Recombinant KKCC2 protein (His tag)

Catalog Number	543431
Synonyms	CaM-KK 2; CaM-kinase kinase 2; CaMKK 2; Calcium/calmodulin-dependent protein kinase kinase beta; CaM-KK beta; CaM-kinase kinase beta; CaMKK beta
Species	Human
Expression System	E. coli
Accession	Q96RR4
Molecular Weight	Predictes a molecular mass of 41.33 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 43 kDa band.

Product Information

Sequence Region	144-494
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>85%, by SDS-PAGE with Coomassie Brilliant Blue staining.
Endotoxin	Not tested.
Activity	Not tested.
Stability	Samples are stable for up to twelve months from date of receipt at -70℃
Protein Construction	DNA encoding 144-494 aa (Q96RR4) were fused with 6His tag.

Storage & Handling

Reconstitution	Reconstitute at 0.25 μg/μl in sterile water for short-term storage. Reconstitution with 50% glycerol solution is recommended for longer term storage (see Stability and Storage for more details). If a different concentration is needed for your purposes please adjust the reconstitution volume as required (please note: the ion concentration of the final solution will vary according to the volume used). Note: Centrifuge vial before opening. When reconstituting, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution.
Storage	Store it under sterile conditions at -20℃ to -80℃. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Shipping	In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.

Description

Description	Recombinant Human Calcium/calmodulin-dependent protein kinase kinase 2 (CaMKK2) fragment (residues 144-494) is a high-purity protein designed for studying kinase activity and calcium/calmodulin signaling pathways. This fragment fully encompasses the functional protein kinase domain, making it an ideal tool for enzymatic assays, substrate interaction studies, and mechanistic research in neuronal and metabolic signaling contexts. Calcium/calmodulin-dependent protein kinase kinase 2 (CaMKK2) is a crucial component of calcium-triggered signaling cascades involved in multiple cellular processes. This kinase phosphorylates downstream targets including CAMK1, CAMK4, and 5'-AMP-activated protein kinase (AMPK), linking calcium signaling to energy metabolism and transcriptional regulation. Research indicates CaMKK2 plays significant roles in hippocampal CREB1 activation and neurite development, with different isoforms potentially promoting either neurite elongation or branching. The protein exhibits dynamic subcellular localization, predominantly nuclear in unstimulated cells but relocalizing to cytoplasm and neurite projections following induction, reflecting its responsive nature in cellular signaling networks.