10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

CKII alpha (CSNK2A1) Antibody (Center)
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP8144C

Specification

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

Application	**WB, IHC-P,E**
Primary Accession	P68400
Other Accession	P28020, P19139, P33674, Q60737, P21868, P68399
Reactivity	**Human, Mouse, Rat**
Predicted	**Bovine, Chicken, Rabbit, Xenopus**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Antigen Region	**240-269**

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

Gene ID 1457

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

Target/Specificity
This CKII alpha (CSNK2A1) antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 240-269 amino acids from the Central region of human CKII alpha (CSNK2A1).

Dilution
WB~~1:2000
IHC-P~~1:50~100

Format
Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.

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

CKII alpha (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

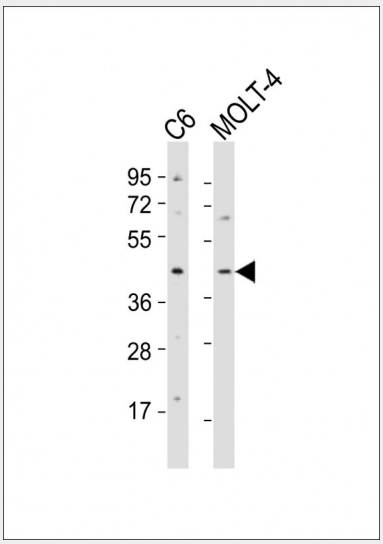
Tissue Location
Expressed in gastric carcinoma tissue and the expression gradually increases with the progression of the carcinoma (at protein level).

CKII alpha (CSNK2A1) Antibody (Center) - Protocols

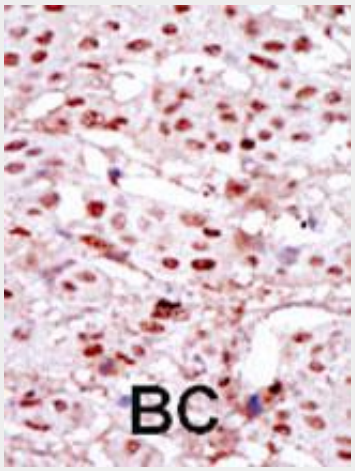
Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

CKII alpha (CSNK2A1) Antibody (Center) - Images



All lanes : Anti-CSNK2A1 Antibody (Y255) at 1:2000 dilution Lane 1: C6 whole cell lysates Lane 2: MOLT-4 whole cell lysates Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution Predicted band size : 45 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma

CKII alpha (CSNK2A1) Antibody (Center) - 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) - 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).