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Product datasheet for MC217688

Camk2b (NM_001174053) Mouse Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Camk2b (NM_001174053) Mouse Untagged Clone
Tag:	Tag Free
Symbol:	Camk2b
Synonyms:	CaMKII
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin

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Fully Sequenced ORF:

>MC217688 representing NM_001174053
Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGGCCACCACGGTGACCTGCACCCGTTTCACCGACGAGTACCAGCTATACGAGGATATTGGCAAGGGGG
CTTTCTCTGTGGTCCGACGCTGTGTCAAGCTCTGTACCGGCCATGAGTATGCAGCCAAGATCATTAATAC
CAAGAAGCTGTCGGCCAGAGATCACCAGAAACTGGAGAGAGAAGCTCGGATCTGCCGCCTGCTGAAGCAT
TCCAACATTGTACGCCTCCATGACAGCATCTCTGAAGAGGGCTTCCACTACCTGGTCTTCGATCTGGTCA
CTGGTGGGGAGCTCTTTGAAGACATCGTGGCAAGAGAGTACTACAGTGAAGCTGATGCCAGTCACTGCAT
CCAGCAGATCCTGGAAGCTGTTCTCCATTGTCACCAAATGGGGGTCGTCCACAGAGACCTCAAGCCTGAG
AACCTGCTTCTGGCCAGCAAATGCAAAGGCGCCGCAGTGAAGCTGGCAGACTTCGGCCTGGCCATCGAGG
TTCAGGGAGACCAGCAGGCATGGTTTGGATTTGCGGGAACGCCAGGCTACCTGTCTCCCGAGGTCCTTCG
GAAGGAGGCCTACGGCAAACCTGTGGACATCTGGGCATGTGGGGTGATCCTGTATATCCTGCTGGTGGGC
TACCCACCTTTCTGGGATGAGGACCAACACAAGCTGTACCAGCAGATCAAGGCTGGGGCGTATGATTTCC
CATCCCCTGAGTGGGACACCGTTACTCCTGAAGCCAAAAACCTCATCAACCAGATGCTGACCATCAACCC
TGCCAAGCGCATCACGGCCCATGAGGCCCTGAAGCACCCATGGGTCTGCCAACGTTCCACCGTGGCCTCT
ATGATGCACAGACAGGAGACTGTGGAATGTCTGAAGAAGTTCAATGCAAGGAGGAAGCTCAAGGGAGCCA
TCCTCACCACTATGCTGGCCACACGGAATTTCTCAGCCAAGAGTTTACTCAACAAGAAAGCAGATGGAGT
CAAGCCCCAGACAAACAGCACCAAAAACAGCTCGGCCATCACCAGCCCCAAAGGATCTCTCCCTCCTGCT
GCCCTGGAATCTTCCGACAGCACCAACACAACCATAGAGGATGAAGATGCCAAAGCCCCCAGGATCTCTG
ACATCCTCAACTCAGTGAGGCGGGGCTCAGGGACCCCAGAAGCTGAGGGCCTCCCACCAGTGGGCCCCCC
ACCCTGCCCATCTCCGACTCTCCCTGGCCCCTTGCCCACCCCATCCCGGAAGCAGGAAATCATCAAGACC
ACAGAGCAGCTCATTGAGGCCGTCAACAATGGGGACTTTGAGGCCTATGCGAAAATCTGTGACCCAGGCC
TGACCTCATTTGAGCCTGAAGCTCTGGGCAACCTGGTCGAAGGGATGGATTTCCACAGATTCTACTTTGA
GAACCTGCTGGCCAAGAACAGCAAGCCGATCCACACCACCATCCTGAACCCGCACGTGCACGTCATTGGC
GAGGATGCGGCATGCATCGCCTACATCCGCCTCACACAGTACATCGATGGCCAGGGCAGACCCCGTACCA
GCCAGTCCGAAGAGACCCGTGTGTGGCACCGCCGCGACGGCAAGTGGCAGAATGTACATTTCCACTGCTC
GGGCGCTCCAGTGGCCCCGCTGCAGTGA

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

Restriction Sites: SgfI-MluI

ACCN: NM_001174053

Insert Size: 1638 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).

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_001174053.1, NP_001167524.1
RefSeq Size:	4034 bp
RefSeq ORF:	1638 bp
Locus ID:	12323
Cytogenetics:	11 3.89 cM
Gene Summary:	Calcium/calmodulin-dependent protein kinase that functions autonomously after Ca(2+)/calmodulin-binding and autophosphorylation, and is involved in dendritic spine and synapse formation, neuronal plasticity and regulation of sarcoplasmic reticulum Ca(2+) transport in skeletal muscle. In neurons, plays an essential structural role in the reorganization of the actin cytoskeleton during plasticity by binding and bundling actin filaments in a kinase-independent manner. This structural function is required for correct targeting of CaMK2A, which acts downstream of NMDAR to promote dendritic spine and synapse formation and maintain synaptic plasticity which enables long-term potentiation (LTP) and hippocampus-dependent learning. In developing hippocampal neurons, promotes arborization of the dendritic tree and in mature neurons, promotes dendritic remodeling. Also regulates the migration of developing neurons (PubMed:29100089). Participates in the modulation of skeletal muscle function in response to exercise. In slow-twitch muscles, is involved in regulation of sarcoplasmic reticulum (SR) Ca(2+) transport and in fast-twitch muscle participates in the control of Ca(2+) release from the SR through phosphorylation of triadin, a ryanodine receptor-coupling factor, and phospholamban (PLN/PLB), an endogenous inhibitor of SERCA2A/ATP2A2 (PubMed:21752990).[UniProtKB/Swiss-Prot Function] Transcript Variant: This variant (1) represents the longest transcript and it encodes the longest protein (isoform 1).