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CKII alpha (CSNK2A1) Antibody (Center) Blocking peptide

Synthetic peptide
Catalog # BP8144c

Specification

CKII alpha (CSNK2A1) Antibody (Center) Blocking peptide - Product Information

Primary Accession	P68400
Other Accession	P19138

CKII alpha (CSNK2A1) Antibody (Center) Blocking peptide - Additional Information

Gene ID 1457

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

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP8144c was selected from the Center region of human CSNK2A1 . 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.

CKII alpha (CSNK2A1) Antibody (Center) Blocking peptide - 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:<a href="http://www.uniprot.org/citations/22017874"

target="_blank">22017874, PubMed:22406621, PubMed: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:<a href="http://www.uniprot.org/citations/19387549"

target="_blank">19387549). Acts as an ectokinase that phosphorylates several extracellular proteins (PubMed: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).

CKII alpha (CSNK2A1) Antibody (Center) Blocking peptide - Protocols

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

- Blocking Peptides

CKII alpha (CSNK2A1) Antibody (Center) Blocking peptide - Images

CKII alpha (CSNK2A1) Antibody (Center) Blocking peptide - Background

Casein kinase II is a serine/threonine protein kinase that phosphorylates acidic proteins such as casein. The kinase exists as a tetramer and is composed of an alpha, an alpha-prime, and two beta subunits. The alpha subunits contain the catalytic activity while the beta subunits undergo autophosphorylation.

CKII alpha (CSNK2A1) Antibody (Center) Blocking peptide - References

Miyata, Y., et al., Mol. Cell. Biol. 24(9):4065-4074 (2004).Loizou, J.I., et al., Cell 117(1):17-28 (2004).Filhol, O., et al., EMBO Rep. 5(4):351-355 (2004).Kulartz, M., et al., Biochem. Biophys. Res. Commun. 315(4):1011-1017 (2004).Sachs, N.A., et al., J. Neurochem. 88(1):51-62 (2004).