

CSNK2A1 Blocking Peptide (Center)
Synthetic peptide
Catalog # BP20595c**Specification**

CSNK2A1 Blocking Peptide (Center) - Product Information

Primary Accession [P68400](#)
Other Accession [P18334](#), [Q8NEV1](#), [P28020](#), [P19139](#), [P33674](#),
[Q60737](#), [P21868](#), [P68399](#)

CSNK2A1 Blocking Peptide (Center) - Additional Information

Gene ID 1457

Other Names

Casein kinase II subunit alpha, CK II alpha, CSNK2A1, CK2A1

Target/Specificity

The synthetic peptide sequence is selected from aa 270-284 of HUMAN CSNK2A1

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.

CSNK2A1 Blocking Peptide (Center) - Protein Information

Name CSNK2A1

Synonyms CK2A1

Function

Catalytic subunit of a constitutively active serine/threonine-protein kinase complex that phosphorylates a large number of substrates containing acidic residues C-terminal to the phosphorylated serine or threonine (PubMed: 11239457, PubMed: 11704824, PubMed: 16193064, PubMed: 19188443, PubMed: 20545769, PubMed: 20625391, PubMed: 22017874, PubMed: 22406621, PubMed: 24962073)

target="_blank">24962073, PubMed:30898438, PubMed:31439799). Regulates numerous cellular processes, such as cell cycle progression, apoptosis and transcription, as well as viral infection (PubMed:12631575, PubMed:19387552, PubMed:19387551). May act as a regulatory node which integrates and coordinates numerous signals leading to an appropriate cellular response (PubMed:12631575, PubMed:19387552, PubMed:19387551). During mitosis, functions as a component of the p53/TP53-dependent spindle assembly checkpoint (SAC) that maintains cyclin-B-CDK1 activity and G2 arrest in response to spindle damage (PubMed:11704824, PubMed:19188443). Also required for p53/TP53-mediated apoptosis, phosphorylating 'Ser-392' of p53/TP53 following UV irradiation (PubMed:11239457). Phosphorylates a number of DNA repair proteins in response to DNA damage, such as MDC1, RAD9A, RAD51 and HTATSF1, promoting their recruitment to DNA damage sites (PubMed:20545769, PubMed:21482717, PubMed:22325354, PubMed:26811421, PubMed:30898438, PubMed:35597237). Can also negatively regulate apoptosis (PubMed:16193064, PubMed:22184066). Phosphorylates the caspases CASP9 and CASP2 and the apoptotic regulator NOL3 (PubMed:16193064). Phosphorylation protects CASP9 from cleavage and activation by CASP8, and inhibits the dimerization of CASP2 and activation of CASP8 (PubMed:16193064). Phosphorylates YY1, protecting YY1 from cleavage by CASP7 during apoptosis (PubMed:22184066). Regulates transcription by direct phosphorylation of RNA polymerases I, II, III and IV (PubMed:19387550, PubMed:12631575, PubMed:19387552, PubMed:19387551, PubMed:23123191). Also phosphorylates and regulates numerous transcription factors including NF-kappa-B, STAT1, CREB1, IRF1, IRF2, ATF1, ATF4, SRF, MAX, JUN, FOS, MYC and MYB (PubMed:19387550, PubMed:12631575, PubMed:19387552, PubMed:19387551, PubMed:23123191). Phosphorylates Hsp90 and its co-chaperones FKBP4 and CDC37, which is essential for chaperone function (PubMed:19387550). Mediates sequential phosphorylation of FNIP1, promoting its gradual interaction with Hsp90, leading to activate both kinase and non-kinase client proteins of Hsp90 (PubMed:30699359). Regulates Wnt signaling by phosphorylating CTNNB1 and the transcription factor LEF1 (PubMed:19387549). Acts as an ectokinase that phosphorylates several extracellular proteins (PubMed:19387550).

target="_blank">19387550, PubMed:12631575, PubMed:19387552, PubMed:19387551). During viral infection, phosphorylates various proteins involved in the viral life cycles of EBV, HSV, HBV, HCV, HIV, CMV and HPV (PubMed:19387550, PubMed:12631575, PubMed:19387552, PubMed:19387551). Phosphorylates PML at 'Ser-565' and primes it for ubiquitin-mediated degradation (PubMed:20625391, PubMed:22406621). Plays an important role in the circadian clock function by phosphorylating BMAL1 at 'Ser-90' which is pivotal for its interaction with CLOCK and which controls CLOCK nuclear entry (By similarity). Phosphorylates CCAR2 at 'Thr-454' in gastric carcinoma tissue (PubMed:24962073). Phosphorylates FMR1, promoting FMR1-dependent formation of a membraneless compartment (PubMed:30765518, PubMed:31439799).

Cellular Location

Nucleus

Tissue Location

Expressed in gastric carcinoma tissue and the expression gradually increases with the progression of the carcinoma (at protein level).

CSNK2A1 Blocking Peptide (Center) - Protocols

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

- [Blocking Peptides](#)

CSNK2A1 Blocking Peptide (Center) - Images

CSNK2A1 Blocking Peptide (Center) - Background

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CSNK2A1 Blocking Peptide (Center) - References

Meisner H.,et al.Biochemistry 28:4072-4076(1989).
Lozeman F.J.,et al.Biochemistry 29:8436-8447(1990).
Devilat I.,et al.FEBS Lett. 316:114-118(1993).
Ota T.,et al.Nat. Genet. 36:40-45(2004).
Kalnine N.,et al.Submitted (OCT-2004) to the EMBL/GenBank/DDBJ databases.