

## Product datasheet for **RR206892**

### Actl6b (NM\_001105917) Rat Tagged ORF Clone

#### Product data:

Product Type: Expression Plasmids  
 Product Name: Actl6b (NM\_001105917) Rat Tagged ORF Clone  
 Tag: Myc-DDK  
 Symbol: Actl6b  
 Synonyms: Actl6  
 Vector: pCMV6-Entry (PS100001)  
 E. coli Selection: Kanamycin (25 ug/mL)  
 Cell Selection: Neomycin  
 ORF Nucleotide Sequence: >RR206892 representing NM\_001105917  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGAGCGGGGCGTCTACGGCGGAGATGAGGTGGGGCGCTCGTCTTTGACATTGGCTCCTTCTCAGTCC  
 GAGCTGGGTACGCTGGGAGGACTGCCCAAGGCTGACTTCCCCACCAGTGTGGGGCTGTGGCCGAGA  
 AGAGGGGGCGGGCTGGAGCTGGAGGGGAGAAAGAGAAGAAAGGAAGATTTTCCACATCGACACCAAT  
 GCCCTGCACGTGCCTCGGGATGGAGCAGAGGTCAATGTCGCCCCAAGAACGGCATGATTGAGGACTGGG  
 AGTGCTTCCGAGCCATCCTGGATCATACCTACAGCAAACATGTCAAGTCCGAACCAACCTGCACCCAGT  
 ACTCATGTCCGAGGCTCCGTGGAACACTCGGGCAAGCGGGAGAAGCTGCAGAGCTGATGTTCCGAGCAG  
 TACAACATTCTGCCTTCTTATGCAAGACGGCCGTGCTCACAGCCTTTGCAATGGACGCTCCACAG  
 GCCTGGTGTAGACAGCGGGCCACCCACTACAGCCATCCCAGTCCATGATGGCTATGTCCTACAGCA  
 AGGCATCGTCAAGTACCCCTGGCTGGCGACTTCATATCCATGCAGTCCCGGGAGCTCTCCAGGAAATG  
 GCTATTGATATCATCCCTCCTTACATGATTGCTGCCAAGGAGCCTGTACGGGAGGGAGCCCCCAAACT  
 GGAAGAAGAAGGAGAAGCTACCCCAAGTCTCAAGTCTGGCATAACTACATGTGTAACGAGGTGATCCA  
 AGACTTCCAGGCCTCTGTACTGCAGGTGTCTGATTCCCCTTACGATGAACAGGTAGCTGCACAAATGCC  
 ACAGTGCATTATGAAATGCCAATGGCTACAACACAGACTATGGTGTGAGAGACTTCGCATCCCTGAGG  
 GCCTGTTTATCCCTCTAATGTCAAGGGTCTGTCTGGAAACCATGCTAGGAGTGGGTACAGTGGTCCAC  
 CACCAGCATCGGCATGTGTGACATCGACATTCGCCCGGGTCTCTATGGCAGTGTCAATTGCTACTGGCGG  
 AACACTCTGCTTCAGGGTTTACAGACAGACTTAATCGGGAGCTTCCAGAAAGACCCACCGAGCATGC  
 GGCTCAAGCTTATCGCCAGCAACAGCACCATGGAACGCAAGTTCAGCCCCTGGATTGGGGCTCCATCTT  
 GGCCTCACTGGGCAGTTCAGCAGATGTGGATCTCCAAGCAGGAATATGAGGAGGGAGGGAAGCAGTGT  
 GTGGAGCGGAAGTGCCCC

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA



**Protein Sequence:** >RR206892 representing NM\_001105917  
 Red=Cloning site Green=Tags(s)

MSGGVYGGDEVGALVFDIGSFSVRAGYAGEDCPKADFPTTVGLLAAEEGGGLEGEKEKKGKIFHIDTN  
 ALHVP RDGA EVMSPLKNGMI EDWECFRAILDHTYSKHVKSEPNLHPVLMSEAPWNTRAKREKL TELMFEQ  
 YNIPAFFLCKTAVLTA FANGRSTGLVLD SGATHHTAIPVHDGYVLQQGIVKSPLAGDFISMQC RELFQEM  
 AIDIIPPYMIAAKEPVREGAPPNWKKEKLPQVSKSWHNYMCNEVIQDFQASVLQVSDSPYDEQVAAQMP  
 TVHYEMPNGYNTDYGAERLRIPEGLFDPSNVKGLSGNTMLGVGHVVTTSIGMCDIDIRPGLYGSVIVTGG  
 NTL LQGFTDRLNREL SQKTPPSMRLKLIASNSTMERKFS PWIGGSILASLGTFFQQMWISKQEYEEGGKQC  
 VERKCP

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

**Restriction Sites:**

SgfI-MluI

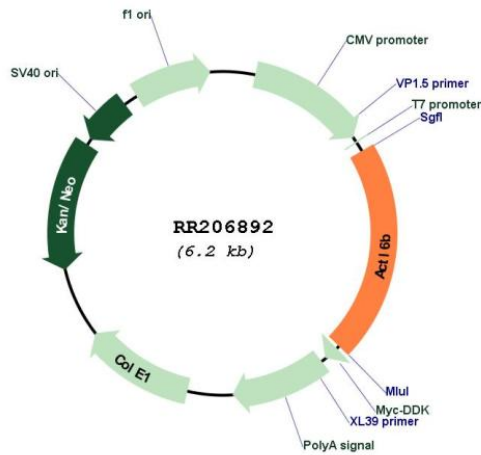
**Cloning Scheme:**

Cloning sites used for ORF Shuttling:



\* The last codon before the Stop codon of the ORF

**Plasmid Map:**



**ACCN:** NM\_001105917

ORF Size:	1278 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. <a href="#">More info</a>
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"><li>1. Centrifuge at 5,000xg for 5min.</li><li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li><li>3. Close the tube and incubate for 10 minutes at room temperature.</li><li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li><li>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.</li></ol>
RefSeq:	<a href="#">NM_001105917.1</a> , <a href="#">NP_001099387.2</a>
RefSeq Size:	1562 bp
RefSeq ORF:	1281 bp
Locus ID:	288563
UniProt ID:	<a href="#">P86173</a>
Cytogenetics:	12q12
MW:	46.9 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. Belongs to the neuron-specific chromatin remodeling complex (nBAF complex), as such plays a role in remodeling mononucleosomes in an ATP-dependent fashion, and is required for postmitotic neural development and dendritic outgrowth. 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. ACTL6B/BAF53B is not essential for assembly of the nBAF complex but is required for targeting the complex and CREST to the promoter of genes essential for dendritic growth. [UniProtKB/Swiss-Prot Function]