

Product datasheet for **MG223301**

Abcb4 (NM_008830) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Abcb4 (NM_008830) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Abcb4
Synonyms:	mdr-2; Mdr2; Pgy-2; Pgy2
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>MG223301 representing NM_008830, codon optimized.
 Due to the complexity of NM_008830, the ORF clone is codon optimized for mammalian Expression.
 The nucleotide sequence differs from the reference sequence, yet the amino acid sequence remains identical.

Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGATCGCC**

ATGGACCTCGAAGCTGCTCGCAACGGGACCGCTCGGAGGCTTGACGGAGATTTTGAGCTGGGGAGCATAA
 GCAACCAGGGCAGGAAAAGAAAAAAGGTGAATTTGATTGGCCTGCTTACCCTTTCCGCTACTCCGA
 TTGGCAGGACAACTCTTCATGTTCTGGGGACTCTGATGGCCATTGCTCATGGATCTGGATTGCCTCTG
 ATGATGATCGTCTTCGGGGAGATGACCGATAAGTTCGTCGATAATACAGGCAACTTCAGCTTGCCAGTCA
 ACTTTAGCCTCTCTATGCTGAACCCCGACGAATCTTGGAGGAGGAGATGACAAGATATGCTTATTATTA
 TTCAGGACTGGGAGGCGCGTGTGTTGCCGCCTACATACAGGTCAGTTTTTGGACCCTGGCAGCGGGG
 AGACAGATCAAGAAAATCCGACAGAAAATTTTTTCATGCAATTCTCAGGCAGGAGATGGGCTGGTTTGATA
 TCAAAGGAACCACTGAGCTTAATACGCGGCTGACCGATGACGTGAGTAAAATCAGCGAGGGCATTGGAGA
 TAAAGTTGGTATGTTTTCCAGGCCATCGCCACATTTTTTGCAGGATTCATCGTAGGATTTATTCGGGGA
 TGGAAGCTGACTTTGGTTATAATGGCTATCAGCCCTATCCTCGGACTCAGCACAGCTGTGTGGCCAAAGA
 TCCTGAGCACTTTTAGTGATAAAGAGCTCGCAGCATATGCCAAGGCTGGGCGGTTGCTGAAGAGGCTCT
 GGGTGCCATTAGGACCGTCATCGCATTTCGGAGGACAAAATAAAGAATTGGAGCGGTATCAGAAGCCTC
 GAGAAATGCTAAGAAAATTGGCATCAAGAAAGCAATTAGCGCAAATATATCCATGGGGATTGCTTTTCCTGC
 TGATATATGCCTCCTACGCCCTGGCCTTTTGGTACGGTCAACCTGGTATCTCTAAGGAGTACACCAT
 TGGCAATGCAATGACGGTTTTTTTTAGTATTCTGATCGGAGCCTTCTCCGTTGGACAGGCCGCCCTTGC
 ATTGACGCTTTGCTAACGCCCGGGGAGCAGCCTACGTTATATTTGATATTATTGATAACAATCCTAAAA
 TCGACTCCTTTAGCGAGCGGGGCAAGCCGGATAATATTAAGGGAACCTGGAGTTTACGCGACGTTCA
 CTTTCAGTTACCCAAGCCGCGCAACATCAAAATCTGAAAGGACTCAACCTCAAAGTTAAAAGCGGACAG
 ACAGTTGCCCTCGTGGGCAACAGTGGTTGCGGCAAGTCAACTACCGTCCAGCTTTTGCAGCGACTTTATG
 ATCCTACAGAAGGAAAATCAGTATAGATGGGCAGGATATCAGGAATTTAATGTTTCGCTGCCTGAGGGA
 AATCATCGGAGTCGTTTCTCAGGAGCCGGTGTGTTTTTCCACTACCATAGCAGAAAACATTAGGTACGGC
 CGAGGGAATGTGACCATGGATGAGATAGAGAAGGCCGTCAAGGAAGCAAACGCTTACGATTTTATCATGA
 AACTGCCCCAGAAATTTGACACGCTGGTGGTACCGCGGGGCTCAGCTGAGTGGAGGCCAAAAGCAGAG
 GATAGCCATCGCTCGGGCCCTGGTGCGCAATCCAAAGATCTTGTCTGCTGGACGAGGCCACATCAGCTCTT
 GACACAGAGTCCGAAGCGGAAGTGAAGCCGCACTCGACAAGGCACGAGAAGGCAGAAGTACTATTGTTA
 TCGCTCACAGACTTTCCACCATCAGGAATGCCGATGTTATCGCCGATTTCGAAGACGGGGTATTGTAGA
 GCAGGGCTCTCACAGCGAGCTCATGAAGAAAGAGGGTATCTATTTTAGG

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence: >MG223301 protein sequence
Red=Cloning site Green=Tags(s)

MDLEAARNGTARRLDGDFELGSISNQGREGKKKVNLIIGLLTLFRYSWQDKLFMFLGTLMAIAHGSGPLPL
MMIVFGEMTDKFDVNTGNFSLPVNFSLSMLNPGRILEEEMTRYAYYYSGLGGGVLVAAYIQVSFWTLAAG
RQIKKIRQKFFHAILRQEMGWFDIKGTTELNTRLTDDVSKISEGIGDKVGMFFQAIATFFAGFIVGFIRG
WKLTLVIMAI SPILGLSTAVWAKILSTFSDKELAAAYAKAGAVAEALGAIRTVIAFGGQNKELERYQKHL
ENAKKIGIKKAI SANISMGIAFLLIYASYALAFWYGSTLVISKEYTIGNAMTVFFSILIGAFSVGQAAPC
IDAFANARGAAYVIFDIIDNNPKIDSF SERGHKPDNIKGNLEFSDVHFSYPSRANIKILKGLNLKVKSGQ
TVALVGNSSGCGKSTTVQLLQRLYDPTGKISIDGQDIRNFNVRCLREIIGVVVSQEPVLFSTTIAENIRYG
RGNVTMDEIEKAVKEANAYDFIMKLPQKFDLTVGDRGAQLSGGQKQRIAIARALVRNPKILLLDEATSAL
DTESEAEVQAALDKAREGRTTIVIAHRLSTIRNADVIAGFEDGVIVEQGSHELMKKEGIYFRLVNMQTA
GSQILSEEFLEVELSDEKAAGDVAPNGWKARIFRNSTKSKLSPHQNRLDEETNELDANVPPVSFLKVLKL
NKTEWPYFVVGTVCAIANGALQPAFSIILSEMI AIFGPGDDAVKQKCNMFSLVFLGLGVL SFFTFFLQG
FTFGKAGEILTTRLRSMFAKAMLRQDMSWFDDHKNSTGALSTRLATDAAQVQGATGTRLALIAQNTANLG
TGIIISFIYGWQLTLLLLSVVPFI AVAGIVEMKMLAGNAKRDKKEMEAAGKIATEAIENIRTVVSLTQER
KFESMYVEKLHGYPYRNSVRKAHIYGITFSISQAFMYFSYAGCFRFGSYLIVNGHMRFKDVLVFSAILVGLG
AVALGHASSFADYAKAKLSAAYLFSL FERQPLIDSYSGEGLWDPKFEGSVTFNEVVFNYPTANVPVLQ
GLSLEVKKGQTLALVGSSGCGKSTVVQLLERFYDPMAGSVLLDGQEAKKLNQWLRAQLGIVSQEPILFD
CSIAENIAYGDNRSRVVPHDEIVRAAKEANIHPFIETLPQKYNTRVGDKGTQLSGGQKQRIAIARALIRQP
RVLLLDEATSALDTESEKVVQEALDKAREGRTCIVIAHRLSTIQNADLIVVIENGVKKEHGTHQQLLAQK
GIYFSMVNIQAGTQNL

TRTRPLE - GFP Tag - V

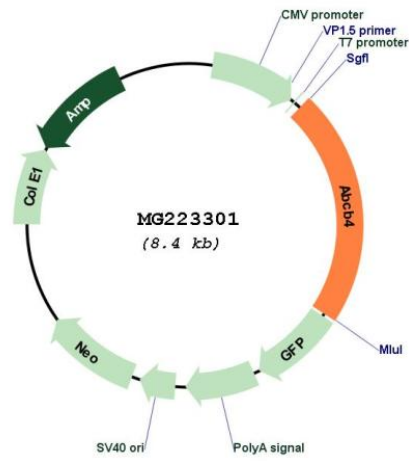
Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shutting:



Plasmid Map:



ACCN:

NM_008830

ORF Size:	3828 bp
OTI Disclaimer:	<p>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.</p> <p>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</p>
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_008830.2 , NP_032856.2
RefSeq Size:	4083 bp
RefSeq ORF:	3831 bp
Locus ID:	18670
UniProt ID:	P21440
Cytogenetics:	5 3.43 cM
MW:	140.4 kDa

Gene Summary:

Energy-dependent phospholipid efflux translocator that acts as a positive regulator of biliary lipid secretion. Functions as a floppase that translocates specifically phosphatidylcholine (PC) from the inner to the outer leaflet of the canalicular membrane bilayer into the canaliculi between hepatocytes. Translocation of PC makes the biliary phospholipids available for extraction into the canaliculi lumen by bile salt mixed micelles and therefore protects the biliary tree from the detergent activity of bile salts (PubMed:8106172, PubMed:7912658, PubMed:7592705, PubMed:7814632, PubMed:8725158, PubMed:9366571). Plays a role in the recruitment of phosphatidylcholine (PC), phosphatidylethanolamine (PE) and sphingomyelin (SM) molecules to nonraft membranes and to further enrichment of SM and cholesterol in raft membranes in hepatocytes (By similarity). Required for proper phospholipid bile formation (PubMed:8106172). Indirectly involved in cholesterol efflux activity from hepatocytes into the canalicular lumen in the presence of bile salts in an ATP-dependent manner (PubMed:7814632, PubMed:8725158). May promote biliary phospholipid secretion as canaliculi-containing vesicles from the canalicular plasma membrane (PubMed:9366571). In cooperation with ATP8B1, functions to protect hepatocytes from the deleterious detergent activity of bile salts (PubMed:21820390). Does not confer multidrug resistance (PubMed:1990275).[UniProtKB/Swiss-Prot Function]