Recombinant KPCZ protein (His tag)

Catalog Number	544847
Synonyms	nPKC-zeta
Species	Human
Expression System	E. coli
Accession	Q05513
Molecular Weight	Predictes a molecular mass of 41.45 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 46 kDa band.

Product Information

Sequence Region	247-592
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 247-592 aa (Q05513) 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 Protein Kinase C Zeta Type (PRKCZ) Fragment (aa 247-592) – a high-purity, functionally active protein fragment encompassing the complete Protein kinase and AGC-kinase C-terminal domains. This product is an essential tool for researchers investigating kinase signaling pathways, cell polarity, and inflammatory responses, offering targeted insights into domain-specific mechanisms without the complexity of the full-length protein. Protein kinase C zeta type (PRKCZ) is a calcium- and diacylglycerol-independent serine/threonine-protein kinase that plays critical roles in multiple cellular processes, including the PI3K and MAP kinase signaling cascades, NF-kappa-B activation, cell proliferation, polarity, and inflammatory responses. It functions downstream of PI3K to activate MAPK/ERK signaling, contributes to insulin-dependent AKT3 activation and glucose transport regulation, and participates in interleukin-1 and TNF-mediated NF-kappa-B pathways by phosphorylating key regulators like IKBKB and RELA. Additionally, PRKCZ is involved in establishing cell polarity through interactions with PARD6A and CDC42, and it supports neuronal differentiation and Th2 immune responses. The protein localizes primarily to the cytoplasm, endosomes, cell junctions, and peripheral membranes, with dynamic translocation to membranes during processes such as long-term potentiation. Isoform 2 specifically contributes to synaptic plasticity and memory maintenance. The recombinant fragment (aa 247-592) includes the core kinase domains, enabling focused studies on their catalytic and regulatory functions in these diverse biological contexts.