Recombinant DOC2B protein (His tag)

Catalog Number	542665
Synonyms	Doc2-beta
Species	Human
Expression System	E. coli
Accession	Q14184
Molecular Weight	Predictes a molecular mass of 36.65 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 40 kDa band.

Product Information

Sequence Region	105-412
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>87%, 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 105-412 aa (Q14184) 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	Introducing the recombinant human Double C2-like domain-containing protein beta (Doc2-beta) fragment (residues 105-412), a high-purity protein designed for studying calcium-dependent membrane fusion processes. This 308-amino acid fragment contains both C2 domains, making it an ideal tool for investigating SNARE-mediated vesicle fusion, neurotransmitter release, and insulin secretion mechanisms in cellular models. Double C2-like domain-containing protein beta (Doc2-beta), encoded by the DOC2B gene, functions as a calcium sensor that positively regulates SNARE-dependent fusion of vesicles with membranes. The protein binds phospholipids in a calcium-dependent manner and may act at the priming stage of fusion by modifying membrane curvature to stimulate fusion. Research has demonstrated its involvement in calcium-triggered exocytosis in chromaffin cells and calcium-dependent spontaneous neurotransmitter release in neuronal cells. Additionally, Doc2-beta plays crucial roles in both glucose-stimulated insulin secretion in pancreatic cells and insulin-dependent GLUT4 transport to the plasma membrane in adipocytes. The protein is primarily localized in the cytoplasm and cytoplasmic granules, but translocates to the plasma membrane in a calcium-dependent manner, functioning as a peripheral membrane protein during calcium-mediated signaling events.