

## Product datasheet for MR231694

### Adcy8 (NM\_001291903) Mouse Tagged ORF Clone

#### Product data:

**Product Type:** Expression Plasmids  
**Product Name:** Adcy8 (NM\_001291903) Mouse Tagged ORF Clone  
**Tag:** Myc-DDK  
**Symbol:** Adcy8  
**Synonyms:** AC8; AW060868  
**Vector:** pCMV6-Entry (PS100001)  
**E. coli Selection:** Kanamycin (25 ug/mL)  
**Cell Selection:** Neomycin  
**ORF Nucleotide Sequence:** >MR231694 representing NM\_001291903  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGAGCTCTCGGATGTGCACTGCCTTAGTGGCAGCGAGGAAGTCTACACCATCCAACCGACGCCCCGG  
 CCGGCGACGACGGGAGCGGCTCTCGGCCGACGGCTGCTGTGGCAGACGGCGTGGCCACATCACGGA  
 GCAGCGCTTCATCCACGGGCACCGAGGCGGGCGGGGGTCTCCCGCAAAGCCTCGAACCTGCG  
 GGCAGTGGACCAATCACACGCGCCGAGCTGTCTAGCGACTCGGTGCTGCCTCTATTCTCTGGGCC  
 CCGGAGAGCGAGCGCACAAACCCGGTGGCACCAAAGTCTTTCCGGAACGACGCGGGAGCGGCAGTCCAG  
 TGGCAGCGGGGGCGGGGGCGACTTGGGCTTCTACACCTTGACTGTGCCCAAGTAACTCGGATTTCTTC  
 CTCAATGGAGGATACAGCTACCGAGGGGTCAATTTTCCAACCCTACGCAACTCCTTCAAGTCTCGGGATC  
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 GGCATCCTGCTAGGCTTTTTCACTGGCATCGAGGTGGTGATCTGCGCCCTCGTGGTGGTCAGGAAGGACA  
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 ACCCGGAGGTGTGTGGAGGCCAGGCTCCGCTTGGAGACAGAGAACCAAAGACAGGAGCGGCTTGTGCTGT  
 CTGTGCTCCCCAGGTTTGTGCTGCTGAAATGATCAACGACATGACCAATGTGGAGGATGAGCACCTGCA  
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 TCGACCGCTGGCCATGAGCATCACTGTCTTCGATTAAATCTGGGGACTGCTACTACTGTGTGTC  
 TGGACTGCTGAGCCCCCGGGACCACGCTATTGCTGTGTTGAAATGGGCTCAGCATGATCAAACCT  
 ATCAGGTTTGTGAGATCCAGAACGAAGCAGATGTTGACATGCGAATTGGAATCCATTACAGTCTGTGTC



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TATGTGGTGTGTTGGGCCTGAGGAAATGGCAGTTTGATGTCTGGTCTTGGGATGTGGACATAGCAAACAA  
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CATGCTGCACTCTGCCCTGGTCTCATACCACAGCAGAAGACTATAAGTGTCTGCCCTCATCTCCGA  
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GTTTCTACGGCTAACTCTGTCTGAAGCTGGCAGTGTACTCATCATGATCGCCATCTACGCCCTGCTC  
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GGACCAAGGAAGCATCACTGCTGCTGATGGCCATGTTCTTCTTGTCTGTGTTCTACCATGGACAACAGCT  
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CACAGTATGACATTTGGGGGAAAACGTGAACCTGGCAAGCCGAATGGACAGCACGGGAGTAAGTGGCCG  
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CCAACCCATTCTTACCCCAAGGAGACTTCCCGGCAATACTCTCTGGCTGCGGTTGCTTGGCCT  
TGTCCAGTCTCTAACAGGCAAAGGCAGAAGCAACTTCTCAACGAGAACAGCAATTCGGGCATCATCAAG  
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ACAAATCCGATTTGCCA

ACGCGTACGCGGCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:** >MR231694 representing NM\_001291903  
 Red=Cloning site Green=Tags(s)

MELSDVHCLSGSEELYTIQTPPAGDDGSGSRPQRLWQTAVRHITEQRFIHGHRGGGGGVS RKASNPA  
 GSGPNHHAPQLSSDSVLPYLSLGPGERAHNTGGTKVFPERSGSGSASGSGGGDLGFLHLDCA  
 PSNDFFLNGGYSYRGVIFPTLRNSFKSRDLERLYQRYFLGQRRKSEVVMNVLDVLTCLLVLHL  
 SLASAPMDPLK GILLGFFFTGIEVVICALVVVRKDNTSHTYLQYSGVVTWVAMTTQILAAGL  
 GYGLLDGIGYVLFATY SMLPLPLTWAILAGLGTSLQVTLQVLI PRLAVFSINQVLAQVVL  
 FCMNTAGIFISYLSDRARQAFLE TRRCVEARLRLETENQRQERLVLSVLPFRVLEMINDMT  
 NVEDEHLQHGFHRIYIHRVENVSILFADVKG FTNLSTLSAQELVRMLNELFARFDRLA  
 EHHCLRIKILGDCYYCVSGLPEPRRDHAHCCVEMGLSMIKT IRFVRSRTKHDVDMRIGI  
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 KKERNEFLRKHNIETYLKQPESLLCLPEDIVKESVSCSDRRNSGATFEGSWPEL PFDNI  
 VGKQNTLAALTRNSINLLPNHLAQUALHVQSGPEEINKRIEHTIDLRSGDKLRREHIKPF  
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 HSALVLITTAEDYKCLPLILR KTCCWINETYLARNVIFASILINFLGAVLNIYVFTGVL  
 AMVTCAVFLRLNSVLKLA VLLIMIAIYALL TETIYAGLFLSYDNLNHSGEDFLGTKEAS  
 LLLMAMFLLAVFYHGQQL EYARLDFLWRVQAKEEINEMKE LREHNENMLRNILPSHVAR  
 HFLEKDRDNEELYSQSYDAVGVMFASIPGFADFY SQTMMNQVECLRLN EIIADFD  
 ELLGEDRFQDIEKIKTIGSTYMAV SGLSPEKQCCEDKWGHL CALADFSLALTESIQEIN  
 KHSF NNFELRIGISHG SVVAGVIGAKKPQYDIW GKTVNLASRMDSTGVSGRIQVPEE  
 TYLILKDQGFADFYRGE IYVKGISEQEGKIKTYFLLGRVQPNPFI LPPRRLPGQYSLA  
 AVVLGLVQSLNRQRQKQLLNENSNSGIIK SHYNRRLLTPSGPEPGAQAE GTDKSDLP

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

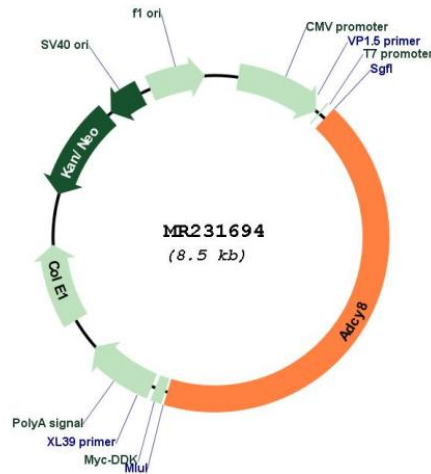
**Restriction Sites:**

SgfI-MluI

**Cloning Scheme:**



## Plasmid Map:



ACCN: NM\_001291903

ORF Size: 3657 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:

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\\_001291903.1](#), [NP\\_001278832.1](#)

RefSeq Size: 4974 bp

RefSeq ORF: 3660 bp

Locus ID: 11514

Cytogenetics: 15 29.03 cM

MW: 137.1 kDa

**Gene Summary:**

Catalyzes the formation of cAMP in response to calcium entry leading to cAMP signaling activation that affect processes such as synaptic plasticity and insulin secretion (PubMed:10864938, PubMed:25403481, PubMed:10482244, PubMed:14585998, PubMed:18448650). Plays a role in many brain functions, such as learning, memory, drug addiction, and anxiety modulation through regulation of synaptic plasticity by modulating long-term memory and long-term potentiation (LTP) through CREB transcription factor activity modulation (PubMed:10482244, PubMed:14585998, PubMed:18448650, PubMed:10864938, PubMed:12441059, PubMed:20638449, PubMed:27234425, PubMed:18222416). Plays a central role in insulin secretion by controlling glucose homeostasis through glucagon-like peptide 1 and glucose signaling pathway and maintains insulin secretion through calcium-dependent PKA activation leading to vesicle pool replenishment (PubMed:25403481). Also, allows PTGER3 to induce potentiation of PTGER4-mediated PLA2 secretion by switching from a negative to a positive regulation, during the IL1B induced-dedifferentiation of smooth muscle cells (By similarity).[UniProtKB/Swiss-Prot Function]