Recombinant TPIS protein (His tag)

Catalog Number	537874
Synonyms	TIM; Methylglyoxal synthase; Triose-phosphate isomerase
Species	Human
Expression System	E. coli
Accession	P60174
Molecular Weight	Predictes a molecular mass of 28.19 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 28 kDa band.

Product Information

Sequence Region	2-249
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>89%, 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 2-249 aa (P60174) 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 Triosephosphate Isomerase (TIM) Fragment (residues 2-249) is a highly purified protein designed for structural and biochemical studies. This fragment, derived from the TPI1 gene, retains key functional regions and offers exceptional stability and solubility, making it ideal for investigating glycolysis, gluconeogenesis, and methylglyoxal production mechanisms. Triosephosphate isomerase (TIM) is a critical metabolic enzyme in humans that catalyzes the reversible interconversion of dihydroxyacetone phosphate (DHAP) and D-glyceraldehyde-3-phosphate (G3P), a fundamental step in glycolysis and gluconeogenesis. Beyond its primary role, TIM is implicated in the non-negligible generation of methylglyoxal, a cytotoxic compound that can modify proteins, DNA, and lipids, contributing to cellular stress. The enzyme is localized in the cytoplasm, where it supports essential energy metabolism pathways. The provided fragment (residues 2-249) encompasses the core functional domain, enabling focused research on its enzymatic efficiency and structural properties.