

Human CKMT1A Protein (His Tag)

Catalog Number: 13924-H07B1



Sino Biological Inc.

Biological Solution Specialist

General Information

Gene Name Synonym:

CKMT; CKMT1; CKMT1A

Protein Construction:

A DNA sequence encoding human CKMT1A (P12532-1) (Ala40-His417) was expressed, with a polyhistidine tag at the N-terminus.

Source: Human

Expression Host: Baculovirus-Insect Cells

QC Testing

Purity: > 95 % as determined by SDS-PAGE

Bio Activity:

Kinase activity untested

Endotoxin:

< 1.0 EU per µg of the protein as determined by the LAL method

Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

Predicted N terminal: His

Molecular Mass:

The recombinant human CKMT1A consists of 396 amino acids and predicts a molecular mass of 45.3 KDa. It migrates as an approximately 43 KDa band in SDS-PAGE under reducing conditions.

Formulation:

Supplied as sterile 20mM Tris, 500mM NaCl, pH 8.5, 10% gly

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

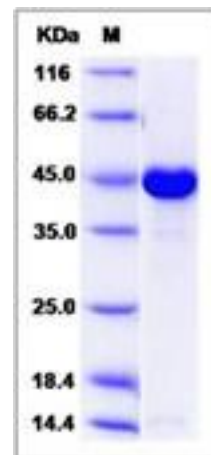
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

CKMT1A belongs to the ATP:guanido phosphotransferase family. It contains 1 phosphagen kinase C-terminal domain and 1 phosphagen kinase N-terminal domain. CKMT1A gene is one of two genes which encode the ubiquitous mitochondrial creatine kinase (CKMT1). CKMT1 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 (CKMT2) and ubiquitous MtCK, encoded by separate genes. CKMT1 occurs in two different oligomeric forms: dimers and octamers, in contrast to the exclusively dimeric cytosolic creatine kinase isoenzymes. Ubiquitous mitochondrial creatine kinase has 80% homology with the coding exons of sarcomeric CKMT1.

References

1. Haas RC, *et al.* (1989) Isolation and characterization of the gene and cDNA encoding human mitochondrial creatine kinase. *J Biol Chem.* 264(5):2890-7.
2. Stachowiak O, *et al.* (1998) Oligomeric state and membrane binding behaviour of creatine kinase isoenzymes: implications for cellular function and mitochondrial structure. *Mol Cell Biochem.* 184(1-2):141-51.
3. Lipskaya TY. (2001) Mitochondrial creatine kinase: properties and function. *Biochemistry Mosc.* 66(10):1098-111.

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