

For Research Use Only

# UMP/CMP kinase Recombinant monoclonal antibody, PBS Only (Detector)

Catalog Number: 86475-1-PBS



## Basic Information

<b>Catalog Number:</b> 86475-1-PBS	<b>GenBank Accession Number:</b> BC014961	<b>Purification Method:</b> Protein A purification
<b>Size:</b> 100ug , Concentration: 1 mg/ml by Nanodrop;	<b>GeneID (NCBI):</b> 51727	<b>CloneNo.:</b> 251233D3
<b>Source:</b> Rabbit	<b>UNIPROT ID:</b> P30085	
<b>Isotype:</b> IgG	<b>Full Name:</b> cytidine monophosphate (UMP-CMP) kinase 1, cytosolic	
<b>Immunogen Catalog Number:</b> AG1920	<b>Calculated MW:</b> 228 aa, 26 kDa	
	<b>Observed MW:</b> 22 kDa	

## Applications

**Tested Applications:**  
WB, IHC, IF/ICC, Cytometric bead array, Sandwich ELISA, Indirect ELISA

**Species Specificity:**  
human

## Product Information

86475-1-PBS targets UMP/CMP kinase as part of a matched antibody pair:

MP02460-1: 86475-2-PBS capture and 86475-1-PBS detection (validated in Cytometric bead array, Sandwich ELISA)

Unconjugated rabbit recombinant monoclonal antibody in PBS only (BSA and azide free) storage buffer at a concentration of 1 mg/mL, ready for conjugation. Created using Proteintech's proprietary in-house recombinant technology. Recombinant production enables unrivalled batch-to-batch consistency, easy scale-up, and future security of supply.

This conjugation ready format makes antibodies ideal for use in many applications including: ELISAs, multiplex assays requiring matched pairs, mass cytometry, and multiplex imaging applications. Antibody use should be optimized by the end user for each application and assay.

## Background Information

Pyrimidine nucleoside monophosphate kinase [UMP/CMP kinase (UMP/CMPK)] (CMPK1) is also named as CMK, CMPK, UCK, UMK, UMPK and belongs to the adenylate kinase family. It plays a crucial role in the formation of UDP, CDP, and dCDP, which are required for cellular nucleic acid synthesis (PMID:11912132). CMPK1 can use a broad spectrum of phosphate donors but the best phosphate donors are ATP and dATP. CMPK1 has been reported as a prognostic marker for non-small cell lung cancer, pancreatic cancer and breast cancer (PMID: 21642870, 22838950, 27558661). The longest deduced protein contains 228 amino acids and has a calculated molecular mass of 26 kDa. However, translation likely begins at the second initiation methionine, resulting in a protein of 196 amino acids (PMID:10462544). The shorter form is the endogenously translated protein (PMID:11912132). CMPK1 has 3 isoforms with the molecular mass of 22, 16 and 26 kDa.

## Storage

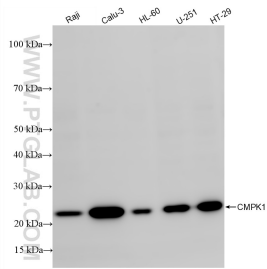
**Storage:**  
Store at -80°C.

**Storage Buffer:**  
PBS only, pH7.3

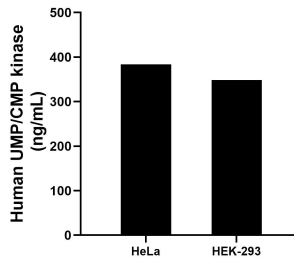
For technical support and original validation data for this product please contact:  
T: 1 (888) 4PTGLAB (1-888-478-4522) (toll free in USA), or 1(312) 455-8498 (outside USA) E: proteintech@ptglab.com W: ptglab.com

This product is exclusively available under Proteintech Group brand and is not available to purchase from any other manufacturer.

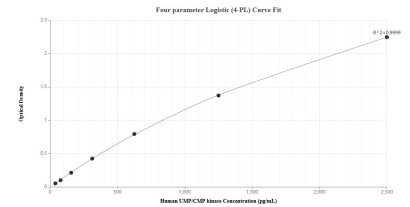
## Selected Validation Data



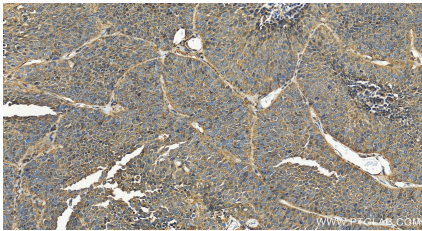
Various lysates were subjected to SDS PAGE followed by western blot with 86475-1-RR (CMFK1 antibody) at dilution of 1:1000 incubated at room temperature for 1.5 hours. This data was developed using the same antibody clone with 86475-1-PBS in a different storage buffer formulation.



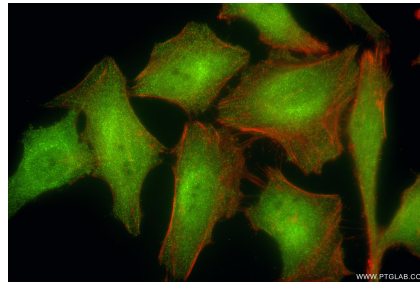
The mean UMP/CMP kinase concentration was determined to be 383.79 ng/mL in HeLa cell extract based on a 1.2 mg/mL extract load and 348.74 ng/mL in HEK-293 cell extract based on a 1.2 mg/mL extract load.



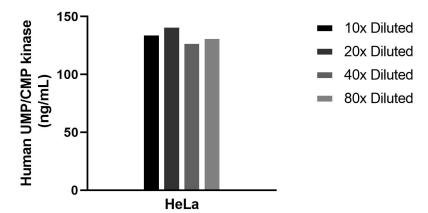
Sandwich ELISA standard curve of MP02460-1, Human UMP/CMP kinase Recombinant Matched Antibody Pair - PBS only. 86475-2-PBS was coated to a plate as the capture antibody and incubated with serial dilutions of standard Ag1920. 86475-1-PBS was HRP conjugated as the detection antibody. Range: 39.1-2500 pg/mL



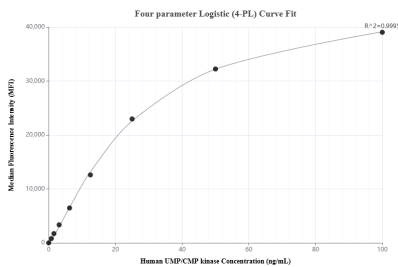
Immunohistochemical analysis of paraffin-embedded human lung cancer tissue slide using 86475-1-RR (CMFK1 antibody) at dilution of 1:400 (under 20x lens). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0). This data was developed using the same antibody clone with 86475-1-PBS in a different storage buffer formulation.



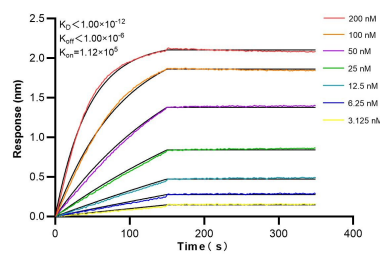
Immunofluorescent analysis of (4% PFA) fixed HeLa cells using CMFK1 antibody (86475-1-RR, Clone: 251233D3) at dilution of 1:200 and CoralLite@488-Conjugated Goat Anti-Rabbit IgG(H+L) (SA00013-2), CL594-Phalloidin (red). This data was developed using the same antibody clone with 86475-1-PBS in a different storage buffer formulation.



The mean UMP/CMP kinase concentration was determined to be 134.2 ng/mL in HeLa cell extract based on a 1.2 mg/mL extract load.



Cytometric bead array standard curve of MP02460-1, UMP/CMP kinase Recombinant Matched Antibody Pair, PBS Only. Capture antibody: 86475-2-PBS. Detection antibody: 86475-1-PBS. Standard: Ag1920. Range: 0.781-100 ng/mL



Biolayer interferometry (BLI) kinetic assays of 86475-1-RR against Human UMP/CMP kinase were performed. The affinity constant is below 1 pM.