

Recombinant human TK2 protein

Catalog Number: ATGP1651

PRODUCT INFORMATION

Expression system

E.coli

Domain

34-265aa

UniProt No.

O00142

NCBI Accession No.

NP_004605.4

Alternative Names

thymidine kinase 2 mitochondrial, thymidine kinase 2, mitochondrial, MTDP52, MTTK

PRODUCT SPECIFICATION

Molecular Weight

30.1 kDa (257aa) confirmed by MALDI-TOF

Concentration

0.25mg/ml (determined by Bradford assay)

Formulation

Liquid in. 20mM Tris-HCl buffer (pH 8.0) containing 20% glycerol, 0.5M NaCl, 250mM Imidazole, 0.1mM PMSF

Purity

> 85% by SDS-PAGE

Tag

His-Tag

Application

SDS-PAGE

Storage Condition

Can be stored at +2C to +8C for 1 week. For long term storage, aliquot and store at -20C to -80C. Avoid repeated freezing and thawing cycles.

BACKGROUND

Description

TK2, also known as thymidine kinase 2 mitochondrial, belongs to the DCK-DGK family. Thymidine kinase is an enzyme, a phosphotransferase (a kinase) : 2-deoxythymidine kinase, ATP-thymidine 5-phosphotransferase, It can be found in most living cells. It is present in two forms in mammalian cells, TK1 and TK2. Certain viruses also have genetic information for expression of viral thymidine kinases. Thymidine kinases have a key function in the synthesis of DNA and thereby in cell division, as they are part of the unique reaction chain to introduce deoxythymidine into the DNA. Defects in TK2 are a cause of mitochondrial DNA depletion syndrome type 2

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(MTDPS2). A disorder characterized primarily by childhood onset of muscle weakness associated with depletion of mtDNA in skeletal muscle. Recombinant human TK2 protein, fused to His-tag at N-terminus, was expressed in *E. coli* and purified by using conventional chromatography techniques.

Amino acid Sequence

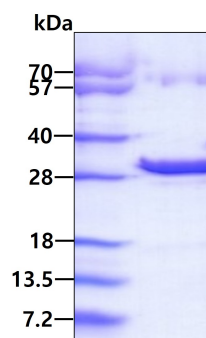
<MGSSHHHHHH SSGLVPRGSH MGSHM>VQRRR WPPDKEQEKE KKSVCIVEGN IASGKTTCLE FFSNATDVEV
LTEPVSKWRN VRGHNPLGLM YHDASRWGLT LQTYVQLTML DRHTRPQVSS VRLMERSIHS ARYIFVENLY RSGKMPEVDY
VVLSEWFDWI LRNMDVSVDL IVYLRTNPET CYQRLKKRCR EEEKVIPLEY LEAIHHLHEE WLIKGS LFPM AAPVLVIEAD
HHMERMLELF EQNRDRILTP ENRKHCP

General References

Saada A., et al. (2001) *Nat. Genet.* 29:342-344
Kit S. (1985). *Thymidine kinase. Microbiol. Sci.* 2 (12): 369-75.

DATA

SDS-PAGE



3ug by SDS-PAGE under reducing condition and visualized by coomassie blue stain.