
Product Data Sheet

Product Name: TK2 Human
 Cat. No.: GP22642
 Batch No.: 1

Product Data

Purity	>98%	Source	E.coli.
Physical Appearance	solid	Shipping Condition	Shipped with Ice Packs.
Synonyms	Thymidine kinase 2 mitochondrial; Mt-TK; TK2; MTTK; MTDPS2.		
Amino Acid Sequence	MGSSHHHHHH SGLVPRGSH MGSHMVQRRR WPPDKEQEKE KKSVICVEGN IASGKTTCLE FFSNATDVEV LTEPVSKWRN VRGHNPLGLM YHDASRWGLT LQTYVQLTML DRHTRPQVSS VRLMERSIHS ARYIFVENLY RSGKMPEVDY VVLEWFDWI LRNMDVSVDL IVYLRTNPET CYQLKKRCR EEEKVIPLEY LEAIHHLHEE WLIKGS LFPM AAPVLVIEAD HHMERMLELF EQNRDRILTP ENRKHCP.		
Formulation	TK2 protein solution (0.5mg/ml) containing 20mM Tris-HCl buffer, pH8.0, 30% glycerol, 2mM DTT and 200mM NaCl.		

Introduction

Thymidine kinase 2 mitochondrial (TK2) is a member of the DCK/DGK family. TK2 is an enzyme, a phosphotransferase (a kinase): 2'-deoxythymidine kinase, ATP-thymidine 5'-phosphotransferase. Thymidine kinase is found in most living cells. Thymidine kinase is present in 2 forms in mammalian cells, TK1 and TK2. Thymidine kinases have a central function in the synthesis of DNA and thus in cell division, since they are part of the exceptional reaction chain to introduce deoxythymidine into the DNA. TK2 is a deoxyribonucleoside kinase which specifically phosphorylates thymidine, deoxycytidine, and deoxyuridine. TK2 localizes to the mitochondria and is essential for mitochondrial DNA synthesis. TK2 gene defects are a cause of mitochondrial DNA depletion syndrome type 2 (MTDPS2).

Stability

Store at 4°C if entire vial will be used within 2-4 weeks. Store, frozen at -20°C for longer periods of time. For long term storage it is recommended to add a carrier protein (0.1%

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

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HSA or BSA). Avoid multiple freeze-thaw cycles.

Background

TK2 Human Recombinant produced in E.Coli is a single, non-glycosylated polypeptide chain containing 257 amino acids (34-265 a.a) and having a molecular mass of 30.2kDa. TK2 is fused to a 25 amino acid His-tag at N-terminus & purified by proprietary chromatographic techniques.

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