Recombinant KTHY protein (His tag)

Catalog Number	539853
Synonyms	dTMP kinase
Species	Human
Expression System	E. coli
Accession	P23919
Molecular Weight	Predictes a molecular mass of 25.34 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 26 kDa band.

Product Information

Sequence Region	2-212
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>85%, 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 2-212 aa (P23919) 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 Thymidylate Kinase (dTMP kinase) Fragment (residues 2-212) is a high-purity, soluble protein designed for structural and biochemical studies. This fragment, derived from the DTYMK gene, retains the essential catalytic activity required for converting thymidine monophosphate (dTMP) to thymidine diphosphate (dTDP), a critical step in DNA synthesis. Thymidylate kinase (EC 2.7.4.9), encoded by the DTYMK gene in Homo sapiens, catalyzes the phosphorylation of thymidine monophosphate (dTMP) to thymidine diphosphate (dTDP) using ATP as the preferred phosphoryl donor in the presence of Mg^{2+}. This reaction produces the immediate precursor for dTTP, a fundamental building block for DNA replication and repair. The protein's function is well-supported by experimental evidence, highlighting its importance in nucleotide metabolism and cellular proliferation. The recombinant fragment (residues 2-212) encompasses the complete functional domain, providing a stable and soluble unit ideal for investigating enzyme kinetics, structural biology, and drug discovery applications.