Recombinant PROD protein (His tag)

Catalog Number	541766
Synonyms	Proline oxidase; Proline oxidase 2; p53-induced gene 6 protein
Species	Human
Expression System	E. coli
Accession	O43272
Molecular Weight	Predictes a molecular mass of 32.37 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 34 kDa band.

Product Information

Sequence Region	48-319
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>85%, 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 48-319 aa (O43272) 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 Proline Dehydrogenase 1 (PRODH) Fragment (residues 48-319) is a high-purity protein designed for structural and biochemical studies. This 272-amino acid fragment, derived from the mitochondrial enzyme responsible for proline catabolism, offers a stable and soluble unit ideal for investigating enzymatic mechanisms and protein interactions. Proline Dehydrogenase 1 (PRODH), also known as proline oxidase, is a mitochondrial matrix enzyme that catalyzes the conversion of proline to delta-1-pyrroline-5-carboxylate (EC 1.5.5.2). This reaction represents the first step in proline degradation, linking amino acid metabolism with cellular energy production and redox balance. As a p53-induced gene product, PRODH has been implicated in cellular stress responses and apoptosis regulation. The mitochondrial localization underscores its role in metabolic pathways central to energy homeostasis and potential disease associations.