Recombinant KCC2D protein (His tag)

Catalog Number	533125
Synonyms	CaM kinase II; Uncoordinated protein 43
Species	Caenorhabditis elegans
Expression System	E. coli
Accession	O62305
Gene ID	177921
Molecular Weight	Predictes a molecular mass of 35.32 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 37 kDa band.

Product Information

Sequence Region	1-297
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 1-297 aa (O62305) 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 Calcium/calmodulin-dependent protein kinase type II (CaM kinase II) fragment (amino acids 1-297) from Caenorhabditis elegans, encompassing the complete protein kinase domain. This high-purity fragment serves as an essential tool for studying kinase activity, signaling pathways, and neuronal function in biochemical and cellular assays. CaM kinase II (encoded by the unc-43 gene) is a multifunctional serine/threonine kinase that regulates diverse biological processes including stress response, lifespan modulation, synaptic plasticity, neurotransmitter release, and neuronal development. It phosphorylates key targets such as DAF-16 under stress conditions and modulates synaptic density and neuromuscular junction morphology. The protein localizes to cytoplasmic regions, perikarya, and axonal projections, with enrichment in post-synaptic structures where it interacts with regulatory partners like TIR-1. Its involvement in pathways ranging from osmotic stress response to learned olfactory aversion makes it a critical component in neuronal signaling and cellular adaptation mechanisms.