Recombinant AT2B3 protein (His tag)

Catalog Number	540381
Synonyms	PMCA3; Plasma membrane calcium ATPase isoform 3; Plasma membrane calcium pump isoform 3
Species	Human
Expression System	E. coli
Accession	Q16720
Molecular Weight	Predictes a molecular mass of 47.35 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 49 kDa band.

Product Information

Sequence Region	436-849
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 436-849 aa (Q16720) 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 Plasma Membrane Calcium-Transporting ATPase 3 (PMCA3) Fragment (aa 436-849) is a high-purity, stable protein fragment designed for structural and biochemical studies. This 414-amino acid soluble unit retains key functional characteristics of the full-length ATP-driven calcium pump, enabling researchers to investigate calcium transport mechanisms and presynaptic calcium homeostasis with enhanced experimental flexibility. Plasma Membrane Calcium-Transporting ATPase 3 (PMCA3) is a crucial calcium transporter encoded by the ATP2B3 gene in humans. This ATP-driven calcium pump actively maintains basal intracellular calcium levels at presynaptic terminals by utilizing ATP hydrolysis to transport cytosolic calcium ions across the plasma membrane to the extracellular space. The enzyme may also function as a calcium/proton exchanger, though the exact stoichiometry of this exchange requires further characterization. PMCA3 localizes to the cell membrane as a multi-pass transmembrane protein, with specific presence at presynaptic membranes where it plays a vital role in regulating calcium dynamics at nerve terminals. The protein's strategic localization at parallel fiber terminals underscores its importance in neuronal calcium signaling and synaptic function.