

Product datasheet for **RC220257**

AKT1 (NM_005163) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	AKT1 (NM_005163) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	AKT1
Synonyms:	AKT; CWS6; PKB; PKB-ALPHA; PRKBA; RAC; RAC-ALPHA
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin



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ORF Nucleotide
Sequence:

>RC220257 ORF sequence
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGAGCGACGTGGCTATTGTGAAGGAGGGTTGGCTGCACAAACGAGGGGAGTACATCAAGACCTGGCGGC
CACGCTACTTCCCTCAAGAATGATGGCACCTTCATTGGCTACAAGAGCGGCCGAGGATGTGGACCA
ACGTGAGGCTCCCTCAACAACCTCTCTGTGGCGCAGTGCCAGCTGATGAAGACGGAGCGGCCCGGCC
AACACCTTCATCATCCGCTGCCTGCAGTGGACCTGTGATCGAACGCACCTTCCATGTGGAGACTCTG
AGGAGCGGGAGGAGTGGACAACCGCCATCCAGACTGTGGCTGACGGCCTCAAGAAGCAGGAGGAGGGA
GATGGACTTCCGGTGGGCTCACCCAGTGAACAACCTCAGGGGCTGAAGAGATGGAGGTGTCCCTGGCCAA
CCCAAGCACCGCTGACCATGAACGAGTTTGTGACTGACCTGAAGCTGCTGGCAAGGGCAGCTTTCGGCAAG
TGATCCTGGTGAAGGAGAAGGCCACAGGCCGCTACTACGCCATGAAGATCCTCAAGAAGGAAGTCATCGT
GGCCAAGGACGAGTGGCCACACACTCACCGAGAACCGCTCCTGCAGAACTCCAGGCACCCCTTCTCTC
ACAGCCCTGAAGTACTTTCCAGACCCACGACCGCTCTGCTTGTGATGGAGTACGCCAACGGGGGCG
AGCTGTTCTTCCACCTGTCCCGGAACGTGTGTTCTCCGAGGACCGGGCCGCTTCTATGGCGTGAGAT
TGTGTCAGCCCTGGACTACCTGCACTCGGAGAAGAAGCTGGTGTACCGGGACCTCAAGCTGGAGAACCTC
ATGCTGGACAAGGACGGGCACATTAAGATCACAGACTTCGGGCTGTGCAAGGAGGGGATCAAGGACGGTG
CCACATGAAGACCTTTTGCGGCACACCTGAGTACCTGGCCCCGAGGTGCTGGAGGACAATGACTACGG
CCGTGCAGTGGACTGGTGGGGCTGGGCGTGGTGTACGAGATGATGTGCGGTGCGCTGCCCTTCTAC
AACCAGGACCATGAGAAGCTTTTGTGCTCATCCTCATGGAGGAGATCCGCTTCCCGCCAGCAGCTTGGTC
CCGAGGCCAAGTCTTGTCTTTCAGGGCTGCTCAAGAAGGACCCCAAGCAGAGGCTTGGCGGGGCTCCGA
GGACGCCAAGGAGATCATGCAGCATCGCTTCTTTGCGGTATCGTGTGGCAGCAGTGTACGAGAAGAAG
CTCAGCCACCCCTCAAGCCCCAGTACGTCGGAGACTGACACCAGGTATTTTGTGAGGAGTTACGG
CCCAGATGATCACCATCACACCCTGACCAAGATGACAGCATGGAGTGTGTGGACAGCAGCGCAGGCC
CCACTTCCCCAGTTCTCTACTCGGCCAGCGGCACGGCC

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC220257 protein sequence
Red=Cloning site Green=Tags(s)

MSDVAIVKEGWLHKRGEYIKTWRPRYFLLKNDGTFIGYKERPQDQVQREAPLNNFSVAQCQLMKTERPRP
NTFIIRCLQWTTVIERTFHVETPEEREWTTAIQTVADGLKKQEEEEEMDFRSGSPSDNSGAEEMEVS
LAKPKHRVTMNEFEYLKLLGKGTFGKVILVKEKATGRYYAMKILKKEVIVAKDEVAHTLTENRVLQNSRHPFL
TALKYSFQTHDRLCFVMEYANGGELFFHL SRERVFSEDRARFYGAIEVSALDYLHSEKNVYRDLKLENL
MLDKDGHIKITDFGLCKEIKDGATMKTFCGTPEYLAPEVLEDNDYGRAVDWWGLGVVYEMMCGRLPFY
NQDHEKLFELILMEEIRFPRTLGPPEAKSLLSGLLKKDPKQRLGGSEDAKEIMQHRFFAGIYWQHVYEKK
LSPPFPKQVTSETDRYFDEEFTAQMITITPPDQDSDMECVDSERRPHFPQFSYASGTA

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms:

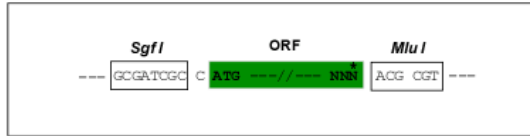
https://cdn.origene.com/chromatograms/mk6582_h03.zip

Restriction Sites:

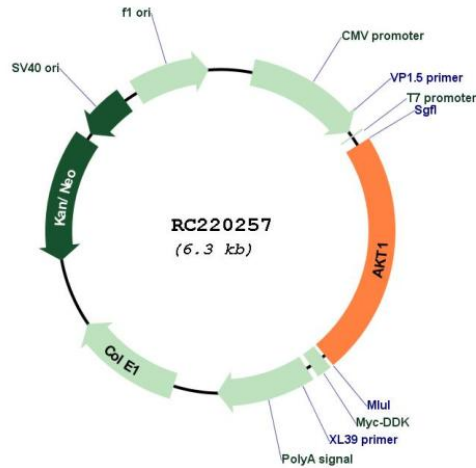
SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:



* The last codon before the Stop codon of the ORF

Plasmid Map:


ACCN: NM_005163

ORF Size: 1440 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.

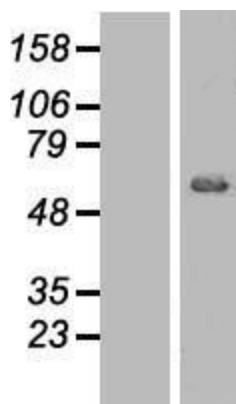
RefSeq: [NM_005163.1](#), [NM_005163.2](#), [NP_005154.2](#)

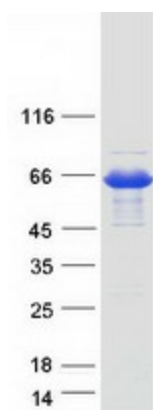
RefSeq Size: 3008 bp

RefSeq ORF: 1443 bp

Locus ID:	207
Domains:	pkinase, S_TK_X, TyrKc, PH, S_TKc
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:	55.7 kDa
Gene Summary:	The serine-threonine protein kinase encoded by the AKT1 gene is catalytically inactive in serum-starved primary and immortalized fibroblasts. AKT1 and the related AKT2 are activated by platelet-derived growth factor. The activation is rapid and specific, and it is abrogated by mutations in the pleckstrin homology domain of AKT1. It was shown that the activation occurs through phosphatidylinositol 3-kinase. In the developing nervous system AKT is a critical mediator of growth factor-induced neuronal survival. Survival factors can suppress apoptosis in a transcription-independent manner by activating the serine/threonine kinase AKT1, which then phosphorylates and inactivates components of the apoptotic machinery. Mutations in this gene have been associated with the Proteus syndrome. Multiple alternatively spliced transcript variants have been found for this gene. [provided by RefSeq, Jul 2011]

Product images:





Coomassie blue staining of purified AKT1 protein (Cat# [TP320257]). The protein was produced from HEK293T cells transfected with AKT1 cDNA clone (Cat# RC220257) using MegaTran 2.0 (Cat# [TT210002]).