

Product datasheet for **MC223305**

Atp2a2 (NM_001110140) Mouse Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Atp2a2 (NM_001110140) Mouse Untagged Clone
Tag:	Tag Free
Symbol:	Atp2a2
Synonyms:	9530097L16Rik; D5Wsu150e; mKIAA4195; SERCA2; Serca2a; SERCA2B
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Fully Sequenced ORF:	>MC223305 representing NM_001110140 Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGGAGAACGCTCACACAAAGACCGTGGAGGAGGTGCTGGGCCACTTCGGGGTCAACGAGAGCACGGGGC
TGAGCTTGGAGCAGGTCAAGAAGCTCAAGGAGAGATGGGGCTCCAACGAATTGCCGGCTGAAGAAGGAAA
AACCTTGTGGAAGTGTGATTGAGCAGTTGAAGACTTACTAGTTAGAATTTTACTGCTGGCAGCATGT
ATATCTTTCGTTTGGCTTGGTTCGAGGAAGGGGAAGAAACGATTACAGCCTTTGTAGAGCCGTTTGTA
TTCTGCTTATCTTGGTAGCCAATGCAATCGTGGGTGTGTGGCAGGAAAGAAATGCTGAAAATGCAATAGA
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AAAGCTAAAGACATAGTTCCTGGTGATATAGTGAAAATTGCTGTTGGTGACAAAGTTCCTGCTGATTA
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CATCAAGCATACTGACCCCTGTCCCTGACCCCGAGCTGTTAATCAAGACAAAAGAACAATGCTCTTTTCT
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AGATCCGGGATGAAATGGTGGCAACAGAACAGGAGAGAACACCCCTACAGCAGAAGCTAGACGAGTTTGG
GGAGCAGCTTCCAAAGTTATCTCCCTCATTTCATTGCAGTCTGGATCATCAACATTGGGCATTTCAAT
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GATAAGACAGGCACACTTACCACAAACCAGATGTCCTGTGTCAGGATGTTCAATCTGGACAAAGTAGAAG
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AATGACTCTGCTTTGGATTATAATGAGGCAAAGGGTGTGTATGAGAAAAGTTGGAGAAGCTACCGAGACTG
CTCTCACGTGCCTGGTGGAGAAGATGAATGATTTGATACTGAGCTGAAGGGCTTTCTAAAATAGAGCG
TGCAAACGCTGCAACTCGGTCAATAAGCAGCTGATGAAGAAGGAGTTCACTCTGGAGTTTTCACGGGAT



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AGAAAATCAATGTCCGTCTATTGTACCCCAAACAAGCCAAGCCGGACATCCATGAGCAAGATGTTTGTGA
AGGGGGCTCCAGAAGGTGCATCGATAGGTGCACCCACATCCGAGTTGGAAGTACCAAGTCCCCATGAC
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CTCTTCTGTGAAGCTGTGCCGCAAGCAGGCATCCGGGTATCATGATCACTGGAGACAACAAAGGCACC
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TCTCCTTCTACCAGCTGAGTCATTTCTACAGTGAAGGAGGACAACCCAGACTTCGATGGAGTGGATTG
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GCCCTCAACAGCTTGCTGAAAACCAAGTCTTGGCTGAGGATGCCCCCTGGGAGAATATCTGGCTCGTGG
GCTCCATCTGCTGTCCATGTCACCTTCACTTCTGATCCTCTACGTGGAACCTTTGCCGCTCATTTTCCA
GATCACACCGCTGAATCTGACCCAGTGGCTGATGGTGTGAAAATCTCCTTGCTGTGATCCTCATGGAT
GAGACGCTCAAGTTTGTGGCCGAAACTACCTGGAACAACCCGGTAAAGAGTGTGTGCAGCCTGCCACCA
AATCTTCTGCTCCCTGTCCGATGCACCGATGGCATTTCCTGGCCGTTTGTGCTGCTCATTATGCCCT
GGTGGTCTGGGTCTACAGCACAGACACTAACTTTAGCGATATGTTCTGGTCTGA

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ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

Chromatograms: https://cdn.origene.com/chromatograms/ja1946_a04.zip

Restriction Sites: SgfI-MluI

ACCN: NM_001110140

Insert Size: 3135 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 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](#)

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_001110140.3](#), [NP_001103610.1](#)

RefSeq Size: 4565 bp

RefSeq ORF: 3135 bp

Locus ID: 11938

UniProt ID: [O55143](#)

Cytogenetics: 5 F

Gene Summary: This magnesium-dependent enzyme catalyzes the hydrolysis of ATP coupled with the translocation of calcium from the cytosol to the sarcoplasmic reticulum lumen. Isoform SERCA2A is involved in the regulation of the contraction/relaxation cycle. Acts as a regulator of TNFSF11-mediated Ca(2+) signaling pathways via its interaction with TMEM64 which is critical for the TNFSF11-induced CREB1 activation and mitochondrial ROS generation necessary for proper osteoclast generation. Association between TMEM64 and SERCA2 in the ER leads to cytosolic Ca (2+) spiking for activation of NFATC1 and production of mitochondrial ROS, thereby triggering Ca (2+) signaling cascades that promote osteoclast differentiation and activation (PubMed:23395171).[UniProtKB/Swiss-Prot Function]
Transcript Variant: This variant (1) encodes the longer isoform (b), also known as SERCA2B.