Recombinant DPH1 protein (His tag)

Catalog Number	535016
Synonyms	3-amino-3-carboxypropyl; Diphthamide biosynthesis protein 1; Diphtheria toxin resistance protein 1; S-adenosyl-L-methionine:L-histidine 3-amino-3-carboxypropyltransferase 1
Species	Caenorhabditis elegans
Expression System	E. coli
Accession	P49958
Gene ID	175475
Molecular Weight	Predictes a molecular mass of 46.67 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 47 kDa band.

Product Information

Sequence Region	1-396
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>90%, 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 1-396 aa (P49958) 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 2-(3-amino-3-carboxypropyl)histidine synthase subunit 1 (Dph-1) fragment from Caenorhabditis elegans, encompassing residues 1-396. This stable, soluble protein unit is ideal for investigating diphthamide biosynthesis and related enzymatic mechanisms in structural and biochemical studies. The full-length protein, encoded by the dph-1 gene, catalyzes the initial step in diphthamide biosynthesis—a conserved post-translational modification of histidine in elongation factor 2. It functions as an S-adenosyl-L-methionine:L-histidine 3-amino-3-carboxypropyltransferase, transferring a 3-amino-3-carboxypropyl group from S-adenosyl-L-methionine to a histidine residue, with assistance from Dph-3 and a NADH-dependent reductase. This modification is critical for cellular processes and confers resistance to diphtheria toxin, highlighting its importance in protein synthesis and toxin response pathways.