

Product datasheet for **MR211189**

Slc8a3 (NM_001167920) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Slc8a3 (NM_001167920) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Slc8a3
Synonyms:	AW742262; Ncx3
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide
Sequence:

>MR211189 ORF sequence
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGCATCGCC**

ATGGCGTGGTTACGGCTGCAGCCTCTCACCTCTGCCTTCTCCATTTTGGGCTGGTTACTTTTGTGCTCT
 TCCTGAATTGTCTTCGAGCAGAGGCTGGTACTCGGGGATGTGCCAGTGCAGGCAGAACAAATGAGTC
 CTGTTCCGGGTATCAGACTGCAAGGAGGGTGTCAATTTGCCAATCTGGTATCCAGAGAACCCTTCCTT
 GGGACAAGATTGCCAGGGTCATTGTCTATTTTGTGGCCCTGATACATGTTTCTTGGGGTGTCTATCA
 TTGCTGACCGATTATGGCATCTATTGAAGTCACTTCCCAAGAGAGGGAAAGTACCATCAAGAAGCC
 CAATGGAGAGACCAGCACAACTACAATTCGGGTATGGAATGAACTGTCTCCAATCTGACCTGATGGCC
 CTGGGCTCTTCTGCTCCAGAGATTCTCCTGTCTTAATTGAGGTGTGGTACGGGTTCAATGCTGGT
 ATCTGGGACCATCTACCATCGTTGGCAGTGCAGCCTTCAACATGTTTCATCATCTTGGCATCTGTGTCTA
 TGTGATCCAGATGGGGAGACTCGAAAGATCAAGCACCTGCGAGTCTTCTCGTACGGCTGCTGGAGC
 ATCTTCGCTACATTTGGCTCTATATGATCCTGGCAGTCTTCTCCTCGTGTGGTCCAGGTTTGGGAAG
 GCCTCCTTACTCTTCTTCTTTCCCGTGTGTCTGCTGGCTTGGGTGGCAGATAAGCGACTGCTCTT
 CTACAAATACATGCACAAAAAATACCGCACAGATAAACACCGAGGAATTATCATTGAGACAGAGGGTGC
 CACCCTAAGGGCATTGAGATGGATGGGAAAAATGATGAATTCTCACTTTCTAGATGGGAACCTTACACCTT
 TGGAAAGAAAGGAGGTAGATGAATCTCGCAGGGAAATGATCCGGATTCTAAAGGATCTGAAACAAAAACA
 CCCAGAAAAGGACCTAGATCAGCTGGTGGAGATGGCCAATTACTATGCTCTTTCCCATCAACAGAAGAGC
 CGTGCTTTCTACCGCATCAAGCCACCCGGATGATGACTGGTGCAGGCAATACTTAAGAAGCATGCAG
 CCGAGCAAGCCAAGAAGACCTCCAGCATGAGCGAGGTGCATACCGATGAGCCGGAGGACTTTGCCTCTAA
 GGTCTTCTTTGACCCATGTTCTTATCAGTGCCTGGAGAAGTGTGGAGCTGCTCCTGACCGTGGTGAGG
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 CAGACTATGAGTTCACAGAGGGCACTGTGGTCTGAAGCCAGGAGAGACCCAGAAGGAGTCTCTGTGGG
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 GAGGAGCAGTGGCGGAGGGGATGCTCCAGCAATACTCAATAGTCTTCTTTCCTCGGGCTGCTCTGG
 CCTCCCCTTGTGTGGCCACAGTAACCATCTTGGATGATGACCATGCAGGAATTTTCACTTTTGAATGTGA
 TACCATTATGTCAGTAAAAGTATTGGTGTATGGAAGTCAAGGTTTTGAGGACATCAGGTGCCAGGGGC
 ACAGTCATCGTCCCTTTAGGACAGTAGAAGGGACAGCCAAGGGTGGTGGCGAGGACTTTGAAGATGCAT
 ATGGGGAGCTGGAGTTCAAGAATGATGAAACAGTAAAACCATAAAGGGTTAAAATAGTAGATGAGGAGGA
 GTACGAGAGGCAAGAGAATTTCTTCATTGCCCTTGGTGAACCGAAATGGATGGAACGTGGAATATCAGAA
 GTGACAGACAGGAAGCTGACTGTGGAGGAAGAGGAAGCCAAGAGAATAGCAGAGATGGGAAAGCCAGTAT
 TGGGTGAACACCCAAACTAGAGGTCACTATTGAAGAGTCTATGAGTTCAGAGTACAGTGGATAAGCT
 GATCAAGAAGACAAACCTGGCATTGGTTGTGGGACCCATTCTGGAGGGACAGTTCATGGAAGCCATC
 ACTGTTAGTGCAGGAGGGGATGAGGATGAAGACGAATCTGGAGAGGAGAGGCTGCCATCCTGCTTTGACT
 ACGTCATGCACTTCTGACGGTCTTCTGGAAGGTGCTCTTTGCCGTGTGCCCCACAGAGTACTGCCA
 CGGCTGGGCTGCTTCTGTTGCTCCATCCTCATTATTGGCATGCTCACCGCCATCATCGGGACCTGGCC
 TCTCACTTCGGCTGCACCATCGGGCTCAAGGATTCGGTACAGCTGTTGTTTTTGTGGCATTTCGGCACCT
 CTGTGCCAGATACATTTGCCAGCAAAGCCGCTGCCCTGCAGGACGTGTATGCAGATGCTTCCATTGGCAA
 CGTCACAGGCAGTAATGCCGTCAATGTCTTCTGGGATTGGTTTGGCCTGGTCCGTGGCCGCCATCTAC
 TGGGCCATGCAGGGACAGGAGTCCATGTGTCCGCTGGCACTCTGGCCTTCTCGGTCACTTTTTACCA
 TCTTTGCATTTGTCTGCCTCAGTGTCTTGTATCGTCGGCGGCCCATCTGGCGGGGAGCTCGGAGG
 TCCTCGTGGTGAAGCTTGGCACGACATGGCTCTTTGTGAGCCTATGGCTCCTACATACTATTTGCC
 ACGCTGGAGGCCTACTGTACATCAAGGGTTC

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >MR211189 protein sequence
 Red=Cloning site Green=Tags(s)

MAWLRLQPLTSAFLHFGLVTFVFLNCLRAEAGDSGDVPSAGQNNESCSGSSDCKEGVILPIWYPENPSL
 GDKIARVIVYFVALIYMFLGVSIIADRFMASIEVITSQEREVTIKKPNGETSTTTIRVWNETVSNLTLMA
 LGSSAPEILLSLIEVCGHGFIAAGDLGPSTIVGSAAFNMFIIIGICVYVIPDGETRRIKHLRVFFVTAWS
 IFAYIWL YMILAVFSPGVVQVWEGLLTLFFPVCVLLAWVADKRLLFYKYMHHKYRTDKHRGIIETEGD
 HPKGIEMDGMMNSHFLDGNFTPLEGKEVDESRREMIRILKDLKQKHPEKDLQLVEMANYALSHQQKS
 RAFYRIQATRMMTGAGNILKKHAAEQAKKTSSEMSEVHTDEPEDFASKVFFDPCSQCLENCGAVLLTVVR
 KGGDISKTMVVDYKTEDGSANAGADYEFTEGTVVLKPGETQKEFSVGIIDDDIFEDEHFFVRLSNVRVE
 EEQLAEGMLPAILNSLPLPRAVLASPCVATVTILDDDHAGIFTFECDTIHVSESIGVMEVKVLRVTSARG
 TVIVPFRVTEGTAKGGGEDFEDAYGELEFKNDET VKTIRVKIVDEEEYERQENFFIALGEPKWMERGEISE
 VTRDKLTVEEEEAKRIAEMGKPVLEHPKLEVIIEESYEFKSTVDKLIKKTNLALVVGTHSWRDQFMEAI
 TVSAGGDEDEDESGEERLPSCFDYVMHFLTVFWKVLVACVPPTEYCHGWACFVVSILIGMLTAIIGDLA
 SHFGCTIGLKDSVTAVVFAFGTSVPDTFASKAAALQDVYADASIGNVTGSNAVNVFLGIGLAWSVAAIY
 WAMQGGQEFHVSAGTLAFSVTLFTIFAFVCLSVLLYRRRPHLGGELGGPRGCKLATTWLFVSLWLLYILFA
 TLEAYCYIKGF

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites:

SgfI-MluI

Cloning Scheme:

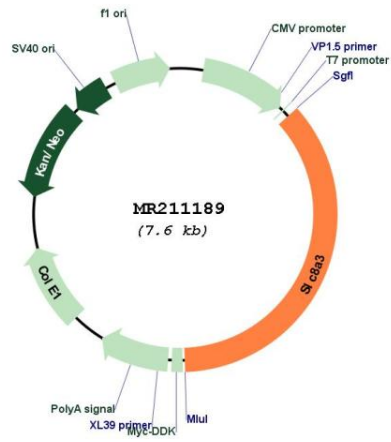


ACCN: NM_001167920

ORF Size: 2763 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:	NM_001167920.1 , NP_001161392.1
RefSeq Size:	4943 bp
RefSeq ORF:	2766 bp
Locus ID:	110893
UniProt ID:	S4R2P9
Cytogenetics:	12 37.44 cM
MW:	102.4 kDa
Gene Summary:	Mediates the electrogenic exchange of Ca(2+) against Na(+) ions across the cell membrane, and thereby contributes to the regulation of cytoplasmic Ca(2+) levels and Ca(2+)-dependent cellular processes. Contributes to cellular Ca(2+) homeostasis in excitable cells, both in muscle and in brain (PubMed:14722618, PubMed:21593315). 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. SLC8A3 mediates the export of Ca(2+) from the cell during the next phase, so that cytoplasmic Ca(2+) levels rapidly return to baseline (PubMed:14722618, PubMed:21593315). Contributes to Ca(2+) transport during excitation-contraction coupling in muscle (PubMed:14722618). In neurons, contributes to the rapid decrease of cytoplasmic Ca(2+) levels back to baseline after neuronal activation, and thereby contributes to modulate synaptic plasticity, learning and memory (PubMed:21593315). Required for normal oligodendrocyte differentiation and for normal myelination (PubMed:21959935). Mediates Ca(2+) efflux from mitochondria and contributes to mitochondrial Ca(2+) ion homeostasis (PubMed:24616101). Isoform 1 displays higher calcium exchanger activity than isoform 2, probably because isoform 1 has a lower threshold for activation by cytoplasmic Ca(2+) (PubMed:24616101).[UniProtKB/Swiss-Prot Function]

Product images:



Circular map for MR211189