

CSNK2A1 Antibody
Mouse Monoclonal Antibody
Catalog # ALS15188**Specification**

CSNK2A1 Antibody - Product Information

Application	WB
Primary Accession	P68400
Reactivity	Human, Mouse, Rat
Host	Mouse
Clonality	Monoclonal
Calculated MW	45kDa KDa

CSNK2A1 Antibody - Additional Information**Gene ID** 1457**Other Names**

Casein kinase II subunit alpha, CK II alpha, 2.7.11.1, CSNK2A1, CK2A1

Reconstitution & Storage

Long term: -20°C; Short term: -20°C

Precautions

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

CSNK2A1 Antibody - 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](http://www.uniprot.org/citations/11239457), PubMed: [11704824](http://www.uniprot.org/citations/11704824), PubMed: [16193064](http://www.uniprot.org/citations/16193064), PubMed: [19188443](http://www.uniprot.org/citations/19188443), PubMed: [20545769](http://www.uniprot.org/citations/20545769), PubMed: [20625391](http://www.uniprot.org/citations/20625391), PubMed: [22017874](http://www.uniprot.org/citations/22017874), PubMed: [22406621](http://www.uniprot.org/citations/22406621), PubMed: [24962073](http://www.uniprot.org/citations/24962073), PubMed: [30898438](http://www.uniprot.org/citations/30898438), PubMed: [31439799](http://www.uniprot.org/citations/31439799)). Regulates numerous cellular processes, such as cell cycle progression, apoptosis and transcription, as well as viral infection (PubMed: [31439799](#)).

href="http://www.uniprot.org/citations/12631575" target="_blank">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, 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).

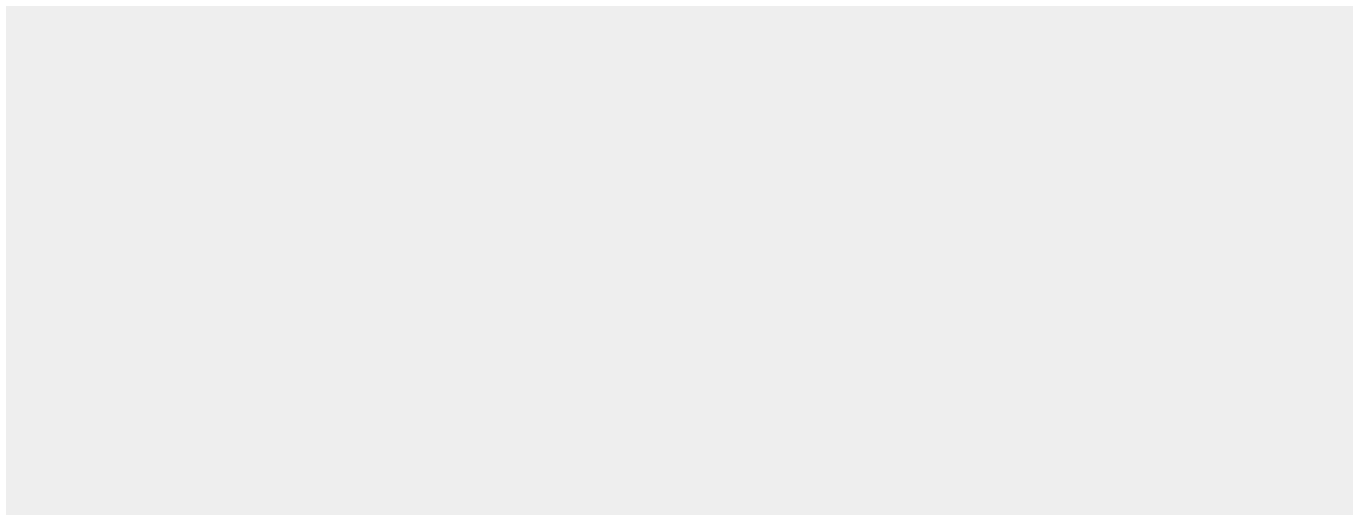
Volume

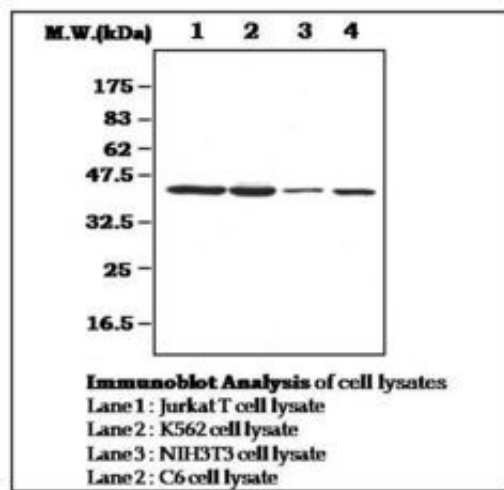
50 µl

CSNK2A1 Antibody - 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 - Images



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CSNK2A1 Antibody - 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. Plays an important role in the circadian clock function by phosphorylating ARNTL/BMAL1 at 'Ser-90' which is pivotal for its interaction with CLOCK and which controls CLOCK nuclear entry.

CSNK2A1 Antibody - 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.