

casein kinase II α (C-20): sc-6481

BACKGROUND

Casein kinase I (also designated CKI) and casein kinase II (also designated CKII) compose a family of serine/threonine protein kinases which are present in all eukaryotes examined to date. CKI family members, which include CKI α , γ , ϵ and δ , have been implicated in the control of cytoplasmic and nuclear processes, including DNA replication and repair. CKII is usually expressed as a tetrameric complex consisting of either an $\alpha\beta\beta 2$ or an $\alpha\alpha\beta 2$ structure. The α catalytic subunit is stimulated by the β regulatory subunit, which undergoes autophosphorylation. CKII activity is high in the cytosol and nucleus of proliferating and differentiating cells. CKII is known to phosphorylate more than 100 different substrates including nuclear oncoproteins, transcription factors and enzymes involved in DNA metabolism.

CHROMOSOMAL LOCATION

Genetic locus: CSNK2A2 (human) mapping to 16q21; Csnk2a2 (mouse) mapping to 8 D1.

SOURCE

casein kinase II α (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of casein kinase II α of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-6481 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as agarose conjugate for immunoprecipitation, sc-6481 AC, 500 μ g/0.25 ml agarose in 1 ml.

APPLICATIONS

casein kinase II α (C-20) is recommended for detection of casein kinase II α of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), flow cytometry (1 μ g per 1×10^6 cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

casein kinase II α (C-20) is also recommended for detection of casein kinase II α in additional species, including canine and bovine.

Suitable for use as control antibody for casein kinase II α siRNA (h): sc-38963, casein kinase II α siRNA (m): sc-38964, casein kinase II α shRNA Plasmid (h): sc-38963-SH, casein kinase II α shRNA Plasmid (m): sc-38964-SH, casein kinase II α shRNA (h) Lentiviral Particles: sc-38963-V and casein kinase II α shRNA (m) Lentiviral Particles: sc-38964-V.

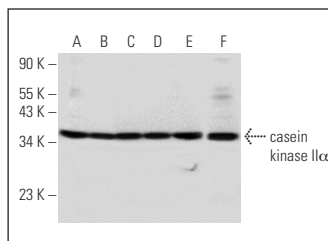
Molecular Weight of casein kinase II α : 42 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Jurkat whole cell lysate: sc-2204 or K-562 whole cell lysate: sc-2203.

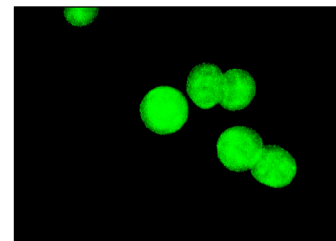
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



casein kinase II α (C-20): sc-6481. Western blot analysis of casein kinase II α expression in HeLa (A), Jurkat (B), K-562 (C), BJAB (D) and NIH/3T3 (E) whole cell lysates and Jurkat (F) nuclear extract.



casein kinase II α (C-20): sc-6481. Immunofluorescence staining of methanol-fixed K-562 cells showing nuclear localization.

SELECT PRODUCT CITATIONS

- Koffa, M.D., et al. 2003. CK2 protein kinase is stimulated and redistributed by functional herpes simplex virus ICP27 protein. *J. Virol.* 77: 4315-4325.
- Singh, N.N. and Ramji, D.P. 2006. Transforming growth factor- β -induced expression of the apolipoprotein E gene requires c-Jun N-terminal kinase, p38 kinase, and casein kinase 2. *Arterioscler. Thromb. Vasc. Biol.* 26: 1323-1329.
- Oster, B., et al. 2008. Human herpesvirus 6B induces phosphorylation of p53 in its regulatory domain by a CK2- and p38-independent pathway. *J. Gen. Virol.* 89: 87-96.
- Harris, S.M., et al. 2008. The interferon- γ -mediated inhibition of lipoprotein lipase gene transcription in macrophages involves casein kinase 2- and phosphoinositide-3-kinase-mediated regulation of transcription factors Sp1 and Sp3. *Cell. Signal.* 20: 2296-2301.
- Pi, J., et al. 2008. Arsenic-induced malignant transformation of human keratinocytes: involvement of Nrf2. *Free Radic. Biol. Med.* 45: 651-658.
- Pluemsampant, S., et al. 2008. Protein kinase CK2 is a key activator of histone deacetylase in hypoxia-associated tumors. *Int. J. Cancer* 122: 333-341.
- Yao, K., et al. 2012. Casein kinase 2 inhibition attenuates androgen receptor function and cell proliferation in prostate cancer cells. *Prostate* 72: 1423-1430.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

MONOS
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Try **casein kinase II α (D-7): sc-514403**, our highly recommended monoclonal alternative to casein kinase II α (C-20).