

Recombinant human CKMT1A protein

Catalog Number: ATGP1590

PRODUCT INFORMATION

Expression system

E.coli

Domain

40-417aa

UniProt No.

P12532

NCBI Accession No.

NP_001015001

Alternative Names

Creatine kinase u-type mitochondrial, Creatine kinase u-type, mitochondrial, CKMT1; CKMT1B; uMTCK

PRODUCT SPECIFICATION

Molecular Weight

45 kDa (403aa) confirmed by MALDI-TOF

Concentration

1mg/ml (determined by Bradford assay)

Formulation

Liquid in. 20mM Tris-HCl buffer (pH 8.0) containing 0.15M NaCl, 10% glycerol

Purity

> 95% by SDS-PAGE

Biological Activity

Specific activity is > 50unit/mg, and is defined as the amount of enzyme that convert 1.0 umole of phosphate from phosphocreatine to ADP per minute at pH 7.5 at 37C.

Tag

His-Tag

Application

Enzyme Activity, 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

Mitochondrial creatine (MtCK) kinase is responsible for the transfer of high energy phosphate from mitochondria to the cytosolic carrier, creatine. It belongs to the creatine kinase isoenzyme family. It exists as two isoenzymes, sarcomeric MtCK and ubiquitous MtCK, encoded by separate genes. Mitochondrial creatine kinase occurs in two

Recombinant human CKMT1A protein

Catalog Number: ATGP1590

different oligomeric forms: dimers and octamers, in contrast to the exclusively dimeric cytosolic creatine kinase isoenzymes. Many malignant cancers with poor prognosis have shown overexpression of ubiquitous mitochondrial creatine kinase; this may be related to high energy turnover and failure to eliminate cancer cells via apoptosis. Recombinant human CKMT1A protein, fused to His-tag at N-terminus, was expressed in *E. coli* and purified by using conventional chromatography techniques.

Amino acid Sequence

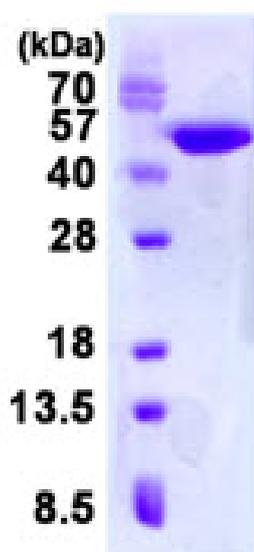
MGSSHHHHHH SSGLVPRGSH MGSHTMASERR RLYPPSAEYP DLRKHNNCMA SHLTPAVYAR LCDKTTPTGW TLDQCIQTGV
DNPGHPFIKT VGMVAGDEET YEVFADLFDP VIQERHNGYD PRTMKHTTDL DASKIRSGYF DERYVLSSRV RTGRSIRGLS
LPPACTRAER REVERVVVDA LSGLKGDLAG RYYRLSEMTE AEQQQLIDDH FLFDKPVSP LTAAGMARDW PDARGIWHNN
EKSFLI WVNE EDHTRVISM KGGNMKRVFE RFCRGLKEVE RLIQERGW EF MWNERLGYIL TCPSNLGTGL RAGVHIKPL
LSKDSRFPKI LENLRLQKRG TGGVDTAATG GVFDISNLDR LGKSEVELVQ LVIDGVNYLI DCERRLERGQ DIRIPTVIH TKH

General References

Stachowiak O., et al. (1998). *Mol. Cell. Biochem.* 184 (1-2): 141-51.

DATA

SDS-PAGE



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

15% SDS-PAGE (3 μ g)