

# CKII alpha Antibody

Rabbit mAb

Catalog # AP90241

## Product Information

<b>Application</b>	WB, IHC, FC
<b>Primary Accession</b>	<a href="#">P68400</a>
<b>Reactivity</b>	Rat, Human, Mouse
<b>Clonality</b>	Monoclonal
<b>Other Names</b>	Casein kinase 2 alpha 1 polypeptide;Casein kinase II alpha subunit;CK II alpha;CK2 alpha;CK2A1;CKIIalpha;CSNK2A1
<b>Isotype</b>	Rabbit IgG
<b>Host</b>	Rabbit
<b>Calculated MW</b>	45144

## Additional Information

<b>Dilution</b>	WB 1:500~1:2000 IHC 1:50~1:200 FC 1:50
<b>Purification</b>	Affinity-chromatography
<b>Immunogen</b>	A synthesized peptide derived from human CKII alpha
<b>Description</b>	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.
<b>Storage Condition and Buffer</b>	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.

## Protein Information

<b>Name</b>	CSNK2A1
<b>Synonyms</b>	CK2A1
<b>Function</b>	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: <a href="#">11239457</a> , PubMed: <a href="#">11704824</a> , PubMed: <a href="#">16193064</a> , PubMed: <a href="#">18411307</a> , PubMed: <a href="#">18583988</a> , PubMed: <a href="#">18678890</a> , PubMed: <a href="#">19188443</a> , PubMed: <a href="#">20545769</a> , PubMed: <a href="#">20625391</a> , PubMed: <a href="#">22017874</a> , PubMed: <a href="#">22406621</a> , PubMed: <a href="#">24962073</a> , PubMed: <a href="#">30898438</a> , PubMed: <a href="#">31439799</a> ). 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).

## Images

Western blot analysis of CKII alpha expression in HeLa cell lysate.

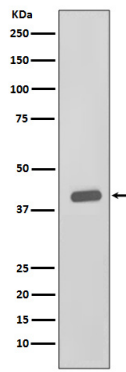


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Immunohistochemical analysis of paraffin-embedded human colon, using CKII alpha Antibody.

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