

Product datasheet for **RG220257**

AKT1 (NM_005163) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	AKT1 (NM_005163) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	AKT1
Synonyms:	AKT; CWS6; PKB; PKB-ALPHA; PRKBA; RAC; RAC-ALPHA
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)
Cell Selection:	Neomycin



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ORF Nucleotide Sequence:

>RG220257 representing NM_005163
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGATCGCC**

ATGAGCGACGTGGCTATTGTGAAGGAGGTTGGCTGCACAACGAGGGGAGTACATCAAGACCTGGCGGC
 CACGCTACTTCTCTCAAGAATGATGGCACCTTCATTGGCTACAAGGAGCGGCCGAGGATGTGGACCA
 ACGTGAGGCTCCCTCAACAACCTCTCTGTGGCGCAGTGCCAGCTGATGAAGACGGAGCGGCCCGGCC
 AACACCTTCATCATCCGCTGCCTGCAGTGGACCACTGTCATCGAACGCACCTTCCATGTGGAGACTCCTG
 AGGAGCGGGAGGAGTGGACAACCGCCATCCAGACTGTGGCTGACGGCCTCAAGAAGCAGGAGGAGGAGGA
 GATGGACTTCCGGTGGGCTCACCCAGTGACAACCTCAGGGGCTGAAGAGATGGAGGTGTCCCTGGCCAAG
 CCCAAGCACCGCTGACCATGAACGAGTTTGTAGTACCTGAAGCTGCTGGCAAGGGCACTTTCGCAAGG
 TGATCCTGGTGAAGGAGAAGGCCACAGCGCGTACTACCCATGAAGATCCTCAAGAAGGAAGTCATCGT
 GGCCAAGGACGAGGTGGCCACACACTACCGAGAACCGCTCCTGCAGAACTCCAGGCACCCCTTCTCTC
 ACAGCCCTGAAGTACTCTTCCAGACCCACGACCGCTCTGCTTGTGATGGAGTACGCCAACGGGGGCC
 AGCTGTTCTTCCACCTGTCCCGGAACGTGTGTCTCCGAGGACCGGGCCGCTTCTATGGCGCTGAGAT
 TGTGTCAGCCCTGGACTACCTGCACTCGGAGAAGAAGTGGTGTACCGGGACCTCAAGCTGGAGAACCTC
 ATGCTGGACAAGGACGGGCACATTAAGATCACAGACTTCGGGCTGTGCAAGGAGGGGATCAAGGACGGTG
 CCACATGAAGACCTTTTGCGGCACCTGAGTACCTGGCCCCGAGGTGCTGGAGGACAATGACTACGG
 CCGTGCAGTGGACTGGTGGGGCTGGCGTGGTGTACGTACGAGATGATGTGCGGTGCGCTGCCCTTCTAC
 AACAGGACCATGAGAAGCTTTTGTAGTACCTCATGGAGGAGATCCGCTTCCCGCGCACGCTTGGTC
 CCGAGGCCAAGTCTTGTCTTTCAGGGCTGCTCAAGAAGGACCCCAAGCAGAGGCTTGGCGGGGCTCCGA
 GGAGGCCAAGGAGATCATGCAGCATCGCTTCTTTCGCGGTATCGTGTGGCAGCACGTGTACGAGAAGAAG
 CTCAGCCACCCCTTCAAGCCCCAGTTCAGTTCGGAGACTGACACCAGGATTTTTGATGAGGAGTTCACGG
 CCCAGATGATCCATCACACCCTGACCAAGATGACAGCATGGAGTGTGTGGACAGCGAGCGCAGGCC
 CCACTTCCCCAGTTCTCTACTCGGCCAGCGGCACGGCC

ACGCGTACGCGGGCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence:

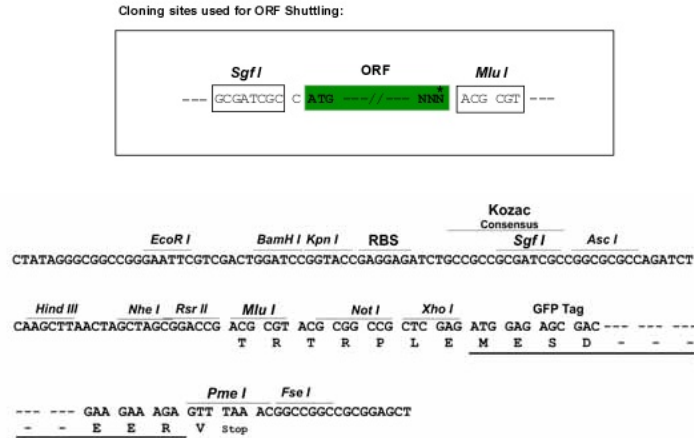
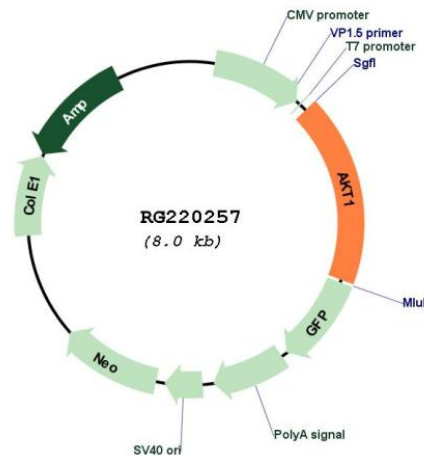
>RG220257 representing NM_005163
 Red=Cloning site Green=Tags(s)

MSDVAIVKEGWLHKGREYIKTWRPRYFLLKNDGTFIGYKERPDVDQREAPLNNFSVAQCQLMKTERPRP
 NTFIIRCLQWTTVIERTFHVETPEEREWTTAIQTVADGLKKQEEEEEMDFRSGSPSDNSGAEEMEVS
 LAKPKHRVTMNEFEYLKLLGKGTFGKVILVKEKATGRYYAMKILKKEVIVAKDEVAHTLTENRVLQNSRHPFL
 TALKYSFQTHDRLCFVMEYANGGELFFHL SRERVFSEDRARFYGAEIVSALDYLHSEKNVYRDLKLENL
 MLDKDGHKIDTDFGLCKEIKDGATMKTFCGTPEYLAPEVLEDNDYGRAVDWWGLGVVMEYEMMCGRLPFY
 NQDHEKLFELILMEEIRFPRTLGPPEAKSLLSGLLKKDPKQRLGGGSEDAKEIMQHRFFAGIVWQHVVYEKK
 LSPPFKPQVTSETDTRYFDEEFTAQMITITPPDQDSDMECVDSERRPHFPQFSYASGTA

TRTRPLE - GFP Tag - V

Restriction Sites:

SgfI-MluI

Cloning Scheme:

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_005163.2](#), [NP_005154.2](#)
RefSeq Size: 3008 bp

RefSeq ORF:	1443 bp
Locus ID:	207
Cytogenetics:	14q32.33
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
Gene Summary:	<p>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]</p>