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CSNK1D Antibody (C-term) Blocking peptide

Synthetic peptide
Catalog # BP7402a

Specification

CSNK1D Antibody (C-term) Blocking peptide - Product Information

Primary Accession P48730

CSNK1D Antibody (C-term) Blocking peptide - Additional Information

Gene ID 1453

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

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP7402a was selected from the C-term region of human CK1d . A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

CSNK1D Antibody (C-term) Blocking peptide - 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) Blocking peptide - Protocols

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

- Blocking Peptides

CSNK1D Antibody (C-term) Blocking peptide - Images

CSNK1D Antibody (C-term) Blocking peptide - Background

Protein kinases are enzymes that transfer a phosphate group from a phosphate donor, generally the g 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) Blocking peptide - 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).