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Product datasheet for SC101233

SERCA2 (ATP2A2) (NM_170665) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	SERCA2 (ATP2A2) (NM_170665) Human Untagged Clone
Tag:	Tag Free
Symbol:	SERCA2
Synonyms:	ATP2B; DAR; DD; SERCA2
Mammalian Cell Selection:	None
Vector:	pCMV6-XL4
E. coli Selection:	Ampicillin (100 ug/mL)

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Fully Sequenced ORF:

>NCBI ORF sequence for NM_170665, the custom clone sequence may differ by one or more nucleotides

ATGGAGAACGCGCACACCAAGACGGTGGAGGAGGTGCTGGGCCACTTCGGCGTCAACGAGAGTACGGGGC
TGAGCCTGGAACAGGTCAAGAAGCTTAAGGAGAGATGGGGCTCCAACGAGTTACCGGCTGAAGAAGGAAA
AACCTTGCTGGAACTTGTGATTGAGCAGTTTGAAGACTTGCTAGTTAGGATTTTATTACTGGCAGCATGT
ATATCTTTTGTTTTGGCTTGGTTTGAAGAAGGTGAAGAAACAATTACAGCCTTTGTAGAACCTTTTGTAA
TTTTACTCATATTAGTAGCCAATGCAATTGTGGGTGTATGGCAGGAAAGAAATGCTGAAAATGCCATCGA
AGCCCTTAAGGAATATGAGCCTGAAATGGGCAAAGTGTATCGACAGGACAGAAAGAGTGTGCAGCGGATT
AAAGCTAAAGACATAGTTCCTGGTGATATTGTAGAAATTGCTGTTGGTGACAAAGTTCCTGCTGATATAA
GGTTAACTTCCATCAAATCTACCACACTAAGAGTTGACCAGTCAATTCTCACAGGTGAATCTGTCTCTGT
CATCAAGCACACTGATCCCGTCCCTGACCCACGAGCTGTCAACCAAGATAAAAAGAACATGCTGTTTTCT
GGTACAAACATTGCTGCTGGGAAAGCTATGGGAGTGGTGGTAGCAACTGGAGTTAACACCGAAATTGGCA
AGATCCGGGATGAAATGGTGGCAACAGAACAGGAGAGAACACCCCTTCAGCAAAAACTAGATGAATTTGG
GGAACAGCTTTCCAAAGTCATCTCCCTTATTTGCATTGCAGTCTGGATCATAAATATTGGGCACTTCAAT
GACCCGGTTCATGGAGGGTCCTGGATCAGAGGTGCTATTTACTACTTTAAAATTGCAGTGGCCCTGGCTG
TAGCAGCCATTCCTGAAGGTCTGCCTGCAGTCATCACCACCTGCCTGGCTCTTGGAACTCGCAGAATGGC
AAAGAAAAATGCCATTGTTCGAAGCCTCCCGTCTGTGGAAACCCTTGGTTGTACTTCTGTTATCTGCTCA
GACAAGACTGGTACACTTACAACAAACCAGATGTCAGTCTGCAGGATGTTCATTCTGGACAGAGTGGAAG
GTGATACTTGTTCCCTTAATGAGTTTACCATAACTGGATCAACTTATGCACCTATTGGAGAAGTGCATAA
AGATGATAAACCAGTGAATTGTCACCAGTATGATGGTCTGGTAGAATTAGCAACAATTTGTGCTCTTTGT
AATGACTCTGCTTTGGATTACAATGAGGCAAAGGGTGTGTATGAAAAAGTTGGAGAAGCTACAGAGACTG
CTCTCACTTGCCTAGTAGAGAAGATGAATGTATTTGATACCGAATTGAAGGGTCTTTCTAAAATAGAACG
TGCAAATGCCTGCAACTCAGTCATTAAACAGCTGATGAAAAAGGAATTCACTCTAGAGTTTTCACGTGAC
AGAAAGTCAATGTCGGTTTACTGTACACCAAATAAACCAAGCAGGACATCAATGAGCAAGATGTTTGTGA
AGGGTGCTCCTGAAGGTGTCATTGACAGGTGCACCCACATTCGAGTTGGAAGTACTAAGGTTCCTATGAC
CTCTGGAGTCAAACAGAAGATCATGTCTGTCATTCGAGAGTGGGGTAGTGGCAGCGACACACTGCGATGC
CTGGCCCTGGCCACTCATGACAACCCACTGAGAAGAGAAGAAATGCACCTTGAGGACTCTGCCAACTTTA
TTAAATATGAGACCAATCTGACCTTCGTTGGCTGCGTGGGCATGCTGGATCCTCCGAGAATCGAGGTGGC
CTCCTCCGTGAAGCTGTGCCGGCAAGCAGGCATCCGGGTCATCATGATCACTGGGGACAACAAGGGCACT
GCTGTGGCCATCTGTCGCCGCATCGGCATCTTCGGGCAGGATGAGGACGTGACGTCAAAAGCTTTCACAG
GCCGGGAGTTTGATGAACTCAACCCCTCCGCCCAGCGAGACGCCTGCCTGAACGCCCGCTGTTTTGCTCG
AGTTGAACCCTCCCACAAGTCTAAAATCGTAGAATTTCTTCAGTCTTTTGATGAGATTACAGCTATGACT
GGCGATGGCGTGAACGATGCTCCTGCTCTGAAGAAAGCCGAGATTGGCATTGCTATGGGCTCTGGCACTG
CGGTGGCTAAAACCGCCTCTGAGATGGTCCTGGCGGATGACAACTTCTCCACCATTGTGGCTGCCGTTGA
GGAGGGGCGGGCAATCTACAACAACATGAAACAGTTCATCCGCTACCTCATCTCGTCCAACGTCGGGGAA
GTTGTCTGTATTTTCCTGACAGCAGCCCTTGGATTTCCCGAGGCTTTGATTCCTGTTCAGCTGCTCTGGG
TCAATCTGGTGACAGATGGCCTGCCTGCCACTGCACTGGGGTTCAACCCTCCTGATCTGGACATCATGAA
TAAACCTCCCCGGAACCCAAAGGAACCATTGATCAGCGGGTGGCTCTTTTTCCGTTACTTGGCTATTGGC
TGTTACGTCGGCGCTGCTACCGTGGGTGCTGCTGCATGGTGGTTCATTGCTGCTGACGGTGGTCCAAGAG
TGTCCTTCTACCAGCTGAGTCATTTCCTACAGTGTAAAGAGGACAACCCGGACTTTGAAGGCGTGGATTG
TGCAATCTTTGAATCCCCATACCCGATGACAATGGCGCTCTCTGTTCTAGTAACTATAGAAATGTGTAAC
GCCCTCAACAGCTTGTCCGAAAACCAGTCCTTGCTGAGGATGCCCCCCTGGGAGAACATCTGGCTCGTGG
GCTCCATCTGCCTGTCCATGTCACTCCACTTCCTGATCCTCTATGTCGAACCCTTGCCACTCATCTTCCA
GATCACACCGCTGAACGTGACCCAGTGGCTGATGGTGCTGAAAATCTCCTTGCCCGTGATTCTCATGGAT
GAGACGCTCAAGTTTGTGGCCCGCAACTACCTGGAACCTGGTAAAGAGTGTGTGCAGCCTGCCACCAAAT
CCTGCTCGTTCTCGGCATGCACCGATGGGATTTCCTGGCCGTTTGTGCTGCTCATAATGCCCCTGGTGAT
CTGGGTCTATAGCACAGACACTAACTTTAGCGATATGTTCTGGTCTTGA

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5' Read Nucleotide Sequence:

```
>OriGene 5' read for NM_170665 unedited
AAACGTGTCAAAATTGTATACGACTCACTATAGGCGGCCGCGNAATTCGCACCAGGCGAG
GCGGAGGCGAGGAGGCCGCGGGGACGGGAGGCGAGGCCGGCCGGGCCCCCGAAGCCATGG
AGAACGCGCACACCAAGACGGTGGAGGAGGTGCTGGGCCACTTCGGCGTCAACGAGAGTA
CGGGGCTGAGCCTGGAACAGGTCAAGAAGCTTAAGGAGAGATGGGGCTCCAACGAGTTAC
CGGCTGAAGAAGGAAAAACCTTGCTGGAACTTGTGATTGAGCAGTTTGAAGACTTGCTAG
TTAGGATTTTATTACTGGCAGCATGTATATCTTTTGTTTTGGCTTGGTTTGAAGAAGGTG
AAGAAACAATTACAGCCTTTGTAGAACCTTTTGTAATTTTACTCATATTAGTAGCCAATG
CAATTGTGGGTGTATGGCAGGAAAGAAATGCTGAAAATGCCATCGAAGCCCTTAAGGAAT
ATGAGCCTGAAATGGGCAAAGTGTATCGACAGGACAGAAAGAGTGTGCAGCGGATTAAAG
CTAAAGACATAGTTCCTGGTGATATTGTAGAAATTGCTGTTGGTGACAAAGTTCCTGCTG
ATATAAGGTTAACTTCCATCAAATCTACCACACTAAGAGTTGACCAGTCAATTCTCACAG
GTGAATCTGTCTCTGTCATCAAGCACACTGATCCCGTCCCTGACCCACGAGCTGTCAACC
AAGATAAAAAGAACATGCTGTTTTCTGGTACAAACATTGCTGCTGGGAAAGCTATGGGAG
TGGTGGTAGCAACTGGAGTTAACNACCGAAATTGGCAGATCCGGGATGAAATGGTGGCCA
CAGAACAGAAGAGAACACCCCTTCAGCAAAACTAGATGAATTGGG
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3' Read Nucleotide Sequence:

```
>OriGene 3' read for NM_170665 unedited
AAATTGGGGTAGAAAACGCCCTCTGATTAAATTAAAAACCCAAAAAAAAAAAAAGAGCTGT
TTCAAAAAAAGTGTTGTTGAAAAAACAATGGTTGCAACAATAAAAAACATTAAACATTAA
AATAAATACCCTTAAAAACTCTGGGAGGGGACATAACCCCACTTTTTTGTTTCGGAAACA
ATGTTTTGTGCACACGCGAGTAAGGGTTACTCTTTGAAAAAACTGGTGAAAACAAAAAAA
AACAACACAATCCTAAAAAAAAACCCCCGCGGCGCGGGGAAAAGGGGGGGAGAGGTGGTG
TGNNTTNTNCNNCCCANAGCGTTATTTTTCTGAACATGTTCAATGGACACTATAATTATG
TGTGTAAAAAAGGAAAATCTTGCCCCGCTGGAATCAGAAAAAGCAAAACAAAATCTAGGG
TATGAAACCTCCATCACCAGCCAGTATGTTCATGTGAAAATTCAGCAGAAATAGACAGTT
GCTTTAAACAATAAAAAAATTAATTGATTAAGTTAAACATCTTATTTATGGAAAAACTGT
CTTCAAGACCAGAACATATTCTTAAAGTTAGTGGTTGTGCTATAGACCCCGATCACCAGG
GGCATTATGAGCAACACAAACGGTCCAGAAATTCAATCGGTGCATGCCGAGAACCAACAG
GGACTGGTTGCAGGCGTGACACACTCTTTACCAGTTCCAGTGAGGTGCGGGCCACAAACA
TGAGCTTCTCATCTTGAAAATCCAGGCAAGGAAATTTTCACTCCCTTAACCCTGGGACAC
ATAAAGCGGTGTGATCTGAAATAGAATGGCAGGGTTTGGAAAAACGTTTCAGAAGGGAAT
GACTGGCAAGTCTAATGGTTCCGTAGCCGAATGTTTTCCCGGGGGGATCCTACGCCGGCA
GGTGT
```

Restriction Sites: NotI-NotI

ACCN: NM_170665

Insert Size: 4100 bp

OTI Disclaimer: Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).

OTI Annotation: A TrueClone.

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).

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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_170665.2, NP_733765.1
RefSeq Size:	4205 bp
RefSeq ORF:	3129 bp
Locus ID:	488
UniProt ID:	P16615
Cytogenetics:	12q24.11
Domains:	E1-E2_ATPase, Cation_ATPase_N, Hydrolase, Cation_ATPase_C
Protein Families:	Druggable Genome, Transmembrane
Protein Pathways:	Alzheimer's disease, Arrhythmogenic right ventricular cardiomyopathy (ARVC), Calcium signaling pathway, Cardiac muscle contraction, Dilated cardiomyopathy, Hypertrophic cardiomyopathy (HCM)
Gene Summary:	This gene encodes one of the SERCA Ca(2+)-ATPases, which are intracellular pumps located in the sarcoplasmic or endoplasmic reticula of the skeletal muscle. This enzyme catalyzes the hydrolysis of ATP coupled with the translocation of calcium from the cytosol into the sarcoplasmic reticulum lumen, and is involved in regulation of the contraction/relaxation cycle. Mutations in this gene cause Darier-White disease, also known as keratosis follicularis, an autosomal dominant skin disorder characterized by loss of adhesion between epidermal cells and abnormal keratinization. Other types of mutations in this gene have been associated with various forms of muscular dystrophies. Alternative splicing results in multiple transcript variants encoding different isoforms. [provided by RefSeq, Dec 2019] Transcript Variant: This variant (b) represents the longer transcript and encodes the longer isoform (b, also known as SERCA2b, S2b or HK1).

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