

Trp A Protein, E. coli, Recombinant

General Information

Synonyms:	Tryptophan synthase α chain;trpA;Tryptophan synthase alpha chain
Protein Construction:	Met1-Ser268
Species:	E. coli
Expression Host:	E. coli
Accession:	P0A877
Molecular Weight:	27 KDa (reducing condition)
AA Sequence:	Met1-Ser268

QC Testing

Biological Activity:	Activity has not been tested. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	Greater than 95% as determined by reducing SDS-PAGE. (QC verified)
Endotoxin:	< 0.1 ng/ μ g (1 EU/ μ g) as determined by LAL test.
Formulation:	Supplied as a 0.2 μ m filtered solution of PBS, pH 7.4.

Preparation and Storage

Stability & Storage:

Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

Proteins are shipped with blue ice.

Protein Background

Tryptophan synthase is an enzyme that catalyzes the final two steps in the biosynthesis of tryptophan. It is commonly found in Eubacteria, Archaeobacteria, Protista, Fungi, and Plantae, but is absent from animals such as humans. Tryptophan synthase typically exists as an α - β - α complex. The alpha subunit is responsible for the aldol cleavage of indoleglycerol phosphate to indole and glyceraldehyde 3-phosphate: L-serine + 1-C-(indol-3-yl) glycerol 3-phosphate = L-tryptophan + D-glyceraldehyde 3-phosphate + H₂O. The beta subunits catalyze the irreversible condensation of indole and serine to form tryptophan in a pyridoxal phosphate (PLP) dependent reaction. Their assembly into a complex leads to structural changes in both subunits resulting in reciprocal activation.

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Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481