

casein kinase II α (1AD9): sc-12738

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. casein kinase I family members, which include casein kinase I α , I γ , I ϵ and I 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 α 2 β 2 or an α α ' β 2 structure. The α catalytic subunit is stimulated by the β regulatory subunit, which undergoes autophosphorylation. casein kinase II activity is high in the cytosol and nucleus of proliferating and differentiating cells. casein kinase II is known to phosphorylate more than 100 different substrates including nuclear oncoproteins, transcription factors and enzymes involved in DNA metabolism.

CHROMOSOMAL LOCATION

Genetic locus: CSNK2A1 (human) mapping to 20p13; Csnk2a1 (mouse) mapping to 2 G3.

SOURCE

casein kinase II α (1AD9) is a mouse monoclonal antibody raised against purified casein kinase II α of human origin.

PRODUCT

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

casein kinase II α (1AD9) is available conjugated to agarose (sc-12738 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-12738 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-12738 PE), fluorescein (sc-12738 FITC), Alexa Fluor[®] 488 (sc-12738 AF488), Alexa Fluor[®] 546 (sc-12738 AF546), Alexa Fluor[®] 594 (sc-12738 AF594) or Alexa Fluor[®] 647 (sc-12738 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-12738 AF680) or Alexa Fluor[®] 790 (sc-12738 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

casein kinase II α (1AD9) 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) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

casein kinase II α (1AD9) is also recommended for detection of casein kinase II α in additional species, including bovine.

Suitable for use as control antibody for casein kinase II α siRNA (h): sc-29918, casein kinase II α siRNA (m): sc-29919, casein kinase II α shRNA Plasmid (h): sc-29918-SH, casein kinase II α shRNA Plasmid (m): sc-29919-SH, casein kinase II α shRNA (h) Lentiviral Particles: sc-29918-V and casein kinase II α shRNA (m) Lentiviral Particles: sc-29919-V.

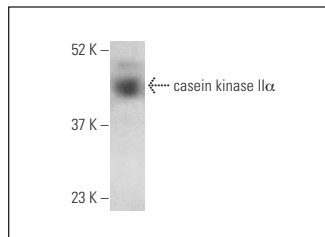
Molecular Weight of casein kinase II α : 42 kDa.

Positive Controls: MOLT-4 cell lysate: sc-2233.

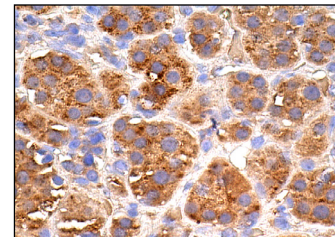
STORAGE

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 (1AD9) HRP: sc-12738 HRP. Direct western blot analysis of casein kinase II α expression in MOLT-4 whole cell lysate.



casein kinase II α (1AD9): sc-12738. Immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

- Kramerov, A.A., et al. 2006. Expression of protein kinase CK2 in astroglial cells of normal and neovascularized retina. *Am. J. Pathol.* 168: 1722-1736.
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- Hutchinson, J.A., et al. 2011. Regulation of ribosomal protein S6 phosphorylation by casein kinase 1 and protein phosphatase 1. *J. Biol. Chem.* 286: 8688-8696.
- Patsoukis, N., et al. 2013. PD-1 increases PTEN phosphatase activity while decreasing PTEN protein stability by inhibiting casein kinase 2. *Mol. Cell. Biol.* 33: 3091-3098.
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- Rosenberger, A.F., et al. 2016. Increased occurrence of protein kinase CK2 in astrocytes in Alzheimer's disease pathology. *J. Neuroinflammation* 13: 4.
- Jang, S.W., et al. 2017. Casein kinase 2 is a critical determinant of the balance of Th17 and Treg cell differentiation. *Exp. Mol. Med.* 49: e375.
- Li, P., et al. 2018. Myosin IIa is critical for cAMP-mediated endothelial secretion of von Willebrand factor. *Blood* 131: 686-698.
- Jin, C., et al. 2019. The CK2 inhibitor CX4945 reverses cisplatin resistance in the A549/DDP human lung adenocarcinoma cell line. *Oncol. Lett.* 18: 3845-3856.
- Huang, T., et al. 2021. PRMT6 methylation of RCC1 regulates mitosis, tumorigenicity, and radiation response of glioblastoma stem cells. *Mol. Cell* 81: 1276-1291.e9.

RESEARCH USE

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