

Product datasheet for **SC315641**

SERCA2 (ATP2A2) (NM_001681) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	SERCA2 (ATP2A2) (NM_001681) Human Untagged Clone
Tag:	Tag Free
Symbol:	SERCA2
Synonyms:	ATP2B; DAR; DD; SERCA2
Vector:	<u>pCMV6 series</u>
Fully Sequenced ORF:	>NCBI ORF sequence for NM_001681, the custom clone sequence may differ by one or more nucleotides

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ATGGAGAACGCGCACACCAAGACGGTGGAGGAGGTGCTGGGCCACTTCGGCGTCAACGAG
AGTACGGGGCTGAGCCTGGAACAGGTCAAGAAGCTTAAGGAGAGATGGGGCTCCAACGAG
TTACCGGCTGAAGAAGGAAAAACCTTGCTGGAACCTTGATTGAGCAGTTTGAAGACTTG
CTAGTTAGGATTTTACTGTCAGCATGTATATCTTTTGGTTTGGCTTGGTTTGAAGAA
GGTGAAGAAACAATTACAGCCTTTGTAGAACCTTTGTAATTTACTCATATTAGTAGCC
AATGCAATTGTGGGTGTATGGCAGGAAAGAAATGCTGAAAATGCCATCGAAGCCCTTAAG
GAATATGAGCCTGAAATGGGCAAAGTGTATCGACAGGACAGAAAGAGTGTGCAGCGGATT
AAAGCTAAAGACATAGTTCCTGGTGATATTGTAGAAATTGCTGTTGGTGACAAAGTTCCT
GCTGATATAAGGTTAACTTCCATCAAATCTACCACTAAGAGTTGACCAAGTCAATTCTC
ACAGGTGAATCTGCTCTGTCAAGCACACTGATCCCGTCCCTGACCCACGAGCTGTC
AACCAAGATAAAAAGAACATGCTGTTTTCTGGTACAAACATTGCTGCTGGGAAAGCTATG
GGAGTGGTGGTAGCAACTGGAGTTAACACCGAAATTGGCAAGATCCGGGATGAAATGGTG
GCAACAGAACAGGAGAGAAACCCCTTCAGCAAAAAGTATGAATTTGGGGAACAGCTT
TCCAAAGTCATCTCCCTTATTTGCATTGCAGTCTGGATCATAAAATTTGGGCACTTCAAT
GACCCGGTTCATGGAGGGTCTGGATCAGAGGTGCTATTTACTACTTTAAAATTTGCAGTG
GCCCTGGCTGTAGCAGCCATTCTGAAGGTCTGCCTGCAGTCATCACCACCTGCCTGGCT
CTTGAACTCGCAGAATGGCAAAGAAAAATGCCATTGTTGGAAGCCTCCCGTCTGTGGAA
ACCCTTGGTTGTACTTCTGTTATCTGCTCAGACAAGACTGGTACACTTACAACAAACCAG
ATGTCAGTCTGCAGGATGTTTCTGACAGAGTGGAAAGGTGATACTTGTCCCTTAAT
GAGTTTACCATAACTGGATCAACTTATGCACCTATTGGAGAAGTGCATAAAGATGATAAA
CCAGTGAATTGTCACCAGTATGATGGTCTGGTGAATAGCAACAATTTGTGCTCTTTGT
AATGACTCTGCTTTGGATTACAATGAGGCAAAGGGTGTGTATGAAAAAGTTGGAGAAGCT
ACAGAGACTGCTCTCACTTGCCCTAGTAGAGAAGATGAATGTATTTGATACCGAATTGAAG
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AAGGAATTCACCTAGAGTTTTACGTGACAGAAAGTCAATGTCGGTTTACTGTACACCA
AATAAACCAAGCAGGACATCAATGAGCAAGATGTTTGTGAAGGGTCTCCTGAAGGTGTC
ATTGACAGGTGCACCCACATTCGAGTTGGAAGTACTAAGGTTCTATGACCTCTGGAGTC
AAACAGAAGATCATGTCTGTCAATTCGAGAGTGGGGTAGTGGCAGCGACACACTGCGATGC
CTGGCCCTGGCCACTCATGACAACCCACTGAGAAGAGAAGAAATGCACCTTGAGGACTCT

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GCCAAC TTTATTA AATATGAGACCAATCTGACCTTCGTTGGCTGCGTGGGCATGCTGGAT
CCTCCGAGAATCGAGGTGGCCTCCTCCGTGAAGCTGTGCCGCAAGCAGGCATCCGGGTC
ATCATGATCACTGGGGACAACAAGGCACTGCTGTGGCCATCTGTGCGCCGATCGGCATC
TTCGGGCAGGATGAGGACGTGACGTCAAAGCTTTCACAGGCCGGGAGTTTGATGAACTC
AACCCCTCCGCCAGCGAGACGCTGCCTGAACGCCCGCTGTTTTGCTCGAGTTGAACCC
TCCCACAAGTCTAAAATCGTAGAATTTCTTCAGTCTTTTGATGAGATTACAGCTATGACT
GGCGATGGCGTGAACGATGCTCCTGCTGAAGAAAGCCGAGATTGGCATTGCTATGGGC
TCTGGCACTGCGGTGGCTAAAACCGCCTCTGAGATGGTCCTGGCGGATGACAACCTCTCC
ACCATTGTGGCTGCCGTTGAGGAGGGGGCGGCAATCTACAACAACATGAAACAGTTCATC
CGCTACCTCATCTCGTCCAACGTCGGGGAAGTTGTCTGTATTTTCTGACAGCAGCCCTT
GGATTTCCCGAGGCTTTGATTCTGTTCAGCTGCTCTGGGTCAATCTGGTGACAGATGGC
CTGCTGCCACTGCACTGGGGTTCAACCCTCTGATCTGGACATCATGAATAAACCTCCC
CGGAACCCAAAGGAACCATTGATCAGCGGGTGGCTCTTTTTCCGTTACTTGGCTATTGGC
TGTTACGTGCGCGCTGCTACCGTGGTGTCTGCTGCATGGTGGTTCATTGCTGCTGACGGT
GGTCCAAGAGTGTCTTCTACCAGCTGAGTCATTTCTACAGTGTAAAGAGGACAACCCG
GACTTTGAAGGCGTGGATTGTGCAATCTTTGAATCCCATACCCGATGACAATGGCGCTC
TCTGTTCTAGTAACTATAGAAATGTGTAACGCCCTCAACAGCTTGTCCGAAAACAGTCC
TTGCTGAGGATGCCCCCTGGGAGAACATCTGGCTCGTGGGCTCCATCTGCCTGTCCATG
TCACTCCACTTCTGATCCTCTATGTGCAACCCTTGCCACTCATCTCCAGATCACACCG
CTGAACGTGACCCAGTGGCTGATGGTGTGAAAATCTCCTTGCCCGTGATTCTCATGGAT
GAGACGCTCAAGTTTGTGGCCCGCAACTACCTGGAACCTGCAATACTGGAG
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Restriction Sites:

Please inquire

ACCN:

NM_001681

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 TrueClone is provided through our Custom Cloning Process that includes sub-cloning into OriGene's pCMV6 vector and full sequencing to provide a non-variant match to the expected reference without frameshifts, and is delivered as lyophilized plasmid DNA.

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_001681.2](#), [NP_001672.1](#)

RefSeq Size: 3942 bp

RefSeq ORF: 2994 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 (a) differs in the 3' coding region and 3' UTR, resulting in an alternate termination codon, compared to variant 1. The encoded isoform (a, also known as SERCA2a, S2a or HK2) has a shorter and distinct C-terminus, compared to isoform b.