Calcium/Calmodulin-Dependent Protein Kinase Type II Subunit Beta (CAMK2B) Human Recombinant Protein

PRODUCT OVERVIEW

Product Name	Calcium/calmodulin-dependent protein kinase type II subunit beta (CAMK2B), Recombinant Protein
Full Product Name	Recombinant Human Calcium/calmodulin-dependent protein kinase type II subunit beta (CAMK2B)
Product Gene Name	CAMK2B recombinant protein
Product Synonym Gene Name	CAMK2B
Sequence	MATTVTCTRF TDEYQLYEDI GKGAFSVVRR CVKLCTGHEY AAKIINTKKL SARDHQKLER EARICRLLKH SNIVRLHDSI SEEGFHYLVF DLVTGGELFE DIVAREYYSE ADASHCIQQI LEAVLHCHQM GVVHRDLKPE NLLLASKCKG AAVKLADFGL AIEVQGDQQA WFGFAGTPGY LSPEVLRKEA YGKPVDIWAC GVILYILLVG YPPFWDEDQH KLYQQIKAGA YDFPSPEWDT VTPEAKNLIN QMLTINPAKR ITAHEALKHP WVCQRSTVAS MMHRQETVEC LKKFNARRKL KGAILTTMLA TRNFSVGRQT TAPATMSTAA SGTTMGLVEQ AKSLLNKKAD GVKPQTNSTK NSAAATSPKG TLPPAALEPQ TTVIHNPVDG IKESSDSANT TIEDEDAKAP RVPDILSSVR RGSGAPEAEG PLPCPSPAPF SPLPAPSPRI SDILNSVRRG SGTPEAEGPL SAGPPPCLSP ALLGPLSSPS PRISDILNSV RRGSGTPEAE GPSPVGPPPC PSPTIPGPLP TPSRKQEIIK TTEQLIEAVN NGDFEAYAKI CDPGLTSFEP EALGNLVEGM DFHRFYFENL LAKNSKPIHT TILNPHVHVI GEDAACIAYI RLTQYIDGQG RPRTSQSEET RVWHRRDGKW QNVHFHCSGA PVAPLQ
Host	E Coli or Yeast or Baculovirus or Mammalian Cell
Form/Format	Lyophilized or liquid (Format to be determined during the manufacturing process)
Purity/Purification	Greater or equal to 85% purity as determined by SDS-PAGE. (lot specific)
Preparation and Storage	Store at -20 degrees C. For long-term storage, store at -20 degrees C or -80 degrees C. Store working aliquots at 4 degrees C for up to one week. Repeated freezing and thawing is not recommended.
Molecular Weight	57,938 Da
Sequence Positions	1-666, Full length protein
Tag Information	This protein contains an N-terminal tag and may also contain a C-terminal tag. Tag types are determined by various factors including tag-protein stability, please inquire for tag information.
Sterility	Sterile filter available upon request.
Endotoxin	Low endotoxin available upon request.
OMIM	607707
3D Structure	ModBase 3D Structure for Q13554
Species	Human
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Related Product Information for CAMK2B recombinant protein	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. Eight transcript variants encoding eight distinct isoforms have been identified for this gene.

Other Notes	Small volumes of CAMK2B recombinant protein vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for CAMK2B purchase	MBS1420475 is a recombinant protein targeting CAMK2B. Also known as Recombinant Human Calcium/calmodulin-dependent protein kinase type II subunit beta (CAMK2B). Host: E Coli or Yeast or Baculovirus or Mammalian Cell.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for CAMK2B. It may not necessarily be applicable to this product.

NCBI GI #	26051204
NCBI GeneID	816
NCBI Accession #	NP_001211.3
UniProt Primary Accession #	Q13554
UniProt Secondary Accession #	O95437; O95438; O95599; Q9UGH7; A4D2K0; A4D2K1; A4D2K2; A4D2K3; A4D2K4; A4D2K5; A4D2K6
UniProt Related Accession #	Q13554
GenBank Nucleotide #	NM_001220.4
NCBI Official Full Name	calcium/calmodulin-dependent protein kinase type II subunit beta isoform 1
NCBI Official Synonym Full Names	calcium/calmodulin dependent protein kinase II beta
NCBI Official Symbol	CAMK2B
NCBI Official Synonym Symbols	CAM2; CAMK2; CAMKB; MRD54
UniProt Protein Name	Calcium/calmodulin-dependent protein kinase type II subunit beta
Protein Family	Calcium/calmodulin-dependent protein kinase
UniProt Gene Name	CAMK2B
UniProt Synonym Gene Names	CAM2; CAMK2; CAMKB; CaM kinase II subunit beta; CaMK-II subunit beta
NCBI Protein Information	calcium/calmodulin-dependent protein kinase type II subunit beta
NCBI Summary for CAMK2B	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]
UniProt Comments for CAMK2B	Calcium/calmodulin-dependent protein kinase that functions autonomously after Ca2+/calmodulin-binding and autophosphorylation, and is involved in dendritic spine and synapse formation, neuronal plasticity and regulation of sarcoplasmic reticulum Ca2+ 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. Participates in the modulation of skeletal muscle function in response to exercise. In slow-twitch muscles, is involved in regulation of sarcoplasmic reticulum (SR) Ca2+ transport and in fast-twitch muscle participates in the control of Ca2+ release from the SR through phosphorylation of triadin, a ryanodine receptor-coupling factor, and phospholamban (PLN/PLB), an endogenous inhibitor of SERCA2A/ATP2A2.
Research Articles on CAMK2B	**1.** The importance of CAMK2A and CAMK2B and their auto-phosphorylation in human brain function.

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