Recombinant CAPS1 protein (His tag)

Catalog Number	546231
Synonyms	Calcium-dependent activator protein for secretion 1; CAPS-1
Species	Human
Expression System	E. coli
Accession	Q9ULU8
Molecular Weight	Predictes a molecular mass of 28.83 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 29 kDa band.

Product Information

Sequence Region	391-630
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 391-630 aa (Q9ULU8) 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 CAPS-1 (391-630) Fragment - A high-purity protein fragment containing the PH domain of Calcium-dependent secretion activator 1 (CADPS), specifically designed for studying calcium-regulated vesicle exocytosis mechanisms in neuronal and endocrine systems. Calcium-dependent secretion activator 1 (CAPS-1) is a crucial calcium-binding protein that regulates exocytosis of neurotransmitter-filled vesicles and neuropeptides. It functions upstream of membrane fusion in the biogenesis and maintenance of mature secretory vesicles, with particular importance in mediating Ca^{2+}-dependent exocytosis of large dense-core vesicles. The protein acts as a PtdIns(4,5)P2-binding protein that operates at the prefusion step following ATP-dependent priming, facilitating dense-core vesicle membrane fusion. CAPS-1 localizes to synaptic regions and neuronal dense core vesicle membranes, showing strong enrichment in synaptic fractions and preferential binding to dense-core vesicles over synaptic vesicles. Its selective interaction with phosphoinositides, particularly PtdIns(4,5)P2, underscores its critical role in calcium-triggered secretion processes in neuronal and endocrine cells.