SANTA CRUZ BIOTECHNOLOGY, INC.

casein kinase IIα (h): 293T Lysate: sc-116435

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, Iγ, Iδ and Iε, 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 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.

REFERENCES

1. Lozeman, F.J., Litchfield, D.W., Piening, C., Takio, K., Walsh, K.A. and Krebs, E.G. 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., Haas, D.W., Hagedorn, C.H., DePaoli Roach, A.A. and Roach, P.J. 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., Graves, P.R., Robinson, L.C., Italiano, M., Culbertson, M.R., Rowles, J., Cobb, M.H., DePaoli Roach, A.A. and Roach, P.J. 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.

CHROMOSOMAL LOCATION

Genetic locus: CSNK2A1 (human) mapping to 20p13.

PRODUCT

casein kinase IIα (h): 293T Lysate represents a lysate of human casein kinase IIα transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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

APPLICATIONS

casein kinase IIα (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive casein kinase IIα antibodies. Recommended use: 10-20 µl per lane.

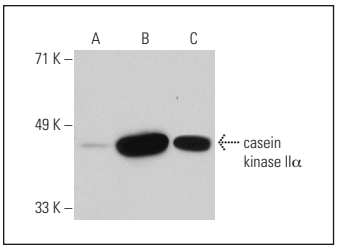
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

casein kinase IIα (1AD9): sc-12738. is recommended as a positive control antibody for Western Blot analysis of enhanced human casein kinase IIα expression in casein kinase IIα transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



casein kinase IIα (1AD9): sc-12738. Western blot analysis of casein kinase IIα expression in non-transfected: sc-117752 (**A**), human casein kinase IIα transfected: sc-116435 (**B**) and human casein kinase IIα transfected: sc-117423 (**C**) 293T whole cell lysates.

RESEARCH USE

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