

CSNK2A1 Antibody (Center)
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP20595c

Specification

CSNK2A1 Antibody (Center) - Product Information

Application	WB, IHC-P,E
Primary Accession	P68400
Other Accession	P18334 , Q8NEV1 , P28020 , P19139 , P33674 , Q60737 , P21868 , P68399
Reactivity	Human
Predicted	Bovine, Chicken, Mouse, Rabbit, Rat, Xenopus, C.Elegans
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	45144

CSNK2A1 Antibody (Center) - Additional Information

Gene ID 1457

Other Names

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

Target/Specificity

This CSNK2A1 antibody is generated from a rabbit immunized with a KLH conjugated synthetic peptide between 250-284 amino acids from the Central region of human CSNK2A1.

Dilution

WB~~1:1000

IHC-P~~1:25

Format

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

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

CSNK2A1 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

CSNK2A1 Antibody (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:[18411307](#), PubMed:[18583988](#), PubMed:[18678890](#), PubMed:[19188443](#), PubMed:[20545769](#), PubMed:[20625391](#), PubMed:[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:[19387551](#), PubMed:[19387552](#)). May act as a regulatory node which integrates and coordinates numerous signals leading to an appropriate cellular response (PubMed:[12631575](#), PubMed:[19387551](#), PubMed:[19387552](#)). 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, MRE11, RAD9A, RAD51 and HTATSF1, promoting their recruitment to DNA damage sites (PubMed:[18411307](#), PubMed:[18583988](#), PubMed:[18678890](#), PubMed:[20545769](#), PubMed:[21482717](#), PubMed:[22325354](#), PubMed:[26811421](#), PubMed:[28512243](#), 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:[12631575](#), PubMed:[19387550](#), PubMed:[19387551](#), PubMed:[19387552](#), 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:[12631575](#), PubMed:[19387550](#), PubMed:[19387551](#), PubMed:[19387552](#), 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:[12631575](#), PubMed:[19387550](#), PubMed:[19387551](#), PubMed:[19387552](#)). During viral infection, phosphorylates various proteins involved in the viral life cycles of EBV, HSV, HBV, HCV, HIV, CMV and HPV (PubMed:[12631575](#), PubMed:[19387550](#), PubMed:[19387551](#), PubMed:[19387552](#)). 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](#)). May phosphorylate histone H2A on 'Ser-1' (PubMed:[38334665](#)).

Cellular Location

Nucleus

Tissue Location

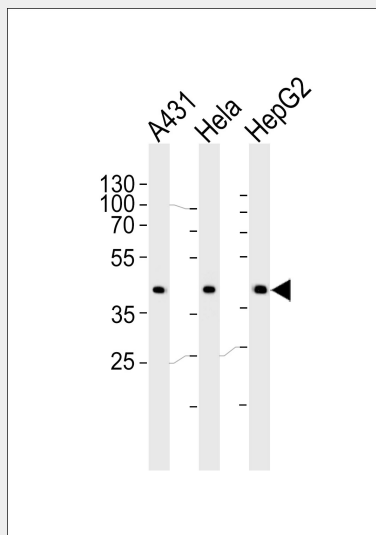
Expressed in gastric carcinoma tissue and the expression gradually increases with the progression of the carcinoma (at protein level).

CSNK2A1 Antibody (Center) - Protocols

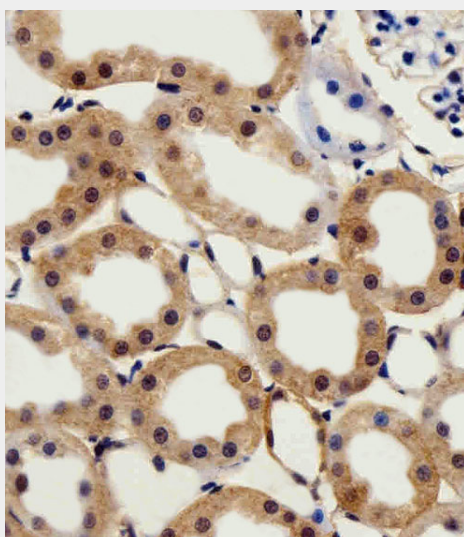
Provided below are standard protocols that you may find useful for product applications.

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

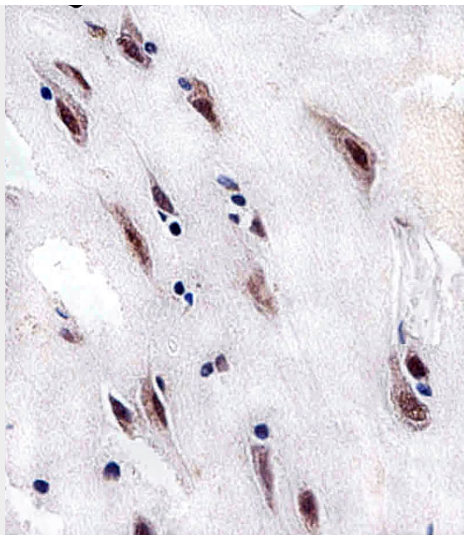
CSNK2A1 Antibody (Center) - Images



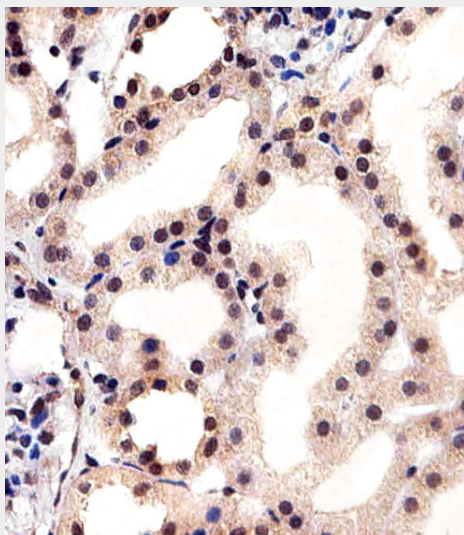
Western blot analysis of lysates from A431, HeLa, HepG2 cell line (from left to right), using CSNK2A1 Antibody (Center) (Cat. # AP20595c). AP20595c was diluted at 1:1000 at each lane. A goat anti-rabbit IgG H&L(HRP) at 1:5000 dilution was used as the secondary antibody. Lysates at 35ug per lane.



Immunohistochemical analysis of paraffin-embedded R.kidney section using CSNK2A1 Antibody (Center)(Cat#AP20595c). AP20595c was diluted at 1:25 dilution. A peroxidase-conjugated goat anti-rabbit IgG at 1:400 dilution was used as the secondary antibody, followed by DAB staining.



Immunohistochemical analysis of paraffin-embedded H. brain section using CSNK2A1 Antibody (Center)(Cat#AP20595c). AP20595c was diluted at 1:25 dilution. A peroxidase-conjugated goat anti-rabbit IgG at 1:400 dilution was used as the secondary antibody, followed by DAB staining.



Immunohistochemical analysis of paraffin-embedded H.kidney section using CSNK2A1 Antibody (Center)(Cat#AP20595c). AP20595c was diluted at 1:25 dilution. A peroxidase-conjugated goat anti-rabbit IgG at 1:400 dilution was used as the secondary antibody, followed by DAB staining.

CSNK2A1 Antibody (Center) - Background

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. Regulates numerous cellular processes, such as cell cycle progression, apoptosis and transcription, as well as viral infection. May act as a regulatory node which integrates and coordinates numerous signals leading to an appropriate cellular response. 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. Also required for p53/TP53-mediated apoptosis, phosphorylating 'Ser-392' of p53/TP53 following UV irradiation. Can also negatively regulate apoptosis. Phosphorylates the caspases CASP9 and CASP2 and the apoptotic regulator NOL3. Phosphorylation protects CASP9 from cleavage and activation by CASP8, and inhibits the dimerization of CASP2 and activation of CASP8. Regulates transcription by direct phosphorylation of RNA polymerases I, II, III and IV. Also phosphorylates and regulates

numerous transcription factors including NF-kappa-B, STAT1, CREB1, IRF1, IRF2, ATF1, SRF, MAX, JUN, FOS, MYC and MYB. Phosphorylates Hsp90 and its co-chaperones FKBP4 and CDC37, which is essential for chaperone function. Regulates Wnt signaling by phosphorylating CTNNB1 and the transcription factor LEF1. Acts as an ectokinase that phosphorylates several extracellular proteins. During viral infection, phosphorylates various proteins involved in the viral life cycles of EBV, HSV, HBV, HCV, HIV, CMV and HPV. Phosphorylates PML at 'Ser-565' and primes it for ubiquitin-mediated degradation.

CSNK2A1 Antibody (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).
Kalnina N., et al. Submitted (OCT-2004) to the EMBL/GenBank/DDBJ databases.