

Product datasheet for **MR206846**

Actl6a (NM_019673) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Actl6a (NM_019673) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Actl6a
Synonyms:	2810432C06Rik; Actl6; AI851094; ARP4; Baf53a; C79802
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide Sequence:

>MR206846 ORF sequence
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGCATCGCC**

ATGAGCGCGCGCTGTACGGCGGAGATGAAGTTGGCGCTCTTGTTTTGGACATTGGATCGTACACAGTGA
 GGGCTGGCTATGCTGGCGAGGACTGCCCTAAGGTTGATTTCCCCACGGCTATCGGTGGTGGTGGAGAG
 AGATGACGGAAGTACAATGATGGAGATTGATGGTGACAAAGGCAAGCAGGGCGGGCCACCTACTACATA
 GACACCAATGCCCTCCGCGTGCCAGGGAACATGGAGGCCATCTACCACTCAAGAATGGCATGGTTG
 AAGACTGGGATAGTTTCCAGGCCATTTGGATCATACATAAAGATGCATGTCAAATCCGAAGCCAGCCT
 GCATCCTGTTTCATGTCGGAAGCACCGTGGAACACCAGGGCGAAGAGAGAGAACTGACAGAGTTGATG
 TTTGAGCACTACAGCATCCCTGCATTCTCCTTTGCAAACTGCAGTTTTGACGGCATTGCTAATGGTC
 GTTCTACTGGGCTGATTTGGACAGTGGAGCTACCCACCACTGCGATTCCAGTCCACGATGGCTATGT
 TCTTCAACAAGGCATTGTAAATCCCCTCTGGCTGGAGACTTCATTACCATGCAGTGCAGAGAACTTTC
 CAGGAAATGAACATAGAACTCATTCTCTTACATGATTGCATCAAAGAGGCTGTTTCGAGAAGGCTCTC
 CAGCCAACCTGAAAGAAAAGAGAACTGCCCCAGGTTACAAGGCTTGGCACAATTACATGTGCAACTG
 CGTCATCCAGGATTTTCAAGCTTCCGTTCTTCCAGGTGTCAGACTCCACCTACGACGAACAAGTGGCTGCA
 CAGATGCCGACCGTTCACTACGAATCCCAACGGCTACAACCTGCGATTTTGGGGCAGAGCGGCTGAAAA
 TTCCTGAAGGTTATTTGACCCTTGAACGTAAAGGGACTGTCTGGGAACACGATGCTGGGAGTCAGTCA
 CGTTGTCAACAACAGCGTCGGAATGTGTGACATCGACATCAGACCAGGTCTCTACGGCAGTGTGATCGTA
 GCAGGAGGAAACACGCTAATACAGAGTTTCACTGACAGGTTAAATAGAGAGCTTTCTCAGAAAACCCAC
 CAAGTATCGGTTGAAACTGATTGCAAACAACACGACGGTGGAGCGGAGGTTTCAGCTCATGGATTGGTGG
 CTCTATCCTAGCATCTTTGGGTACCTTTCAACAGATGTGGATTTCTAAACAGGAATATGAAGAAGGAGGG
 AAGCAGTGTGTAGAAAGAAAATGCCCT

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>MR206846 protein sequence
 Red=Cloning site Green=Tags(s)

MSGGVYGGDEVGALVFDIGSYTVRAGYAGEDCPKVDFPTAIGVVLERDDGSTMMEIDGDKGKQGGPTYYI
 DTNALRVPRENMEAISPLKNGMVEDWDSFQAILDHTYKMHVKSEASLHPVLMSEAPWNTRAKREKLT
 FEHYSIPAFFLCKTAVLTAFANGRSTGLILDGATHHTTAIPVHDGYVLQGGIVKSPLAGDFITMQCRELF
 QEMNIELIPPYMIASKEAVREGSPANWKRKEKLPQVTRSWHNYMCNCVIQDFQASVLQVSDSTYDEQVAA
 QMPTVHYEFPNGYNCDFGAERLKIPEGLFDP SNVKGLSGNTMLGVSHVVTTSVGMCDIDIRPGLYGSVIV
 AGGNTLIQSFTDRLNRELSQKTPPSMRLKLIANNTTVERRFSSWIGGSILASLGTQQMWISKQEYEEGG
 KQCVERKCP

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites:

SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:


ACCN: NM_019673

ORF Size: 1290 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_019673.1](#), [NM_019673.2](#), [NP_062647.1](#), [NP_062647.2](#)
RefSeq Size: 1969 bp

RefSeq ORF: 1290 bp

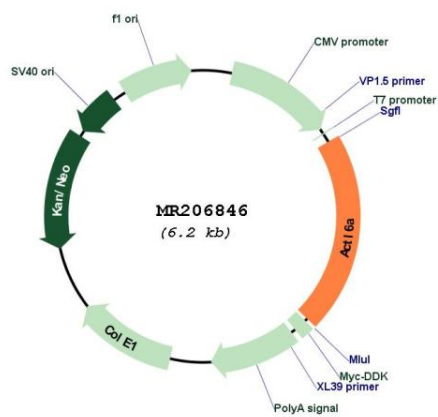
Locus ID: 56456

UniProt ID: [Q9Z2N8](#)
Cytogenetics: 3 A3

MW: 47.4 kDa

Gene Summary: Involved in transcriptional activation and repression of select genes by chromatin remodeling (alteration of DNA-nucleosome topology). Component of SWI/SNF chromatin remodeling complexes that carry out key enzymatic activities, changing chromatin structure by altering DNA-histone contacts within a nucleosome in an ATP-dependent manner. Required for maximal ATPase activity of SMARCA4/BRG1/BAF190A and for association of the SMARCA4/BRG1/BAF190A containing remodeling complex BAF with chromatin/nuclear matrix. Belongs to the neural progenitors-specific chromatin remodeling complex (npBAF complex) and is required for the proliferation of neural progenitors. During neural development a switch from a stem/progenitor to a postmitotic chromatin remodeling mechanism occurs as neurons exit the cell cycle and become committed to their adult state. The transition from proliferating neural stem/progenitor cells to postmitotic neurons requires a switch in subunit composition of the npBAF and nBAF complexes. As neural progenitors exit mitosis and differentiate into neurons, npBAF complexes which contain ACTL6A/BAF53A and PHF10/BAF45A, are exchanged for homologous alternative ACTL6B/BAF53B and DPF1/BAF45B or DPF3/BAF45C subunits in neuron-specific complexes (nBAF). The npBAF complex is essential for the self-renewal/proliferative capacity of the multipotent neural stem cells. The nBAF complex along with CREST plays a role regulating the activity of genes essential for dendrite growth (PubMed:17640523). Component of the NuA4 histone acetyltransferase (HAT) complex which is involved in transcriptional activation of select genes principally by acetylation of nucleosomal histones H4 and H2A. This modification may both alter nucleosome - DNA interactions and promote interaction of the modified histones with other proteins which positively regulate transcription. This complex may be required for the activation of transcriptional programs associated with oncogene and proto-oncogene mediated growth induction, tumor suppressor mediated growth arrest and replicative senescence, apoptosis, and DNA repair. NuA4 may also play a direct role in DNA repair when recruited to sites of DNA damage. Putative core component of the chromatin remodeling INO80 complex which is involved in transcriptional regulation, DNA replication and probably DNA repair (By similarity).[UniProtKB/Swiss-Prot Function]

Product images:



Circular map for MR206846