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# CMPK2 Antibody (C-Terminus)
**Rabbit Polyclonal Antibody**
**Catalog # ALS15669**

## Specification

### CMPK2 Antibody (C-Terminus) - Product Information

| | |
|---|---|
| Application | **IHC, IF, WB** |
| Primary Accession | Q5EBM0 |
| Reactivity | **Human** |
| Host | **Rabbit** |
| Clonality | **Polyclonal** |
| Calculated MW | **49kDa KDa** |

### CMPK2 Antibody (C-Terminus) - Additional Information

**Gene ID** 129607

**Other Names**
UMP-CMP kinase 2, mitochondrial, 2.7.4.14, Nucleoside-diphosphate kinase, 2.7.4.6, CMPK2

**Target/Specificity**
Human CMPK2. Multiple isoforms of CMPK2 are known to exist.

**Reconstitution & Storage**
Long term: -20°C; Short term: +4°C. Avoid repeat freeze-thaw cycles.

**Precautions**
CMPK2 Antibody (C-Terminus) is for research use only and not for use in diagnostic or therapeutic procedures.

### CMPK2 Antibody (C-Terminus) - Protein Information

**Name** CMPK2

**Function**
Mitochondrial nucleotide monophosphate kinase needed for salvage dNTP synthesis that mediates immunomodulatory and antiviral activities through IFN-dependent and IFN-independent pathways (PubMed:<a href="http://www.uniprot.org/citations/17999954" target="_blank">17999954</a>, PubMed:<a href="http://www.uniprot.org/citations/30083606" target="_blank">30083606</a>, PubMed:<a href="http://www.uniprot.org/citations/36930652" target="_blank">36930652</a>, PubMed:<a href="http://www.uniprot.org/citations/37075076" target="_blank">37075076</a>). Restricts the replication of multiple viruses including flaviviruses or coronaviruses (PubMed:<a href="http://www.uniprot.org/citations/30083606" target="_blank">30083606</a>, PubMed:<a href="http://www.uniprot.org/citations/36930652" target="_blank">36930652</a>, PubMed:<a href="http://www.uniprot.org/citations/37075076" target="_blank">37075076</a>). Together with viperin/RSAD2 and ddhCTP, suppresses the replication of several coronaviruses through inhibition of the viral RNA-dependent RNA polymerase activities (PubMed:<a href="http://www.uniprot.org/citations/36930652" target="_blank">36930652</a>). Concerning

flaviviruses, restricts RNA translation when localized to the mitochondria independently of its kinase activity (PubMed:<a href="http://www.uniprot.org/citations/37075076" target="_blank">37075076</a>). Is able to phosphorylate dUMP, dCMP, CMP, UMP and monophosphates of the pyrimidine nucleoside analogs ddC, dFdC, araC, BVDU and FdUrd with ATP as phosphate donor. Efficacy is highest for dUMP followed by dCMP while CMP and UMP are poor substrates. Controls therefore mitochondrial DNA synthesis by supplying required deoxyribonucleotides (By similarity). CMPK2-dependent mitochondrial DNA synthesis is necessary for the production of oxidized mitochondrial DNA fragments after exposure to NLRP3 activators (By similarity). In turn, cytosolic oxidized mtDNA associates with the NLRP3 inflammasome complex and is required for its activation (By similarity).

**Cellular Location**
Mitochondrion Note=Mitochondrial localization is required for its antiviral function

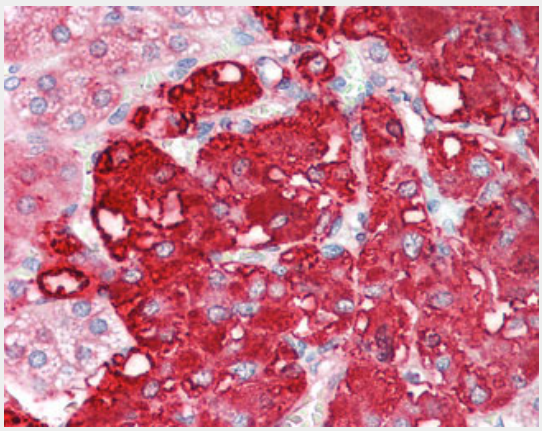
**Tissue Location**
High levels are observed in myeloid, lymphoid and mesenchymal tissues.

## CMPK2 Antibody (C-Terminus) - Protocols

Provided below are standard protocols that you may find useful for product applications.

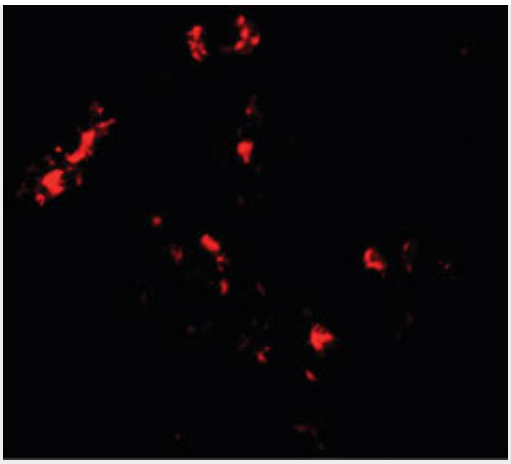
- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

## CMPK2 Antibody (C-Terminus) - Images

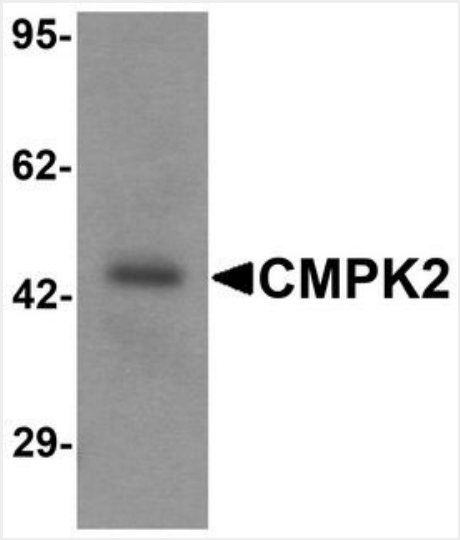


Anti-CMPK2 antibody IHC staining of human adrenal.

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Immunofluorescence of CMPK2 in human lung tissue with CMPK2 antibody at 20 ug/ml.




Western blot analysis of CMPK2 in rat lung tissue lysate with CMPK2 antibody at 1 ug/ml

**CMPK2 Antibody (C-Terminus) - Background**

May participate in dUTP and dCTP synthesis in mitochondria. Is able to phosphorylate dUMP, dCMP, CMP, UMP and monophosphates of the pyrimidine nucleoside analogs ddC, dFdC, araC, BVDU and FdUrd with ATP as phosphate donor. Efficacy is highest for dUMP followed by dCMP; CMP and UMP are poor substrates. May be involved in mtDNA depletion caused by long term treatment with ddC or other pyrimidine analogs. Also displays broad nucleoside diphosphate kinase activity.

**CMPK2 Antibody (C-Terminus) - References**

Xu Y.,et al.J. Biol. Chem. 283:1563-1571(2008).
Ota T.,et al.Nat. Genet. 36:40-45(2004).
Burkard T.R.,et al.BMC Syst. Biol. 5:17-17(2011).
Amiri M.,et al.Int. J. Biochem. Cell Biol. 45:925-931(2013).