

UMP-CMP kinase/CMPK1 Protein, Human, Recombinant (His)

General Information

Synonyms:	CMPK;UMPK;UMK;CK;UMP-CMPK;CMK;cytidine monophosphate (UMP-CMP) kinase 1, cytosolic
Protein Construction:	A DNA sequence encoding the human CMPK1 (P30085) (Met1-Gly196) was fused with a polyhistidine tag at the N-terminus. Predicted N terminal: His
Species:	Human
Expression Host:	Baculovirus Insect Cells
Accession:	P30085
Molecular Weight:	24.5 kDa (predicted); 27 kDa (reducing conditions)

QC Testing

Biological Activity:	Kinase activity untested
Purity:	> 95 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Supplied as sterile 20 mM Tris, 500 mM NaCl, pH 7.4, 10% glycerol.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store the product under sterile conditions at -20°C to -80°C. Samples are stable for up to 12 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

Proteins are shipped with blue ice.

Protein Background

CMPK1 plays a key role in the maintenance of pyrimidine nucleotide pool profile and for the metabolism of pyrimidine analogs in cells. It catalyzes the phosphoryl transfer from ATP to UMP, CMP, and deoxy-CMP (dCMP), resulting in the formation of ADP and the corresponding nucleoside diphosphate. CMPK1 also has a significant role in the activation of pyrimidine analogs, which are clinically useful anti-cancer and anti-viral drugs. In the meanwhile, CMPK1 functions in cellular nucleic acid biosynthesis.

Reference

- Liou J, et al. (2004) Phosphorylation of Cytidine, Deoxycytidine, and Their Analog Monophosphates by Human UMP/CMP Kinase is Differentially Regulated by ATP and Magnesium. *Molecular Pharmacology*. 67(3):806-14.
- Gerhard DS, et al. (2004) The Status, Quality, and Expansion of the NIH Full-Length cDNA Project: The Mammalian Gene Collection (MGC). *Genome Research*. 14(10B):2121-7.
- Segura-Pena D, et al. (2004) Substrate-induced Conformational Changes in Human UMP/CMP Kinase. *Journal of Biological Chemistry*. 279(32):33882-9.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

This product is for Research Use Only · Not for Human or Veterinary or Therapeutic Use

Tel: 781-999-4286 E_mail: info@targetmol.com Address: 34 Washington Street, Wellesley Hills, MA 02481