ARG55563
anti-CK2 alpha antibody

Package: 100 µl
Store at: -20°C

Summary

Product Description	Rabbit Polyclonal antibody recognizes CK2 alpha
Tested Reactivity	Hu, Rat
Tested Application	IHC-P, WB
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Target Name	CK2 alpha
Species	Human
Immunogen	KLH-conjugated synthetic peptide corresponding to aa. 250-284 (Center) of Human CK2 alpha.
Conjugation	Un-conjugated
Alternate Names	CKII; CK2A1; Casein kinase II subunit alpha; EC 2.7.11.1; CSNK2A3; CK II alpha

Application Instructions

Application table

Application	Dilution
IHC-P	1:25
WB	1:1000

Application Note: * The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.

Positive Control: HeLa

Observed Size: ~40-50 kDa

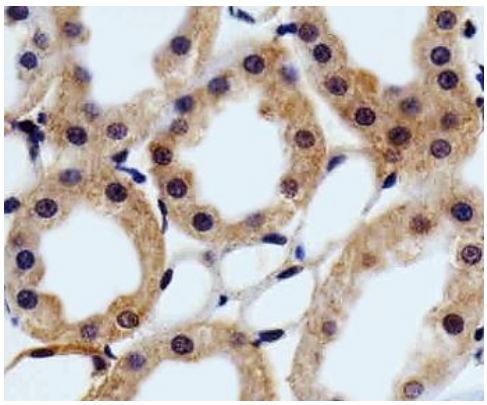
Properties

Form	Liquid
Purification	Purification with Protein A and immunogen peptide.
Buffer	PBS and 0.09% (W/V) Sodium azide
Preservative	0.09% (W/V) Sodium azide
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C or below. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.
Note	For laboratory research only, not for drug, diagnostic or other use.

Bioinformation

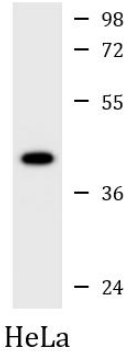
Database links	GeneID: 116549 Rat GeneID: 1457 Human Swiss-port # P19139 Rat Swiss-port # P68400 Human
Gene Symbol	CSNK2A1
Gene Full Name	casein kinase 2, alpha 1 polypeptide
Background	Casein kinase II is a serine/threonine protein kinase that phosphorylates acidic proteins such as casein. It is involved in various cellular processes, including cell cycle control, apoptosis, and circadian rhythm. 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. The protein encoded by this gene represents the alpha subunit. While this gene is found on chromosome 20, a related transcribed pseudogene is found on chromosome 11. Three transcript variants encoding two different proteins have been found for this gene. [provided by RefSeq, Jul 2014]
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. 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. Phosphorylates CCAR2 at 'Thr-454' in gastric carcinoma tissue. [UniProt]
Research Area	Cell Biology and Cellular Response antibody; Cell Death antibody; Gene Regulation antibody; Signaling Transduction antibody
Calculated Mw	45 kDa
PTM	Phosphorylated at Thr-344, Thr-360, Ser-362 and Ser-370 by CDK1 in prophase and metaphase and dephosphorylated during anaphase. Phosphorylation does not directly affect casein kinase 2 activity, but may contribute to its regulation by forming binding sites for interacting proteins and/or targeting it to different compartments.

Images



ARG55563 anti-CK2 alpha antibody IHC-P image

Immunohistochemistry: Paraffin-embedded Rat kidney section stained with ARG55563 anti-CK2 alpha antibody at 1:25 dilution.



ARG55563 anti-CK2 alpha antibody WB image

Western blot: 35 µg of HeLa cell lysate stained with ARG55563 anti-CK2 alpha antibody at 1:1000 dilution.