Recombinant KCC2G protein (His tag)

Catalog Number	540272
Synonyms	CaM kinase II subunit gamma; CaMK-II subunit gamma
Species	Human
Expression System	E. coli
Accession	Q13555
Molecular Weight	Predictes a molecular mass of 35.95 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 37 kDa band.

Product Information

Sequence Region	1-300
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>86%, 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 1-300 aa (Q13555) 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 type II subunit gamma (CaMK-II subunit gamma) fragment (amino acids 1-300) is a high-purity protein designed for investigating kinase activity and calcium/calmodulin-dependent signaling pathways. This fragment fully encompasses the functional protein kinase domain, making it an ideal tool for targeted studies of enzymatic function, neuronal plasticity, and skeletal muscle calcium regulation. Calcium/calmodulin-dependent protein kinase type II subunit gamma (CaMK-II subunit gamma) is a multifunctional serine/threonine kinase that operates autonomously following Ca^{2+}/calmodulin binding and autophosphorylation. In skeletal muscle, it regulates sarcoplasmic reticulum Ca^{2+} transport and release through phosphorylation of triadin. Within the central nervous system, it contributes to neurite formation, dendritic spine development, synapse formation, and maintenance of synaptic plasticity, enabling long-term potentiation and hippocampus-dependent learning. The protein localizes to the sarcoplasmic reticulum membrane as a peripheral membrane protein on the cytoplasmic side, and has also been implicated in JAK-STAT signaling pathway regulation through STAT1 phosphorylation in response to interferon-gamma stimulation.