

casein kinase II β (E-9): sc-46666

BACKGROUND

Casein kinase I (also designated CKI) and casein kinase II (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 δ and I ϵ , 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 $\alpha\alpha'$ β 2 structure. The 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: CSNK2B (human) mapping to 6p21.33; Csnk2b (mouse) mapping to 17 B1.

SOURCE

casein kinase II β (E-9) is a mouse monoclonal antibody raised against amino acids 1-215 representing full length casein kinase II β of human origin.

PRODUCT

Each vial contains 200 μ g IgG $_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

casein kinase II β (E-9) is recommended for detection of casein kinase II β of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

casein kinase II β (E-9) is also recommended for detection of casein kinase II β in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for casein kinase II β siRNA (h): sc-29916, casein kinase II β siRNA (m): sc-29917, casein kinase II β shRNA Plasmid (h): sc-29916-SH, casein kinase II β shRNA Plasmid (m): sc-29917-SH, casein kinase II β shRNA (h) Lentiviral Particles: sc-29916-V and casein kinase II β shRNA (m) Lentiviral Particles: sc-29917-V.

Molecular Weight of casein kinase II β : 28 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, AMJ2-C8 whole cell lysate: sc-364366 or BYDP whole cell lysate: sc-364368.

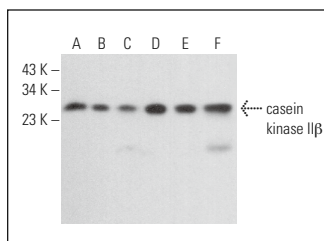
STORAGE

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

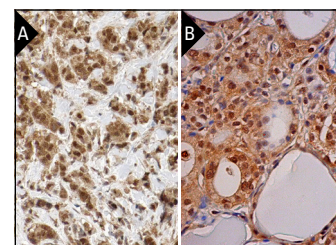
RESEARCH USE

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

DATA



casein kinase II β (E-9): sc-46666. Western blot analysis of casein kinase II β expression in Hep G2 (A), MCF7 (B), HUV-EC-C (C), Jurkat (D), AMJ2-C8 (E) and BYDP (F) whole cell lysates.



casein kinase II β (E-9): sc-46666. Immunoperoxidase staining of formalin fixed, paraffin-embedded human breast cancer showing nuclear and cytoplasmic staining of tumor cells. Kindly provided by The Swedish Human Protein Atlas (HPA) program (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human thyroid gland tissue showing nuclear and cytoplasmic staining of glandular cells (B).

SELECT PRODUCT CITATIONS

- Lin, K.Y., et al. 2010. Overexpression of nuclear protein kinase CK2 β subunit and prognosis in human gastric carcinoma. *Ann. Surg. Oncol.* 17: 1695-1702.
- Kren, B.T., et al. 2015. Preclinical evaluation of cyclin dependent kinase 11 and casein kinase 2 survival kinases as RNA interference targets for triple negative breast cancer therapy. *Breast Cancer Res.* 17: 19.
- Spohrer, S., et al. 2016. The nuclear fraction of protein kinase CK2 binds to the upstream stimulatory factors (USFs) in the absence of DNA. *Cell. Signal.* 28: 23-31.
- Spohrer, S., et al. 2017. Functional interplay between the transcription factors USF1 and PDX-1 and protein kinase CK2 in pancreatic β -cells. *Sci. Rep.* 7: 16367.
- Trembley, J.H., et al. 2019. CK2 pro-survival role in prostate cancer is mediated via maintenance and promotion of androgen receptor and NF κ B p65 expression. *Pharmaceuticals* 12: 89.
- Schmitt, B.M., et al. 2020. Protein kinase CK2 regulates nerve/glia antigen (NG2)-mediated angiogenic activity of human pericytes. *Cells* 9: 1546.
- Trembley, J.H., et al. 2021. CX-4945 and siRNA-mediated knockdown of CK2 improves cisplatin response in HPV+ and HPV- HNSCC cell lines. *Biomedicines* 9: 571.
- Chojnowski, J.E., et al. 2022. Copper modulates the catalytic activity of protein kinase CK2. *Front. Mol. Biosci.* 9: 878652.



See **casein kinase II β (6D5): sc-12739** for casein kinase II β antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.