

Product datasheet for MG220945

Camk2b (NM_007595) Mouse Tagged ORF Clone

Product data:

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|---------------------------|---|
| Product Type: | Expression Plasmids |
| Product Name: | Camk2b (NM_007595) Mouse Tagged ORF Clone |
| Tag: | TurboGFP |
| Symbol: | Camk2b |
| Synonyms: | CaMKII |
| Mammalian Cell Selection: | Neomycin |
| Vector: | pCMV6-AC-GFP (PS100010) |
| E. coli Selection: | Ampicillin (100 ug/mL) |
| Restriction Sites: | SgfI-MluI |
| Cloning Scheme: | |

Cloning sites used for ORF Shuttling:



EcoR I BamH I Kpn I RBS Kozac Consensus Sgf I Asc I
 CTATAGGGCGCGCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCCGCCGCGATCGCCGCGCGCCAGATCT

Hind III Nhe I Rsr II Mlu I Not I Xho I GFP Tag
 CAAGCTTAAGTCTAGCGGACCG ACG CGT ACG CGG CCG CTC GAG ATG GAG AGC GAC --- --- ---
 T R T R P L E M E S D - - -

 Pme I Fse I
 --- --- GAA GAA AGA GTT TAA ACGGCCGCCGCGGAGCT
 - - - E E R V stop

ACCN: NM_007595

ORF Size: 1626 bp

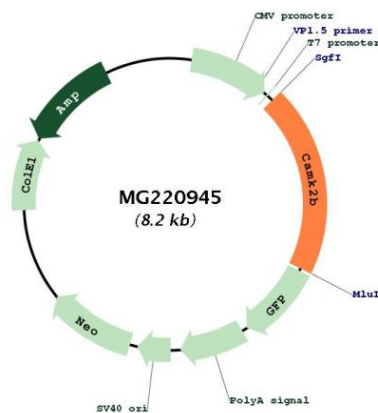


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| OTI Disclaimer: | The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), 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. |
| 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. |
| Note: | Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required. |
| RefSeq: | NM_007595.5 , NP_031621.3 |
| RefSeq Size: | 4025 bp |
| RefSeq ORF: | 1629 bp |
| Locus ID: | 12323 |
| UniProt ID: | P28652 |
| 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]

Product images:


Circular map for MG220945