Recombinant TPS2 protein (His tag)

Catalog Number	534079
Synonyms	Trehalose-6-phosphate synthase 2; UDP-glucose-glucosephosphate glucosyltransferase 2
Species	Caenorhabditis elegans
Expression System	E. coli
Accession	O45380
Gene ID	3565050
Molecular Weight	Predictes a molecular mass of 20.70 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 21 kDa band.

Product Information

Sequence Region	1-166
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 1-166 aa (O45380) 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 Alpha,alpha-trehalose-phosphate synthase [UDP-forming] 2 (EC 2.4.1.15) fragment (residues 1-166) from Caenorhabditis elegans, designed for structural and biochemical studies. This stable, soluble fragment retains key characteristics of the full-length enzyme, enabling research into trehalose biosynthesis pathways. The full-length Alpha,alpha-trehalose-phosphate synthase 2 (encoded by the tps-2 gene) catalyzes the production of trehalose from glucose-6-phosphate and UDP-alpha-D-glucose in a two-step enzymatic process. As a trehalose-6-phosphate synthase, it plays a critical role in trehalose biosynthesis, which serves as an important energy storage molecule and stress protectant in organisms. This enzyme's function in trehalose production makes it significant for studying metabolic pathways, stress response mechanisms, and carbohydrate metabolism in biological systems.