

Product datasheet for **RC217733**

AKT2 (NM_001626) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	AKT2 (NM_001626) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	AKT2
Synonyms:	HIHGHH; PKBB; PKBBETA; PRKBB; RAC-BETA
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



[View online »](#)

ORF Nucleotide Sequence:

>RC217733 representing NM_001626
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGAATGAGGTGTCTGTATCAAAAGAAGGCTGGCTCCACAAGCGTGGTGAATACATCAAGACCTGGAGGC
 CACGGTACTTCTGCTGAAGAGCGACGGCTCCTTCATTGGGTACAAGGAGAGGCCCGAGGCCCTGATCA
 GACTCTACCCCTTAAACAACCTTCCCGTAGCAGAATGCCAGCTGATGAAGACCGAGAGGCCCGCACCC
 AACACCTTTGTACATCGCTGCCTGCAGTGGACCACAGTATCGAGAGGACCTTCCACGTGGATTCTCCAG
 ACGAGAGGGAGGAGTGGATGCGGGCCATCCAGATGGTCCGCAACAGCCTCAAGCAGCGGGCCCCAGGCGA
 AGACCCCATGGACTACAAGTGTGGCTCCCCAGTACTCCTCCACGACTGAGGAGATGGAAGTGGCGGTC
 AGCAAGGCACGGGCTAAAGTGACCATGAATGACTTCGACTATCTCAAACCTTTGGCAAGGGAACCTTTG
 GCAGAGTCATCCTGGTGCAGGAGAAGGCCACTGGCCGCTACTACGCCATGAAGATCCTGCGGAAGGAAGT
 CATCATTGCCAAGGATGAAGTCGCTCACACAGTACCCGAGAGCCGGGCTCCTCAGAACACCGGCACCCG
 TTCTCCTACTGCGCTGAAGTATGCCTCCAGACCCACGACCGCCTGTGCTTTGTGATGGAGATGCCAACG
 GGGGTGAGCTGTTCTCCACCTGTCCCGGAGCGTGTCTTACAGAGGAGCGGGCCCGGTTTATGTTGC
 AGAGATTGCTCGGCTCTTGAGTACTTGCCTCGCGGGACGTGGTATACCGCGACATCAAGCTGGAAAAAC
 CTCATGCTGGACAAAGATGGCCACATCAAGTACTGACTTTGGCCTCTGCAAAGAGGGCATCAGTGACG
 GGGCCACCATGAAAACCTTCTGTGGGACCCGGAGTACCTGGCGCCTGAGGTGCTGGAGGACAATGACTA
 TGGCCGGGCCGTGGACTGGTGGGGGCTGGTGTGGTCAGTACGAGATGATGTGCGGCCGCTGCCTTC
 TACAACAGGACCAGAGCGCTCTTCGAGTCACTCCTCATGGAAGAGATCCGCTTCCCGGCACGCTCA
 GCCCGAGGCCAAGTCCCTGCTTGTGGGCTGCTTAAGAAGGACCCCAAGCAGAGGCTTGGTGGGGGCC
 CAGCGATGCCAAGGAGGTCATGGAGCACAGGTTCTTCTCAGCATCAAAGTGGCAGGACGTGGTCCAGAAG
 AAGCTCCTGCCACCTTCAAACCTCAGGTCACGTCGAGGTCGACACAAGTACTTCGATGATGAATTTA
 CCGCCAGTCCATCAAAATCACACCCCTGACCGCTATGACAGCCTGGGCTTACTGGAGCTGGACCAGCG
 GACCCACTTCCCGAGTCTCCTACTCGGCCAGCATCCGCGAG

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC217733 representing NM_001626
 Red=Cloning site Green=Tags(s)

MNEVSVIKGWLHKGREYIKTWRPRYFLLKSDGSFIGYKERPEAPDQTLPLNFSVAECQLMKTERPRP
 NTFVIRCLQWTTVIERTFHVDSNDEREEMRAIQMVANSLKQRAPGEDPMDYKCGSPSDSSTTEEMEVAV
 SKARAKVTMNDFDYLKLLGKGTFRVILVREKATGRYYAMKILRKEVIIAKDEVAHTVTESRVLQNRHP
 FLTALKYAFQTHDRLCFVMEYANGGELFFHL SRERVFTEERARFYGAEIVSALEYLHSRDVYRDIKLEN
 LMLDKDGHKIDTDFGLCKEGISDGATMKTFCGTPEYLAPEVLEDNDYGRAVDWWGLGVVYEMMCGRLPF
 YNQDHERLFELILMEEIRFPRTLSPKASLLAGLLKDPKQRLGGGSPDAKEVMEHRFFLSINWQDVVQK
 KLLPPFKPQVTSEVDTRYFDDEFTAQSITITPPDRYDSLGLLELDQRTHFPQFSYSASIRE

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms:

https://cdn.origene.com/chromatograms/mk6104_e08.zip

Restriction Sites:

Sgfl-Mlul

Cloning Scheme:


ACCN: NM_001626

ORF Size: 1443 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 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](#)

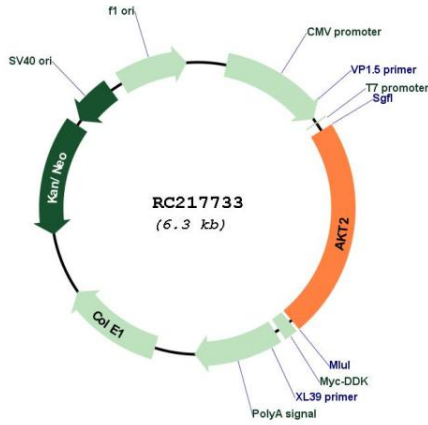
OTI Annotation: This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

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).

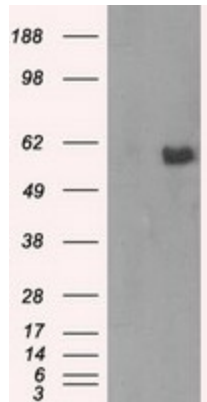
- Reconstitution Method:**
1. Centrifuge at 5,000xg for 5min.
 2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
 3. Close the tube and incubate for 10 minutes at room temperature.
 4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the 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.

Note:	Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.
RefSeq:	NM_001626.6
RefSeq Size:	1715 bp
RefSeq ORF:	1446 bp
Locus ID:	208
UniProt ID:	P31751
Cytogenetics:	19q13.2
Protein Families:	Druggable Genome, ES Cell Differentiation/IPS, Protein Kinase
Protein Pathways:	Acute myeloid leukemia, Adipocytokine signaling pathway, Apoptosis, B cell receptor signaling pathway, Chemokine signaling pathway, Chronic myeloid leukemia, Colorectal cancer, Endometrial cancer, ErbB signaling pathway, Fc epsilon RI signaling pathway, Fc gamma R-mediated phagocytosis, Focal adhesion, Glioma, Insulin signaling pathway, Jak-STAT signaling pathway, MAPK signaling pathway, Melanoma, mTOR signaling pathway, Neurotrophin signaling pathway, Non-small cell lung cancer, Pancreatic cancer, Pathways in cancer, Progesterone-mediated oocyte maturation, Prostate cancer, Renal cell carcinoma, Small cell lung cancer, T cell receptor signaling pathway, Tight junction, Toll-like receptor signaling pathway, VEGF signaling pathway
MW:	55.6 kDa
Gene Summary:	This gene is a putative oncogene encoding a protein belonging to a subfamily of serine/threonine kinases containing SH2-like (Src homology 2-like) domains, which is involved in signaling pathways. The gene serves as an oncogene in the tumorigenesis of cancer cells. For example, its overexpression contributes to the malignant phenotype of a subset of human ductal pancreatic cancers. The encoded protein is a general protein kinase capable of phosphorylating several known proteins, and has also been implicated in insulin signaling. [provided by RefSeq, Nov 2019]

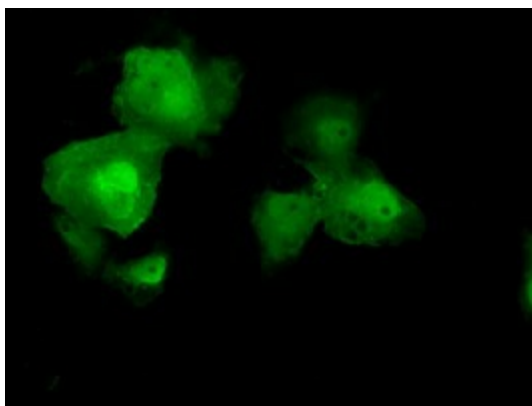
Product images:



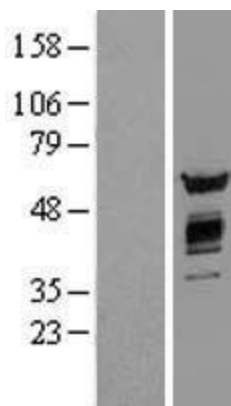
Circular map for RC217733



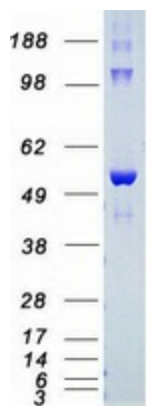
HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY AKT2 (Cat# RC217733, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-AKT2 (Cat# [TA500814]). Positive lysates [LY419836] (100ug) and [LC419836] (20ug) can be purchased separately from OriGene.



Anti-AKT2 mouse monoclonal antibody (TA500814) immunofluorescent staining of COS7 cells transiently transfected by pCMV6-ENTRY AKT2 (RC217733).



Western blot validation of overexpression lysate (Cat# [LY419836]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC217733 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified AKT2 protein (Cat# [TP317733]). The protein was produced from HEK293T cells transfected with AKT2 cDNA clone (Cat# RC217733) using MegaTran 2.0 (Cat# [TT210002]).