



Recombinant Protein Technical Manual  
Recombinant E. coli Tryptophan Synthase Protein  
(His Tag)  
RPES3431

Product Data:

**Product SKU:** RPES3431

**Size:** 10µg

**Species:** E. coli

**Expression host:** E. coli

**Uniprot:** P0A877&P0A879

Protein Information:

**Molecular Mass:** 72.5 kDa

**AP Molecular Mass:** 28&40-50 kDa

**Tag:** N-His

**Bio-activity:**

**Purity:** > 95% as determined by reducing SDS-PAGE.

**Endotoxin:** < 1.0 EU per µg as determined by the LAL method.

**Storage:** Store at < -20°C, stable for 6 months. Please minimize freeze-thaw cycles.

**Shipping:** This product is provided as liquid. It is shipped at frozen temperature with blue ice. Upon receipt, store it immediately at < -20°C.

**Formulation:** Supplied as a 0.2 µm filtered solution of PBS, pH7.4.

**Reconstitution:** Please refer to the printed manual for detailed information.

**Application:**

**Synonyms:** Tryptophan synthetase; Tryptophan synthase

## Immunogen Information:

**Sequence:** Met1-Ser268&Thr2-Ile397

## Background:

Tryptophan synthase is a multienzyme  $\alpha_2\beta_2$  complex composed of two protein subunit. Tryptophan synthase catalyzes the last two steps in the synthesis of L-tryptophan (L-Trp). The  $\alpha$ -subunit catalyzes cleavage of 3-indole-d-glycerol 3'-phosphate (IGP) to give indole and D-glyceraldehyde 3'-phosphate (G3P). Indole is then transferred through a 25-Å hydrophobic tunnel to the  $\beta$ -subunit. The  $\beta_2$  subunit contains pyridoxal 5'-phosphate and catalyzes several pyridoxal 5'-phosphate-dependent reactions, including 3-elimination reactions 6 and a thiol-dependent transamination reaction. This enzyme is commonly found in Eubacteria, Archaeobacteria, Protista, Fungi, and Plantae, but is absent from Animalia. As humans do not have tryptophan synthase, this enzyme has been explored as a potential drug target.