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R Csnk2a1 Antibody (N-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP20539a

Product Information

Application	WB, E
Primary Accession	P19139
Reactivity	Human, Rat, Mouse
Predicted	Bovine, Canine, Rabbit, Chicken
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	45073
Antigen Region	28-50

Additional Information

Gene ID	116549
Other Names	Casein kinase II subunit alpha, CK II alpha, Csnk2a1
Target/Specificity	This Rat Csnk2a1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 28-50 amino acids from the N-terminal region of Rat Csnk2a1.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
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	R Csnk2a1 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	Csnk2a1
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 (By similarity). Regulates numerous cellular processes, such as cell cycle progression, apoptosis and transcription, as well as viral infection (By similarity). May act

	as a regulatory node which integrates and coordinates numerous signals leading to an appropriate cellular response (By similarity). 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 (By similarity). Also required for p53/TP53-mediated apoptosis, phosphorylating 'Ser-392' of p53/TP53 following UV irradiation (By similarity). 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 (By similarity). Can also negatively regulate apoptosis (PubMed:12191471). Phosphorylates the caspases CASP9 and CASP2 and the apoptotic regulator NOL3 (PubMed:12191471). Phosphorylation protects CASP9 from cleavage and activation by CASP8, and inhibits the dimerization of CASP2 and activation of CASP8 (PubMed:12191471). Phosphorylates YY1, protecting YY1 from cleavage by CASP7 during apoptosis (By similarity). Regulates transcription by direct phosphorylation of RNA polymerases I, II, III and IV (By similarity). Also phosphorylates and regulates numerous transcription factors including NF-kappa-B, STAT1, CREB1, IRF1, IRF2, ATF1, ATF4, SRF, MAX, JUN, FOS, MYC and MYB (By similarity). Phosphorylates Hsp90 and its co-chaperones FKBP4 and CDC37, which is essential for chaperone function (By similarity). Mediates sequential phosphorylation of FNIP1, promoting its gradual interaction with Hsp90, leading to activate both kinase and non-kinase client proteins of Hsp90 (By similarity). Regulates Wnt signaling by phosphorylating CTNNB1 and the transcription factor LEF1 (By similarity). Acts as an ectokinase that phosphorylates several extracellular proteins (By similarity). Phosphorylates PML at 'Ser-565' and primes it for ubiquitin-mediated degradation (By similarity). 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 (PubMed:19330005). Phosphorylates FMR1, promoting FMR1-dependent formation of a membraneless compartment (By similarity). May phosphorylate histone H2A on 'Ser-1' (By similarity).
Cellular Location	Nucleus {ECO:0000250|UniProtKB:P68400}.

Background

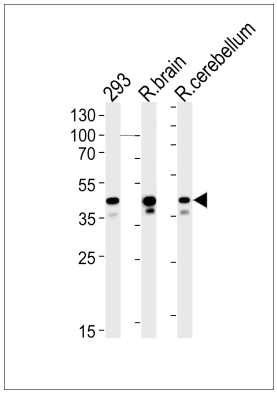
Catalytic subunit of a constitutively active serine/threonine-protein kinase complex that phosphorylates a large number of substrates containing acidic residues C-terminal to the phosphorylated serine or threonine. Regulates numerous cellular processes, such as cell cycle progression, apoptosis and transcription, 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.

References

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Meisner H., et al. Biochemistry 28:4072-4076(1989).
Li P.F., et al. Mol. Cell 10:247-258(2002).

Zhou W., et al. Chin. Sci. Bull. 54:220-226(2009).

Images



Rat Csnk2a1 Antibody (N-term) (Cat. #AP20539a) western blot analysis in 293 cell line , rat brain and cerebellum tissue lysates (35ug/lane).This demonstrates the Rat Csnk2a1 antibody detected the Rat Csnk2a1 protein (arrow).

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.