

## Thymidylate Protein, Human (HEK293, His)

<b>Cat. No.:</b>	HY-P70012
<b>Synonyms:</b>	rHuThymidylate /kinaseDTYMK, His; Thymidylate kinase; dTMP kinase; DTYMK; CDC8; TMPK; TYMK
<b>Species:</b>	Human
<b>Source:</b>	HEK293
<b>Accession:</b>	P23919 (M1-K212)
<b>Gene ID:</b>	1841
<b>Molecular Weight:</b>	Approximately 26.0 kDa

### PROPERTIES

<b>AA Sequence</b>	<pre> M A A R R G A L I V   L E G V D R A G K S   T Q S R K L V E A L   C A A G H R A E L L R F P E R S T E I G   K L L S S Y L Q K K   S D V E D H S V H L   L F S A N R W E Q V P L I K E K L S Q G   V T L V V D R Y A F   S G V A F T G A K E   N F S L D W C K Q P D V G L P K P D L V   L F L Q L Q L A D A   A K R G A F G H E R   Y E N G A F Q E R A L R C F H Q L M K D   T T L N W K M V D A   S K S I E A V H E D   I R V L S E D A I R T A T E K P L G E L   W K           </pre>
<b>Biological Activity</b>	The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet.
<b>Appearance</b>	Solution.
<b>Formulation</b>	Supplied as a 0.2 µm filtered solution of 20 mM PB, 5% Sucrose, 0.05% Tween 80, pH 7.4.
<b>Endotoxin Level</b>	<1 EU/µg, determined by LAL method.
<b>Reconstitution</b>	N/A
<b>Storage &amp; Stability</b>	Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles.
<b>Shipping</b>	Shipping with dry ice.

### DESCRIPTION

<b>Background</b>	Thymidylate kinase, an essential enzyme in nucleotide metabolism, catalyzes the phosphorylation of thymidine monophosphate (dTMP) to thymidine diphosphate (dTDP). This phosphorylation reaction is a crucial step in the biosynthesis of deoxythymidine triphosphate (dTTP), a building block for DNA replication and repair. Thymidylate kinase utilizes ATP as the preferred phosphoryl donor, and the reaction is facilitated in the presence of Mg(2+). The enzyme's activity is integral to the maintenance of balanced nucleotide pools and the precise regulation of DNA synthesis in cells.
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Understanding the functions of thymidylate kinase is essential for unraveling the intricate processes involved in DNA replication and cellular proliferation.

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

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