Recombinant PP2BA protein (His tag)

Catalog Number	537973
Synonyms	CAM-PRP catalytic subunit; Calcineurin A alpha; Calmodulin-dependent calcineurin A subunit alpha isoform; CNA alpha; Serine/threonine-protein phosphatase 2B catalytic subunit alpha isoform
Species	Human
Expression System	E. coli
Accession	Q08209
Molecular Weight	Predictes a molecular mass of 56.61 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 59 kDa band.

Product Information

Sequence Region	2-486
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 2-486 aa (Q08209) 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 Phosphatase 3 Catalytic Subunit Alpha (PPP3CA) Fragment (residues 2-486) is a high-purity, functionally relevant protein designed for calcium signaling and phosphatase research. This stable, soluble fragment retains key structural features ideal for biochemical assays, structural studies, and investigating calcineurin-mediated pathways. Protein Phosphatase 3 Catalytic Subunit Alpha (PPP3CA), also known as Calcineurin A alpha, is a calcium-dependent, calmodulin-stimulated serine/threonine-protein phosphatase essential for intracellular Ca^{2+} signal transduction. It dephosphorylates numerous substrates containing PxIxIT and/or LxVP motifs, regulating critical processes including neuronal signaling (through DNM1L and CACNA1B modulation), transcription factor activation (NFATC1, ELK1, TFEB), immune response (T-cell proliferation), and cellular differentiation (osteoblasts, osteoclasts, keratinocytes). The protein localizes primarily to the cytoplasm and cell membrane, where it interacts with scaffold proteins like AKAP5 near calcium channels. Its roles extend to kidney function, salivary secretion, muscle fiber specification, and metabolic regulation through targets including CRTC2 and KLHL3. This recombinant fragment provides a optimized tool for studying these diverse calcineurin-dependent signaling mechanisms.