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[Primary Antibody]

Rabbit Anti-CK II alpha antibody

Catalog Number: SL1607R

FOR RESEARCH USE ONLY

[DATASHEET]

Host:	Rabbit
Isotype:	IgG
Clonality:	Polyclonal
Target:	CK II alpha
Immunogen:	KLH conjugated synthetic peptide derived from human CK II alpha: 201-300/391
Purification:	affinity purified by Protein A
Concentration:	1mg/ml
Storage:	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol. Shipped at 4℃. Store at -20 °C for one year. Avoid repeated freeze/thaw cycles.
Applications:	WB=1:500-2000 not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Reactivity:	Mouse,Rat(predicted:Human,Dog,Cow)
Predicted MW.:	45kDa
Subcellular Location:	The nucleus
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. 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 2008] **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

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	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. **Subunit:** Heterotetramer composed of two catalytic subunits (alpha chain and/or alpha' chain) and two regulatory subunits (beta chains). The tetramer can exist as a combination of 2 alpha/2 beta, 2 alpha'/2 beta or 1 alpha/1 alpha'/2 beta subunits. Also part of a CK2-SPT16-SSRP1 complex composed of SSRP1, SUPT16H, CSNK2A1, CSNK2A2 and CSNK2B, which forms following UV irradiation. Interacts with RNPS1. Interacts with SNAI1. Interacts with PML (isoform PML-12). **Post-translational modifications:** 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. **Similarity:** Belongs to the protein kinase superfamily. Ser/Thr protein kinase family. CK2 subfamily. Contains 1 protein kinase domain. **Database links:** **Entrez Gene:** 1457 Human **Entrez Gene:** 432370 Chicken **Entrez Gene:** 282419 Cow **Entrez Gene:** 12995 Mouse

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	Entrez Gene: 116549 Rat Omim: 115440 Human **SwissProt:** P21868 Chicken **SwissProt:** P68399 Cow **SwissProt:** P68400 Human **SwissProt:** Q60737 Mouse **SwissProt:** P19139 Rat **Unigene:** 644056 Human **Unigene:** 654675 Human **Unigene:** 23692 Mouse **Unigene:** 4231 Rat STKIIIt participates in regulating cell cycle arrest, cell growth, and Apoptosis. It plays an important role in the regulation of cell morphology and dynamics as well as cell transformation.

[VALIDATION IMAGES]

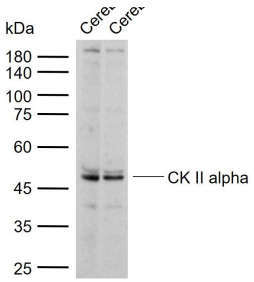


Figure 1. Sample: Lane 1: Mouse Cerebrum tissue lysates Lane 2: Rat Cerebrum tissue lysates Primary: Anti-CK II alpha (SL1607R) at 1/1000 dilution Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution Predicted band size: 45 kDa Observed band size: 48 kDa

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