OriGene Technologies, Inc.
9620 Medical Center Drive, Ste 200
Rockville, MD 20850, US
Phone: +1-888-267-4436
https://www.origene.com
techsupport@origene.com
EU: info-de@origene.com
CN: techsupport@origene.cn

Product datasheet for SC323488

CAMK2B (NM_172078) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	CAMK2B (NM_172078) Human Untagged Clone
Tag:	Tag Free
Symbol:	CAMK2B
Synonyms:	CAM2; CAMK2; CAMKB; CaMKIIbeta; MRD54
Mammalian Cell Selection:	None
Vector:	pCMV6-XL4
E. coli Selection:	Ampicillin (100 ug/mL)

View online »

Fully Sequenced ORF:

>OriGene ORF within SC323488 sequence for NM_172078 edited (data generated by NextGen Sequencing)

ATGGCCACCACGGTGACCTGCACCCGCTTCACCGACGAGTACCAGCTCTACGAGGATATT
GGCAAGGGGGCTTTCTCTGTGGTCCGACGCTGTGTCAAGCTCTGCACCGGCCATGAGTAT
GCAGCCAAGATCATCAACACCAAGAAGCTGTCAGCCAGAGATCACCAGAAGCTGGAGAGA
GAGGCTCGGATCTGCCGCCTTCTGAAGCATTCCAACATCGTGCGTCTCCACGACAGCATC
TCCGAGGAGGGCTTCCACTACCTGGTCTTCGATCTGGTCACTGGTGGGGAGCTCTTTGAA
GACATTGTGGCGAGAGAGTACTACAGCGAGGCTGATGCCAGTCACTGTATCCAGCAGATC
CTGGAGGCCGTTCTCCATTGTCACCAAATGGGGGTCGTCCACAGAGACCTCAAGCCGGAG
AACCTGCTTCTGGCCAGCAAGTGCAAAGGGGCTGCAGTGAAGCTGGCAGACTTCGGCCTA
GCTATCGAGGTGCAGGGGGACCAGCAGGCATGGTTTGGTTTCGCTGGCACACCAGGCTAC
CTGTCCCCTGAGGTCCTTCGCAAAGAGGCGTATGGCAAGCCTGTGGACATCTGGGCATGT
GGGGTGATCCTGTACATCCTGCTCGTGGGCTACCCACCCTTCTGGGACGAGGACCAGCAC
AAGCTGTACCAGCAGATCAAGGCTGGTGCCTATGACTTCCCGTCCCCTGAGTGGGACACC
GTCACTCCTGAAGCCAAAAACCTCATCAACCAGATGCTGACCATCAACCCTGCCAAGCGC
ATCACAGCCCATGAGGCCCTGAAGCACCCGTGGGTCTGCCAACGCTCCACGGTAGCATCC
ATGATGCACAGACAGGAGACTGTGGAGTGTCTGAAAAAGTTCAATGCCAGGAGAAAGCTC
AAGGGAGCCATCCTCACCACCATGCTGGCCACACGGAATTTCTCAGTGGGCAGACAGACC
ACCGCTCCGGCCACAATGTCCACCGCGGCCTCCGGCACCACCATGGGGCTGGTGGAACAA
GCCAAGAGTTTACTCAACAAGAAAGCAGATGGAGTCAAGCCCCAGACGAATAGCACCAAA
AACAGTGCAGCCGCCACCAGCCCCAAAGGGACGCTTCCTCCTGCCGCCCTGGAGCCTCAA
ACCACCGTCATCCATAACCCAGTGGACGGGATTAAGGAGTCTTCTGACAGTGCCAATACC
ACCATAGAGGATGAAGACGCTAAAGCCCGGAAGCAGGAGATCATTAAGACCACGGAGCAG
CTCATCGAGGCCGTCAACAACGGTGACTTTGAGGCCTACGCGAAAATCTGTGACCCAGGG
CTGACCTCGTTTGAGCCTGAAGCACTGGGCAACCTGGTTGAAGGGATGGACTTCCACAGA
TTCTACTTCGAGAACCTGCTGGCCAAGAACAGCAAGCCGATCCACACGACCATCCTGAAC
CCACACGTGCACGTCATTGGAGAGGATGCCGCCTGCATCGCTTACATCCGGCTCACGCAG
TACATTGACGGGCAGGGCCGGCCCCGCACCAGCCAGTCTGAGGAGACCCGCGTGTGGCAC
CGCCGCGACGGCAAGTGGCAGAACGTGCACTTCCACTGCTCGGGCGCGCCTGTGGCCCCG
CTGCAGTGA

Clone variation with respect to NM_172078.2

5' Read Nucleotide Sequence:

>OriGene 5' read for mutant NM_172078 unedited

CCCGCCGTCTGAGCAATGGGCGGTAGGCGTGTACGGTGGGAGGTCTATATAAGCAGAGCTCGTTTAGTGA
ACCGTCAGAATTTTGTAATACGACTCACTATAGGGCGGCCGCGAATTCGGCACGAGGCGGGAGCCGGAGT
CGCCGCCGCCCGAGCGCAGCCGAGCGCACGCCGAGCCCGTCCGCCGCCGCCATGGCCACCACGGTGACCT
GCACCCGCTTCACCGACGAGTACCAGCTCTACGAGGATATTGGCAAGGGGGCTTTCTCTGTGGTCCGACG
CTGTGTCAAGCTCTGCACCGGCCATGAGTATGCAGCCATGATCATCAACACCAAGAAGCTGTCAGCCAGA
GATCACCAGAAGCTGGAGAGAGAGGCTCGGATCTGCCGCCTTCTGAAGCATTCCACATCGTGCGTCTCCA
CGACAGCATCTCCGGAGGAGGGCTTCCACTACCTGGTCCTTCGATCTGTTCACTGGGTGGGGGAGCTTCT
TTGAAGACTTGGTGGCGAAGAGAGTACTACAGCCGAGGCCTGGATGCAGTCACTTGTATCCAGCAGATCC
CTGGGAGGGCCGTCCTCCTTGGCCCCAAATGGGGGTCGTCCCCAGAGACCTCAGCCCGGAAACCTGCTTC
TGGCACGCAGTGCAAAGGGGCTGCATGGAGCTGGCAATTCGGCTAGCTATCAGTCCAGGGGACAGCGGCA
TGTTGGTCTCTTGCACCGGCACTGTCCCTGGTCCTCCAAAGCTACGGACCTGGACCTGGCATGGGGATCT
CGAACATCGTCTTGGCCACCACCATCTGACAAAAAAAAGCGAA

Kinase Domain Sequence:	>SC323488 kinase domain raw sequence. By performing BLASTX analysis with this sequence against NCBI refernce protein database, you can confirm the presence of the kinase-deficient mutation CCCTGMGCAATGGGCGGTAGGCGTGTACGGTGGGAGGTCTATATAAGCAGAGCTCGTTTAGTGAACCGTC AGAATTTTGTAATACGACTCACTATAGGGCGGCCGCGAATTCGGCACGAGGCGGGAGCCGGAGTCGCCGC CGCCCGAGCGCAGCCGAGCGCACGCCGAGCCCGTCCGCCGCCGCCATGGCCACCACGGTGACCTGCACCC GCTTCACCGACGAGTACCAGCTCTACGAGGATATTGGCAAGGGGG
Restriction Sites:	Please inquire
ACCN:	NM_172078
Insert Size:	1920 bp
OTI Disclaimer:	Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).
OTI Annotation:	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.
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_172078.1, NP_742075.1
RefSeq Size:	2066 bp
RefSeq ORF:	1629 bp
Locus ID:	816
UniProt ID:	Q13554
Cytogenetics:	7p13
Protein Families:	Druggable Genome, Protein Kinase
Protein Pathways:	Calcium signaling pathway, ErbB signaling pathway, Glioma, GnRH signaling pathway, Long-term potentiation, Melanogenesis, Neurotrophin signaling pathway, Olfactory transduction, Oocyte meiosis, Wnt signaling pathway

Gene Summary: The product of this gene belongs to the serine/threonine protein kinase family and to the Ca(2+)/calmodulin-dependent protein kinase subfamily. Calcium signaling is crucial for several aspects of plasticity at glutamatergic synapses. In mammalian cells, the enzyme is composed of four different chains: alpha, beta, gamma, and delta. The product of this gene is a beta chain. It is possible that distinct isoforms of this chain have different cellular localizations and interact differently with calmodulin. Alternative splicing results in multiple transcript variants. [provided by RefSeq, May 2014]
Transcript Variant: This variant (2) lacks an in-frame segment of the coding region, compared to variant 1. It encodes a shorter isoform (2) that is missing an internal segment compared to isoform 1. Variants 2 and 9 encode the same protein (isoform 2). Sequence Note: The RefSeq transcript and protein were derived from transcript and genomic sequence to make the sequence consistent with the reference genome assembly. The genomic coordinates used for the transcript record were based on alignments.