Recombinant KCC2D protein (His tag)

Catalog Number	547275
Synonyms	CaM kinase II subunit delta; CaMK-II subunit delta
Species	Human
Expression System	E. coli
Accession	Q13557
Molecular Weight	Predictes a molecular mass of 35.57 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 36 kDa band.

Product Information

Sequence Region	2-299
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>90%, 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 2-299 aa (Q13557) 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 delta (CaMK-II subunit delta) fragment (amino acids 2-299), encompassing the complete protein kinase domain. This high-purity fragment is an essential tool for investigating calcium/calmodulin-dependent signaling pathways, cardiac excitation-contraction coupling, and kinase activity in cardiovascular research. Calcium/calmodulin-dependent protein kinase type II subunit delta (CaMK-II subunit delta) is a key regulator of Ca^{2+} homeostasis and excitation-contraction coupling in cardiac muscle. This multifunctional kinase targets ion channels, transporters, and accessory proteins involved in Ca^{2+} influx, sarcoplasmic reticulum Ca^{2+} release and uptake, and Na^{+}/K^{+} channel transport. It plays critical roles in pathological myocardial remodeling, dilated cardiomyopathy, and heart failure through phosphorylation of key cardiac proteins including RYR2, HDAC4, CACNB2, Nav1.5, Kv4.3, and phospholamban. The protein localizes to the cell membrane (sarcolemma) and sarcoplasmic reticulum membrane as a peripheral membrane protein on the cytoplasmic side, positioning it strategically for regulating cardiac function and calcium signaling pathways.