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## Product Data Sheet

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Product Name: TPI1 Human, Active

Cat. No.: GP22317

Batch No.: 1

**Product Data**

Purity	>98%	Source	Escherichia Coli.
Physical Appearance	solid	Shipping Condition	Shipped with Ice Packs.

Synonyms TPI; TIM; Triosephosphate Isomerase 1.

Amino Acid Sequence  
 MGSSHHHHH SGLVPRGSH MAPSRKFFVG GNWKMNGRKQ SLGELIGTLN  
 AAKVPADTEV VCAPPTAYID FARQKLDPKI AVAAQNCYKV TNGAFTGEIS  
 PGMIKDCGAT WVVLGHSERR HVFGESDELI GQKVAHALAE GLGVIACIGE  
 KLDEREAGIT EKVFEQTKV IADNVKDWSK VVLAYEPVWA IGTGKTATPQ  
 QAQEVHEKLR GWLKSNSVDA VAQSTRIIYG GSVTGATCKE LASQPDVDGF  
 LVGGASLKPE FVDIINAKQ

Formulation TPI1 protein solution (0.5mg/ml) containing 20mM Tris-HCl buffer (pH8.0), 1mM DTT and 10% glycerol.

**Introduction**

TPI1 is one of the triosephosphate isomerase family. TPI1 catalyzes the isomerization of glyceraldehydes 3-phosphate (G3P) and dihydroxy-acetone phosphate (DHAP) in glycolysis and gluconeogenesis. Mutations in TPI1 causes triosephosphate isomerase deficiency (TPI deficiency). TPI deficiency is an autosomal recessive disorder which is the most severe clinical disorder of glycolysis and is related to neonatal jaundice, chronic hemolytic anemia, progressive neuromuscular dysfunction, cardiomyopathy and increased susceptibility to infection.

**Biological Activity**

Specific activity is > 3000 units/mg, in which one unit will convert 1.0 umole of D-glyceraldehyde-3-phosphate to dihydroxyacetonephosphate per minute at pH 7.5 at 25C.

**Stability**

Store at 4°C if entire vial will be used within 2-4 weeks. Store frozen at -20°C for longer

**Caution: Product has not been fully validated for medical applications. For research use only.**

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periods of time. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Avoid multiple freeze-thaw cycles.

### Background

TPI1 produced in E.Coli is a single, non-glycosylated polypeptide chain containing 269 amino acids (1-249a.a.) and having a molecular mass of 28.8kDa. TPI1 is fused to a 20 amino acid His-tag at N-terminus & purified by proprietary chromatographic techniques.

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