

Product datasheet for **MG208502**

Ahcyl1 (NM_145542) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Ahcyl1 (NM_145542) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Ahcyl1
Synonyms:	1110034F20Rik; AA409031; AA414901; Ahcy-rs3; DCAL; Irbit
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>MG208502 representing NM_145542
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGTCGATGCCTGACCGGATGCCGCTGCCCGTGTGCGGGAGGAGCTGAAACAGGCCAAGGAGATCGAGG
 ACGCCGAGAAGTACTCCTTCATGGCCACGGTACCAAGGCTCCCAAGAAGCAAATCCAGTTTGTGATGA
 CATGCAAGAGTTCACCAAATCCCTACTAAGACTGGCCGGAGATCTTTGTCTCGTTCCATCTCACATCC
 TCCACAGACAGCTACAGTTCAGCTGCATCCTATACAGATAGCTCTGATGATGAGGTTTCCCCCGAGAGA
 AGCAGCAAACCAACTCGAAGGGCAGCAGCAATTTCTGTGTGAAGAACATCAAGCAGGCAGAGTTGGACG
 CCGGGAGATTGAGATTGCAGAGCAAGACATGTCTGCTGATTTCACTCAGGAAACGTGCTCAGGGAGAG
 AAGCCTTTGGCTGGTGTAAAAAGTGGCTGTACACACATCACGGCCAGACAGCGGTATTAATTGAGA
 CCCTTTGTGCCCTGGGAGCTCAGTGCCGCTGGTCTGCCTGCAACATCTATCAACTCAGAATGAAGTAGC
 TGCAGCACTGGCTGAGGCTGGAGTCGCGGTGTTTGCTTGAAGGGCGAGTCAGAAGATGATTCTGGTGG
 TGCAATTGACCGCTGTGTCAACATGGATGGTGGCAGGCTAACATGATCCTGGATGATGGGGGAGACTTAA
 CCCACTGGGTTTATAAGAAGTATCCAAACGTGTTAAGAAGATCCGAGGCATTGTGGAAGAGAGCGTGAC
 TGGTGTTCACAGGCTGTATCAGCTCTCCAAAGCTGGGAAGCTCTGTGTTCCAGCCATGAATGTCAATGAT
 TCTGTTACCAAACAGAAGTTTGATAACCTGACTGCTGCCGAGAATCCATTTTGGATGGCCTGAAGAGGA
 CCACGGATGTGATGTTTGGTGGGAAACAGGTGGTGGTGTGTGGCTATGGTGAAGTAGGAAAGGGCTGCTG
 TGCTGCTCTCAAGGCCCTGGAGCAATGTCTACATCACAGAAATGACCCCATCTGTGCTCTGCAGGCC
 TGCATGGATGGTTCAGGTGGTGAAGTGAATGAAGTATCCGGCAGGTGGACGTTGTAATTACTTGCA
 CAGGAAATAAGAATGTAGTACTCGGGAGCACTGGACCGAATGAAAAATAGTTGATTGTGCAATAT
 GGGCCATTCCAACACGGAGATCGATGTGACAGCCTCCGCACTCCAGAACTAACATGGGAGCGTGTACGT
 TCTCAGGTGGACCATGTCTGCTGATGGCAAACGGTCTGCTTCTAGCAGAGGGCCGTTTACTTAA
 ATCTGAGCTGCTCCACAGTTCCTACCTTTGTTCTTTCCATCACGGCTACAACACAGGCTTTGGCACTGAT
 AGAGCTTTACAACGCCCCGGAGGAGCGTACAAACAGGATGTGTACTTGTCTTCTAAGAAGATGGATGAA
 TATGTTGCCAGCTTGACCTACCATCATTTGATGCCACCTGACAGAAGTACAGATGACCAAGCAAAGT
 ATCTGGGACTCAACAAAATGGGCCATTCAAACCTAATTATTACAGATAC

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence:

>MG208502 representing NM_145542
 Red=Cloning site Green=Tags(s)

MSMPDAMPLPGVGEELKQAKEIEDAEKYSFMATVTKAPKKQIQFADDMQEFKFPKTKGRRSLRSISQS
 STDSYSSAASYTDSDDDEVSPREKQQTNSKGSSNFCVKNIKQAEFGREIEIAEQDMSALISLRKRAQGE
 KPLAGAKIVGCTHITAQTAFLIETLALGAQCRWSACNIYSTQNEVAAALAEAGVAVFAWKGESEDDFWW
 CIDRCVNMDDGWQANMILDDGDLTHWVYKYPNVFKKIRGIVEESVTGVHRLYQLSKAGKLCVPMNVND
 SVTKQKFDNLYCCRESILDGLKRTTDMVFGGKQVVVCGYGEVKGCCAALKALGAIYYITEIDPICALQA
 CMDGFRVVKLNEVIRQVDVITCTGNKNVVTREHLDRMKNSCIVCNMGHSNTEIDVTSRLTPELTWERVR
 SQVDHVIWPDGKRVLLAEGRLNLSCTVPTFVLSITATTQALALIELYNAPEGRYKQDVYLLPKKMDE
 YVASLHLPSTDAHLTELDDQAKYLGLNKNPFPKNYYRY

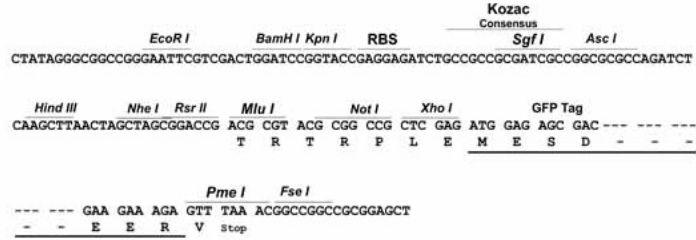
TRTRPLE - GFP Tag - V

Restriction Sites:

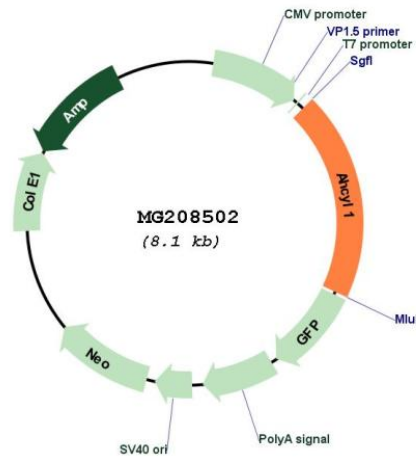
Sgfl-MluI

Cloning Scheme:

Cloning sites used for ORF Shutting:



Plasmid Map:



ACCN:	NM_145542
ORF Size:	1590 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_145542.1
RefSeq Size:	2427 bp
RefSeq ORF:	1593 bp
Locus ID:	229709
UniProt ID:	Q80SW1
Cytogenetics:	3 46.83 cM

Gene Summary:

Multifaceted cellular regulator which coordinates several essential cellular functions including regulation of epithelial HCO₃⁻ and fluid secretion, mRNA processing and DNA replication. Regulates ITPR1 sensitivity to inositol 1,4,5-trisphosphate competing for the common binding site and acting as endogenous 'pseudoligand' whose inhibitory activity can be modulated by its phosphorylation status. In the pancreatic and salivary ducts, at resting state, attenuates inositol 1,4,5-trisphosphate-induced calcium release by interacting with ITPR1 (By similarity). When extracellular stimuli induce ITPR1 phosphorylation or inositol 1,4,5-trisphosphate production, dissociates of ITPR1 to interact with CFTR and SLC26A6 mediating their synergistic activation by calcium and cAMP that stimulates the epithelial secretion of electrolytes and fluid (PubMed:12525476, PubMed:23542070). Also activates basolateral SLC4A4 isoform 1 to coordinate fluid and HCO₃⁻ secretion (PubMed:19224921). Inhibits the effect of STK39 on SLC4A4 and CFTR by recruiting PP1 phosphatase which activates SLC4A4, SLC26A6 and CFTR through dephosphorylation (PubMed:19033647, PubMed:21317537). Mediates the induction of SLC9A3 surface expression produced by Angiotensin-2. Depending on the cell type, activates SLC9A3 in response to calcium or reverses SLC9A3R2-dependent calcium inhibition. May modulate the polyadenylation state of specific mRNAs, both by controlling the subcellular location of FIP1L1 and by inhibiting PAPOLA activity, in response to a stimulus that alters its phosphorylation state. Acts as a (dATP)-dependent inhibitor of ribonucleotide reductase large subunit RRM1, controlling the endogenous dNTP pool and ensuring normal cell cycle progression (By similarity). In vitro does not exhibit any S-adenosyl-L-homocysteine hydrolase activity (PubMed:12525476).[UniProtKB/Swiss-Prot Function]