Recombinant NAC3 protein (His tag)

Catalog Number	544728
Synonyms	Na(+)/Ca(2+)-exchange protein 3; Solute carrier family 8 member 3
Species	Human
Expression System	E. coli
Accession	P57103
Molecular Weight	Predictes a molecular mass of 36.69 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 43 kDa band.

Product Information

Sequence Region	314-624
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>88%, 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 314-624 aa (P57103) 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 Sodium/Calcium Exchanger 3 (SLC8A3) Fragment (aa 314-624) is a high-purity protein designed for studying calcium homeostasis and membrane transport mechanisms. This fragment specifically contains both Calx-beta domains (Calx-beta 1 and Calx-beta 2), making it an ideal tool for investigating domain-specific functions in neuronal signaling, muscle contraction, and mitochondrial calcium regulation. The full-length Sodium/Calcium Exchanger 3 (SLC8A3) is a critical electrogenic transporter that exchanges Ca^{2+} for Na^{+} ions across cell membranes, maintaining cytoplasmic calcium homeostasis in excitable cells. It plays essential roles in neuronal function by rapidly restoring baseline calcium levels after activation, thereby influencing synaptic plasticity, learning, and memory. In muscle tissue, it facilitates calcium transport during excitation-contraction coupling. Additionally, SLC8A3 contributes to oligodendrocyte differentiation, myelination processes, and mediates calcium efflux from mitochondria. The protein localizes to multiple cellular compartments including the plasma membrane, sarcolemma, endoplasmic reticulum, mitochondrial outer membrane, and perinuclear regions, reflecting its diverse functional roles in cellular calcium dynamics.