

## Product datasheet for **MR207696**

### **Akt1 (NM\_009652) Mouse Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	Akt1 (NM_009652) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Akt1
Synonyms:	Ak; Akt; LTR-akt; PK; PKB; PKB/A; PKB/Akt; PKBalpha; Rac
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin



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**ORF Nucleotide Sequence:**

>MR207696 representing NM\_009652  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGCATCGCC**

ATGAACGACGTAGCCATTGTGAAGGAGGGCTGGCTGCACAAACGAGGGGAATATATATAAACCTGGCGGC  
 CACGCTACTTCCTCCTCAAGAACGATGGCACCTTTATTGGCTACAAGGAACGGCCTCAGGATGTGGATCA  
 GCGAGAGTCCCCACTCAACAACCTTCTCAGTGGCACAATGCCAGCTGATGAAGACAGAGCGGCCAAGGCC  
 AACACCTTTATCATCCGCTGCCTGCAGTGGACCACAGTCAATTGAGCGCACCTTCCATGTGAAACGCCTG  
 AGGAGCGGAAGAATGGGCCACCGCCATTCAGACTGTGGCAGATGGACTCAAGAGGCAGGAAGAAGAGAC  
 GATGGACTTCGATCAGGCTCACCCAGTACAACCTCAGGGGTGAAGAGATGGAGGTGTCCCTGGCCAAG  
 CCCAAGCACCGTGTGACCATGAACGAGTTTGTGACTACCTGAAGCTACTGGCAAGGGCACCTTTGGGAAGG  
 TGATTCTGGTGAAGAGAAGGCCACAGGCCGCTACTATGCCATGAAGATCCTCAAGAAGGAGGTCATCGT  
 CGCAAGGATGAGGTTGCCACACGCTTACTGAGAACCGTGTCTGCAGAACTCTAGGCATCCCTTCTCTT  
 ACGGCCCTCAAGTACTCATTCCAGACCCACGACCGCTCTGCTTTGTTCATGGAGTATGCCAACGGGGGCG  
 AGCTCTTCTTCCACCTGTCTCGAGAGCGTGTGTTCTCCGAGGACCGGGCCGCTTCTATGGTGCGGAGAT  
 TGTGTCTGCCCTGGACTACTTGCCTCCGAGAAGAAGCTGGTGTACCGGGACCTGAAGCTGGAGAACCCTC  
 ATGCTGGACAAGGACGGGCACATCAAGATAACGGACTTCGGGCTGTGCAAGGAGGGGATCAAGGACGGTG  
 CCACTATGAAGACATTCTGCGGAACCGCGGAGTACCTGGCCCCTGAGGTGCTGGAGGACAACGACTACGG  
 CCGTGCAGTGGACTGGTGGGGCTGGCGTGGTGTACGAGATGATGTGTGGCCGCTGCCCTTCTAC  
 AACCAGGACCACGAGAAGCTGTTTCGAGCTGATCCTCATGGAGGAGATCCGCTTCCCGCCACACTCGGCC  
 CTGAGGCCAAGTCCCTGCTCTCCGGCTGCTCAAGAAGGACCCTACACAGAGGCTCGGTGGGGCTCCGA  
 GGATGCCAAGGAGATCATGCAGCACCGTTCTTTGCCAACATCGTGTGGCAGGATGTGTATGAGAAGAAG  
 CTGAGCCACCTTTCAAGCCCCAGGTACCTCTGAGACTGACACCAGGATTTTCGATGAGGAGTTCACAG  
 CTCAGATGATCACCATCACGCCGCTGATCAAGATGACAGCATGGAGTGTGTGGACAGTGAAGGAGGCC  
 GCCTTCCCCAGTTCTCTACTCAGCCAGTGGCACAGCC

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>MR207696 representing NM\_009652  
 Red=Cloning site Green=Tags(s)

MNDVAIVKEGWLHKRGEYIKTWRPRYFLLKNDGTFIGYKERPQDQVQRESPLNNSVAQCQLMKTERPRP  
 NTFIIRCLQWTTVIERTFHVETPEEREWATAIQTVADGLKRQEEETMDFRSGSPSDNSGAEEMEVS  
 LAKPKHRVTMNEFEYLKLLGKGTFGKVILVKEKATGRYYAMKILKKEVIVAKDEVAHTLTENRVLQNSRHPFL  
 TALKYSFQTHDRLCFVMEYANGGELFFHL SRERVFSEDRARFYGAEIVSALDYLHSEKNVYRDLKLENL  
 MLDKDGHIKITDFGLCKEIKDGATMKTFCGTPEYLAPEVLEDNDYGRAVDWWGLGVVYEMMCGRLPFY  
 NQDHEKLFELILMEEIRFPRTLGPPEAKSLLSGLLKKDPTQRLGGSEDAKEIMQHRFFANIVWQDVYEKK  
 LSPPFPKQVTSETDTRYFDEEFTAQMITITPPDQDSDMECVDSERRPHFPQFSYASGTA

**TRTRPLEQKLISEEDLAANDILDYKDDDDKV**

**Chromatograms:**

[https://cdn.origene.com/chromatograms/ja1819\\_a05.zip](https://cdn.origene.com/chromatograms/ja1819_a05.zip)

**Restriction Sites:**

Sgfl-Mlul

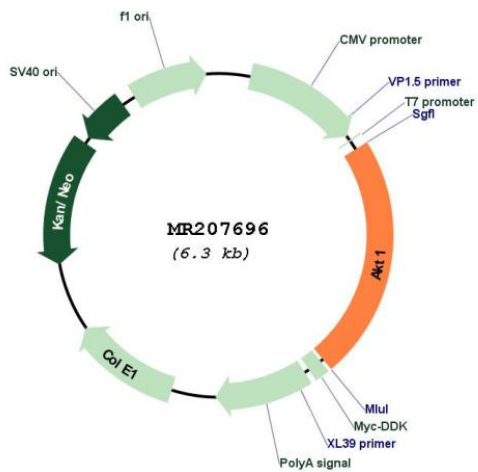
Cloning Scheme:

Cloning sites used for ORF Shutting:



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

Plasmid Map:



ACCN: NM\_009652

ORF Size: 1440 bp

**OTI Disclaimer:** 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](mailto:custsupport@origene.com) or by calling 301.340.3188 option 3 for pricing and delivery.

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\\_009652.3](#), [NP\\_033782.1](#)

**RefSeq Size:** 2707 bp

**RefSeq ORF:** 1443 bp

**Locus ID:** 11651

**UniProt ID:** [P31750](#)

**Cytogenetics:** 12 61.2 cM

**MW:** 56.2 kDa

**Gene Summary:**

This gene encodes the founding member of the Akt serine-threonine protein kinase gene family that also includes Akt2 and Akt3. This kinase is a major downstream effector of the phosphatidylinositol 3-kinase (PI3K) pathway that mediates the effects of various growth factors such as platelet-derived growth factor (PDGF), epidermal growth factor (EGF), insulin and insulin-like growth factor I (IGF-I). It is activated through recruitment to cellular membranes by PI3K lipid products and by phosphorylation by 3-phosphoinositide dependent kinase-1. It then further phosphorylates different downstream proteins in response to various extracellular signals and thus plays a pivotal role in mediating a variety of cellular processes, such as glucose metabolism, glycogen biosynthesis, protein synthesis and turn over, inflammatory response, cell survival (anti-apoptosis) and development. Alternatively spliced transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Sep 2009]