Recombinant DOC2A protein (His tag)

Catalog Number	547294
Synonyms	Doc2; Doc2-alpha
Species	Human
Expression System	E. coli
Accession	Q14183
Molecular Weight	Predictes a molecular mass of 18.52 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 19 kDa band.

Product Information

Sequence Region	250-400
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 250-400 aa (Q14183) 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 DOC2A Fragment (aa 250-400) - A high-quality recombinant protein fragment encompassing the complete C2 2 domain of Double C2-like domain-containing protein alpha (Doc2-alpha). This 151-amino acid fragment serves as an essential tool for investigating calcium-dependent membrane fusion mechanisms and vesicle trafficking processes in neuronal and secretory cells. Double C2-like domain-containing protein alpha (Doc2-alpha), encoded by the DOC2A gene, functions as a calcium sensor that regulates vesicle fusion with membranes. It binds both calcium and phospholipids, playing a crucial role in calcium-dependent neurotransmitter release through interaction with UNC13A. The protein is also involved in spontaneous neurotransmitter release independent of action potentials and regulates Ca^{2+}-dependent secretory lysosome exocytosis in mast cells. Doc2-alpha localizes to lysosomes, synaptic vesicle membranes, and synaptosomes, functioning as a peripheral membrane protein at cytoplasmic and secretory vesicles. The full-length protein's calcium-sensing capabilities make it a key regulator of vesicular trafficking and exocytosis in neuronal and secretory cell types.