Data Sheet (Cat.No.TMPH-00609)

TargetMol

dITP/XTP pyrophosphatase Protein, E. coli, Recombinant (His & Myc & SUMO)

General Information

Synonyms:	Inosine triphosphate pyrophosphatase (ITPase);Non-standard purine NTP pyrophosphatase; rdgB;Nucleoside-triphosphate pyrophosphatase (NTPase);Non-canonical purine NTP pyrophosphatase;Deoxyribonucleoside triphosphate pyrophosphohydrolase;Nucleoside-triphosphate diphosphatase;dITP/XTP pyrophosphatase;yggV
Protein Construction:	1-197 aa
Species:	E. coli
Expression Host:	E. coli
Accession:	P52061
Molecular Weight:	41.0 kDa (predicted)
AA Sequence:	MQKVVLATGNVGKVRELASLLSDFGLDIVAQTDLGVDSAEETGLTFIENAILKARHAAKVTALPAIADDSGLAV DVLGGAPGIYSARYSGEDATDQKNLQKLLETMKDVPDDQRQARFHCVLVYLRHAEDPTPLVCHGSWPGVIT REPAGTGGFGYDPIFFVPSEGKTAAELTREEKSAISHRGQALKLLLDALRNG

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:	> 85% as determined by SDS-PAGE.
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Tris-based buffer, 50% glycerol

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

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:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Pyrophosphatase that catalyzes the hydrolysis of nucleoside triphosphates to their monophosphate derivatives, with a high preference for the non-canonical purine nucleotides XTP (xanthosine triphosphate), dITP

(deoxyinosine triphosphate) and ITP. Can also efficiently hydrolyze 2'-deoxy-N-6-hydroxylaminopurine triphosphate (dHAPTP). Seems to function as a house-cleaning enzyme that removes non-canonical purine nucleotides from the nucleotide pool, thus preventing their incorporation into DNA/RNA and avoiding chromosomal lesions. To a much lesser extent, is also able to hydrolyze GTP, dGTP and dUTP, but shows very low activity toward the canonical nucleotides dATP, dCTP and dTTP and toward 8-oxo-dGTP, purine deoxyribose triphosphate, 2-aminopurine deoxyribose triphosphate and 2,6-diaminopurine deoxyribose triphosphate.

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