Recombinant ATLA1 protein (His tag)

Catalog Number	540885
Synonyms	ATL-1; Brain-specific GTP-binding protein; GTP-binding protein 3; GBP-3; hGBP3; Guanine nucleotide-binding protein 3; Spastic paraplegia 3 protein A
Species	Human
Expression System	E. coli
Accession	Q8WXF7
Molecular Weight	Predictes a molecular mass of 49.46 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 52 kDa band.

Product Information

Sequence Region	31-449
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 31-449 aa (Q8WXF7) 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 Atlastin-1 (ATL-1) Fragment (residues 31-449) is a high-purity protein designed for studying endoplasmic reticulum membrane fusion. This fragment includes the essential GB1/RHD3-type G domain, making it an ideal tool for investigating GTPase-driven mechanisms in ER network formation and related cellular processes. Atlastin-1 (ATL-1) is a membrane-anchored GTPase critical for maintaining endoplasmic reticulum (ER) architecture. It mediates GTP-dependent fusion of ER membranes by forming homodimers between neighboring tubules, facilitating the creation of three-way junctions essential for ER network continuity. The protein undergoes a conformational cycle: GTP binding induces dimerization, GTP hydrolysis tightens the interaction to drive membrane fusion, and phosphate release resets the monomer for subsequent cycles. Located primarily in the ER membrane, Atlastin-1 also localizes to the Golgi apparatus and axons, where it indirectly influences Golgi biogenesis and axonal development. Mutations in ATL1 are linked to hereditary spastic paraplegia, underscoring its importance in neuronal function.