SANTA CRUZ BIOTECHNOLOGY, INC.

casein kinase Iδ (C-4): sc-514942

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 Iα, γ, δ and ε, have been implicated in the control of cytoplasmic and nuclear processes, including DNA replication and repair. Casein kinase II is usually expressed as a tetrameric complex consisting of either an α2β2 or an αα'β2 structure. The αcatalytic subunit is stimulated by the β regulatory subunit, which undergoes autophosphorylation. Casein kinase II activity is high in both 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.

REFERENCES

1. Lozeman, F.J., et al. 1990. Isolation and characterization of human cDNA clones encoding the α and the α' subunits of casein kinase II. Biochemistry 29: 8436-8447.
2. Tuazon, P.T. and Traugh, J.A. 1991. Casein kinase I and II—multipotential serine protein kinases: structure, function and regulation. Adv. Second. Messenger Phosphoprotein Res. 23: 123-164.
3. Graves, P.R., et al. 1993. Molecular cloning, expression and characterization of a 49 kDa casein kinase I isoform from rat testis. J. Biol. Chem. 268: 6394-6401.
4. Litchfield, D.W. and Luscher, B. 1993. Casein kinase II in signal transduction and cell cycle regulation. Mol. Cell. Biochem. 127-128: 187-199.
5. Zhai, L., et al. 1995. Casein kinase Iγ subfamily. Molecular cloning, expression, and characterization of three mammalian isoforms and complementation of defects in the *Saccharomyces cerevisiae* YCK genes. J. Biol. Chem. 270: 12717-12724.
6. Fish, K.J., et al. 1995. Isolation and characterization of human casein kinase Iε (CKI), a novel member of the CKI gene family. J. Biol. Chem. 270: 14875-14883.

CHROMOSOMAL LOCATION

Genetic locus: CSNK1D (human) mapping to 17q25.3; Csnk1d (mouse) mapping to 11 E2.

SOURCE

casein kinase Iδ (C-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 372-394 near the C-terminus of casein kinase Iδ of human origin.

PRODUCT

Each vial contains 200 µg IgG_3 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-514942 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

casein kinase Iδ (C-4) is recommended for detection of casein kinase Iδ of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

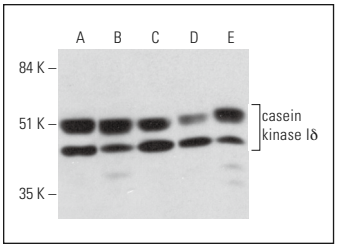
Suitable for use as control antibody for casein kinase Iδ siRNA (h): sc-29910, casein kinase Iδ siRNA (m): sc-29911, casein kinase Iδ shRNA Plasmid (h): sc-29910-SH, casein kinase Iδ shRNA Plasmid (m): sc-29911-SH, casein kinase Iδ shRNA (h) Lentiviral Particles: sc-29910-V and casein kinase Iδ shRNA (m) Lentiviral Particles: sc-29911-V.

Molecular Weight of casein kinase Iδ: 49 kDa.

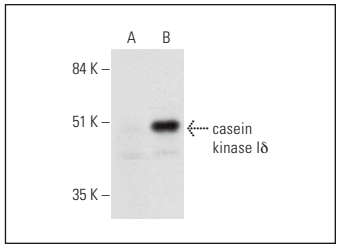
Molecular Weight of casein kinase Iδ C-terminal degradation product: 42 kDa.

Positive Controls: casein kinase Iδ (m): 293T Lysate: sc-125097, Jurkat whole cell lysate: sc-2204 or HeLa whole cell lysate: sc-2200.

DATA



casein kinase Iδ (C-4): sc-514942. Western blot analysis of casein kinase Iδ expression in K-562 (**A**), HeLa (**B**), SK-N-MC (**C**), Jurkat (**D**) and OVCAR-3 (**E**) whole cell lysates.



casein kinase Iδ (C-4): sc-514942. Western blot analysis of casein kinase Iδ expression in non-transfected: sc-117752 (**A**) and mouse casein kinase Iδ transfected: sc-125097 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Shui, B., et al. 2023. Oncogenic K-Ras suppresses global miRNA function. Mol. Cell 83: 2509-2523.e13.

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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

CONJUGATES

See **casein kinase Iδ (C-8): sc-55553** for casein kinase Iδ antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.