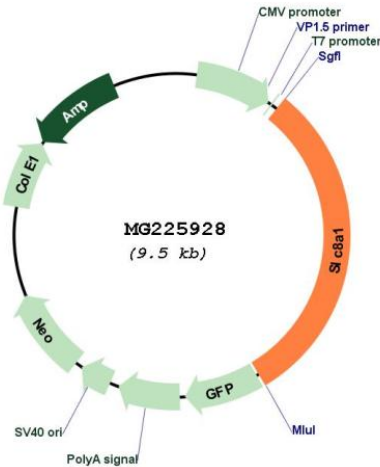
SgfI-MluI

**Cloning Scheme:**

Cloning sites used for ORF Shuttling:



Plasmid Map:



ACCN: NM\_011406

ORF Size: 2910 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\\_011406.3](#), [NP\\_035536.2](#)

RefSeq Size: 18599 bp

RefSeq ORF: 2913 bp

Locus ID: 20541

UniProt ID: [P70414](#)

**Cytogenetics:** 17 51.29 cM

**Gene Summary:** Mediates the exchange of one Ca(2+) ion against three to four Na(+) ions across the cell membrane, and thereby contributes to the regulation of cytoplasmic Ca(2+) levels and Ca(2+)-dependent cellular processes (PubMed:8659820). Contributes to Ca(2+) transport during excitation-contraction coupling in muscle. In a first phase, voltage-gated channels mediate the rapid increase of cytoplasmic Ca(2+) levels due to release of Ca(2+) stores from the endoplasmic reticulum. SLC8A1 mediates the export of Ca(2+) from the cell during the next phase, so that cytoplasmic Ca(2+) levels rapidly return to baseline (PubMed:10967099). Required for normal embryonic heart development and the onset of heart contractions (PubMed:10967099).[UniProtKB/Swiss-Prot Function]