

Product datasheet for **SC323570**

AKT2 (NM_001626) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	AKT2 (NM_001626) Human Untagged Clone
Tag:	Tag Free
Symbol:	AKT2
Synonyms:	HIHGHH; PKBB; PKBBETA; PRKBB; RAC-BETA
Mammalian Cell Selection:	None
Vector:	<u>pCMV6-XL5</u>
E. coli Selection:	Ampicillin (100 ug/mL)



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Fully Sequenced ORF: >OriGene ORF within SC323570 sequence for NM_001626 edited (data generated by NextGen Sequencing)

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ATGAATGAGGTGTCTGTTCATCAAAGAAGGCTGGCTCCACAAGCGTGGTGAATACATCAAG
ACCTGGAGGCCACGGTACTTCTGCTGAAGAGCGACGGCTCCTTCATTGGGTACAAGGAG
AGGCCCGAGGCCCTGATCAGACTCTACCCCTTAAACAACCTTCCGTAGCAGAATGC
CAGCTGATGAAGACCGAGAGGCCGCGACCAACACCTTTGTCATACGCTGCCTGCAGTGG
ACCACAGTCATCGAGAGGACCTTCCACGTGGATTCTCCAGACGAGAGGGAGGAGTGGATG
CGGGCCATCCAGATGGTCGCCAACAGCCTCAAGCAGCGGGCCAGGCGAGGACCCCATG
GACTACAAGTGTGGCTCCCCAGTACTCTCCACGACTGAGGAGATGGAAGTGGCGGTC
AGCAAGGCACGGGCTAAAGTGACCATGAATGACTTCGACTATCTCAAACCTTTGGCAAG
GGAACCTTTGGCAGAGTCATCCTGGTGGGAGAAAGGCCACTGGCCGCTACTACGCCATG
ATGATCCTGCGGAAGGAAGTCATCATTGCCAAGGATGAAGTCGCTCACACAGTCACCGAG
AGCCGGGCTCTCCAGAACACCAGGCACCCGTTCTCACTGCGCTGAAGTATGCCTCCAG
ACCCACGACCCGCTGTGCTTTGTGATGGAGTATGCCAACGGGGGTGAGCTGTTCTCCAC
CTGTCCCGGGAGCGTGTCTTACAGAGGAGCGGGCCCGTTTTATGGTGCAGAGATTGTC
TCGGCTCTTGAGTACTTGCACCTCGCGGACGTGGTATACCGCGACATCAAGCTGGAAAAC
CTCATGTGGACAAGATGGCCACATCAAGATCACTGACTTTGGCTCTGCAAAGAGGGC
ATCAGTGACGGGGCCACCATGAAAACCTTCTGTGGGACCCCGAGTACCTGGCGCCTGAG
GTGCTGGAGGACAATGACTATGGCCGGGCGGTGGACTGGTGGGGGCTGGGTGTGGTCATG
TACGAGATGATGTGCGGCCGCTGCCCTTCTACAACCAGGACCACGAGCGCCTCTTCGAG
CTCATCCTCATGGAAGAGATCCGCTTCCCGCGCACGCTCAGCCCCGAGGCCAAGTCCCTG
CTTGCTGGGCTGCTTAAAGAAGACCCCAAGCAGAGGCTTGGTGGGGGGCCAGCGATGCC
AAGGAGTCAATGAGACAGGTTCTTCTCAGCATCAACTGGCAGGACGTGGTCCAGAAAG
AAGCTCCTGCCACCCCTTCAAACCTCAGGTACGTCAGTCCGAGGTCGACACAAGTACTTCGAT
GATGAATTTACCGCCAGTCCATCACAATCACACCCCTGACCGCTATGACAGCCTGGGC
TTACTGGAGCTGGACCAGCGGACCCACTTCCCCAGTTCTCTACTCGGCCAGCATCCGC
GAGTGA
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Clone variation with respect to NM_001626.4
494 a=>g;542 a=>t

5' Read Nucleotide Sequence:

>OriGene 5' read for mutant NM_001626 unedited

```
CCGCCCCGTTGTAGCAATGGGCGGTAGGCGTGTACGGTGGGAGGTCTATATAAGCAGAGCTCGTTTGTGA
ACCGTCAGAAATTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGGCACGAGGGAAACACAAGGAA
AGGGAACCAGCGCAGCGTGGCGATGGGCGGGGTAGAGCCCCCGGAGAGGCTGGGCGGCTGCCGGTGA
CAGACTGTGCCCTGTCCACGGTGCCTCTGCATGCTCTGCTGCCCTGAGCTGTCCCGAGCTAGGTGACAG
CGTACCACGCTGCCACCATGAATGAGGTGTCTGTCAATCAAAGAAGGCTGGCTCCACAAGCGTGGTGAATA
CATCCAAGACCTGGAGGCCACGGTACTTTCTGCTGAAAGAAGCGACGGCTTCTTCATTGGGTCCAAG
GAGAAGGCCGAAGGCCCCCTGGATCCAGAACTCTACCCCCCTTAAACAACCTTTTCCGAACCAAATTGC
CACCTGGAAGGAGAAACCGAAAGGCCCCGACCCACCCCTTTTCTATACGCTGCTGCGATGTGGCACCAC
AGCAATGAGAGAGGACCTTTACCTGGATTTTCTCCACAAAAGGGAAGAGATGTGAATGCGGCCCATCG
ATAGGGGCCACACACCCTAACGCGGGGGCCGCGCAGAGCCCCCTGGGCACACATGTGTGTCTCCCATG
AGACTCTCCCCTCTGAGATGTGATGTGCGTCACAGGGCGCAAGTGCACGATGAGACTACACTCAACCTT
TGGGAGAGACCTTCGAGATTCTCGTGTGGAAGGCCTTGCCATATACCGTGATATCGCGAGAGATTCTG
TCGCAGATATGTTCCAATTCTAGACGCCGCTATCAAGCCGCTCCG
```

Kinase Domain Sequence:

>SC323570 kinase domain raw sequence. By performing [BLASTX](#) analysis with this sequence against NCBI reference protein database, you can confirm the presence of the kinase-deficient mutation

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ACTCACTCCTTGGCAGGGACCTTTGGCAGAGTCATCCTGGTGGGAGAAAGGCCACTGGCCGCTACTACG
CCATGATGATCCTGCGGAAGGAAGTCATCATTGCCAAGGATGAAGTCGCTCACACAGTCACCGAGAGCCG
GGTCTCCAGAACACCAGGCACCCGTTCTCACTGCGCTGAAGTATGCCTTCCAGACCCAGACCCGCTG
TGCTTTGTGATGGAGTATGCCAACGGGGTGGAGCTGTTCTCCAC
```

Restriction Sites:	Please inquire
ACCN:	NM_001626
Insert Size:	1900 bp
OTI Disclaimer:	<p>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.</p> <p>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</p>
OTI Annotation:	<p>This kinase-deficient mutant clone was generated by created by site-directed mutagenesis from the corresponding wild-type clone. See details in "Application of active and kinase-deficient kinome collection for identification of kinases regulating hedgehog signaling." Cell. 2008 May p536-548.</p>
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">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_001626.2 , NP_001617.1
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

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]

Transcript Variant: This variant (1) represents the longest transcript and encodes the longest isoform (1). Sequence Note: This RefSeq record was created from transcript and genomic sequence data to make the sequence consistent with the reference genome assembly. The genomic coordinates used for the transcript record were based on transcript alignments.