

**CSNK1D Antibody (C-term)**  
**Purified Rabbit Polyclonal Antibody (Pab)**  
**Catalog # AP7402a****Specification**

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**CSNK1D Antibody (C-term) - Product Information**

Application	IHC-P, WB,E
Primary Accession	<a href="#">P48730</a>
Other Accession	<a href="#">Q06486</a> , <a href="#">Q9DC28</a> , <a href="#">P35508</a>
Reactivity	Human
Predicted	Bovine, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	47330
Antigen Region	321-352

**CSNK1D Antibody (C-term) - Additional Information****Gene ID** 1453**Other Names**

Casein kinase I isoform delta, CKI-delta, CKId, Tau-protein kinase CSNK1D, CSNK1D, HCKID

**Target/Specificity**

This CSNK1D antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 321-352 amino acids from the C-terminal region of human CSNK1D.

**Dilution**

IHC-P~~1:50~100

WB~~1:1000

E~~Use at an assay dependent concentration.

**Format**

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.

**Storage**

Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

**Precautions**

CSNK1D Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

**CSNK1D Antibody (C-term) - Protein Information****Name** CSNK1D

## Synonyms HCKID

**Function** Essential serine/threonine-protein kinase that regulates diverse cellular growth and survival processes including Wnt signaling, DNA repair and circadian rhythms. It can phosphorylate a large number of proteins. Casein kinases are operationally defined by their preferential utilization of acidic proteins such as caseins as substrates. Phosphorylates connexin-43/GJA1, MAP1A, SNAPIN, MAPT/TAU, TOP2A, DCK, HIF1A, EIF6, p53/TP53, DVL2, DVL3, ESR1, AIB1/NCOA3, DNMT1, PKD2, YAP1, PER1 and PER2. Central component of the circadian clock. In balance with PP1, determines the circadian period length through the regulation of the speed and rhythmicity of PER1 and PER2 phosphorylation. Controls PER1 and PER2 nuclear transport and degradation. YAP1 phosphorylation promotes its SCF(beta-TRCP) E3 ubiquitin ligase-mediated ubiquitination and subsequent degradation. DNMT1 phosphorylation reduces its DNA-binding activity. Phosphorylation of ESR1 and AIB1/NCOA3 stimulates their activity and coactivation. Phosphorylation of DVL2 and DVL3 regulates WNT3A signaling pathway that controls neurite outgrowth. Phosphorylates NEDD9/HEF1 (By similarity). EIF6 phosphorylation promotes its nuclear export. Triggers down- regulation of dopamine receptors in the forebrain. Activates DCK in vitro by phosphorylation. TOP2A phosphorylation favors DNA cleavable complex formation. May regulate the formation of the mitotic spindle apparatus in extravillous trophoblast. Modulates connexin-43/GJA1 gap junction assembly by phosphorylation. Probably involved in lymphocyte physiology. Regulates fast synaptic transmission mediated by glutamate.

## Cellular Location

Cytoplasm. Nucleus. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Cytoplasm, perinuclear region. Cell membrane. Cytoplasm, cytoskeleton, spindle. Golgi apparatus  
Note=Localized at mitotic spindle microtubules, and at the centrosomes and interphase in interphase cells. Recruited to the spindle apparatus and the centrosomes in response to DNA-damage. Correct subcellular localization requires kinase activity

## Tissue Location

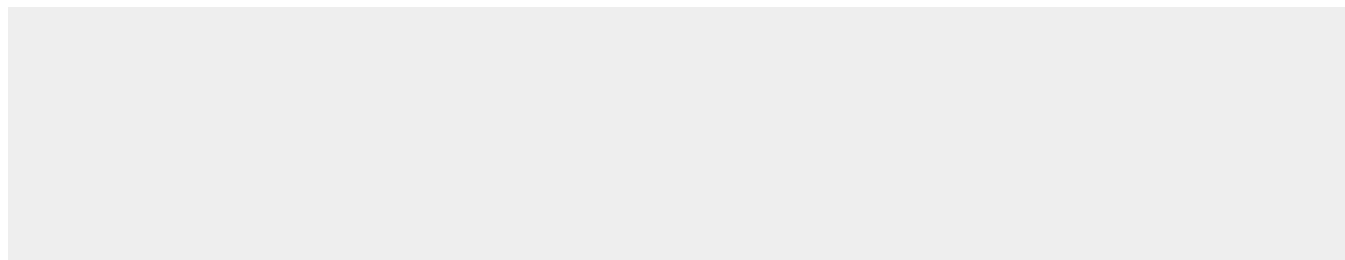
Expressed in all tissues examined, including brain, heart, lung, liver, pancreas, kidney, placenta and skeletal muscle However, kinase activity is not uniform, with highest kinase activity in splenocytes. In blood, highly expressed in hemopoietic cells and mature granulocytes. Also found in monocytes and lymphocytes

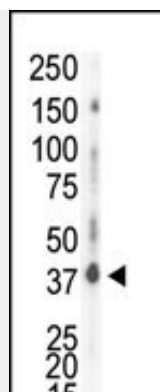
## CSNK1D Antibody (C-term) - Protocols

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

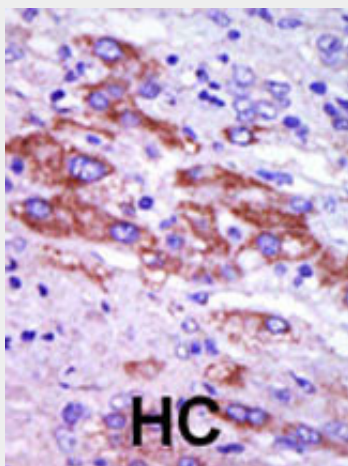
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

## CSNK1D Antibody (C-term) - Images





Western blot analysis of anti-CK1d C-term Pab (Cat. #AP7402a) in HeLa cell lysate. CK1d (arrow) was detected using purified Pab. Secondary HRP-anti-rabbit was used for signal visualization with chemiluminescence.



Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.

### **CSNK1D Antibody (C-term) - Background**

Protein kinases are enzymes that transfer a phosphate group from a phosphate donor, generally the  $\gamma$  phosphate of ATP, onto an acceptor amino acid in a substrate protein. By this basic mechanism, protein kinases mediate most of the signal transduction in eukaryotic cells, regulating cellular metabolism, transcription, cell cycle progression, cytoskeletal rearrangement and cell movement, apoptosis, and differentiation. With more than 500 gene products, the protein kinase family is one of the largest families of proteins in eukaryotes. The family has been classified in 8 major groups based on sequence comparison of their tyrosine (PTK) or serine/threonine (STK) kinase catalytic domains. The casein kinase 1 (CK1) group consists of 12 kinases including CK1, TTBK (tau tubulin kinase), and VRK (vaccinia-related kinase) families.

The receptor guanylate cyclase (RGC) group consists of 5 kinases similar in domain sequence to TKs (ANP, CYG).

### **CSNK1D Antibody (C-term) - References**

- Sillibourne, J.E., et al., J. Mol. Biol. 322(4):785-797 (2002).
- Rivers, A., et al., J. Biol. Chem. 273(26):15980-15984 (1998).
- Kusuda, J., et al., Genomics 32(1):140-143 (1996).
- Fish, K.J., et al., J. Biol. Chem. 270(25):14875-14883 (1995).

Graves, P.R., et al., J. Biol. Chem. 270(37):21689-21694 (1995).