SANTA CRUZ BIOTECHNOLOGY, INC.

casein kinase Iγ2 (26-P): sc-130365

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. CKII is usually expressed as a tetrameric complex consisting of either an α2β2 or an αα'β2 structure. The a 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., 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.
7. Allende, J.E. and Allende, C.C. 1995. Protein kinases. 4. Protein kinase CK2: an enzyme with multiple substrates and a puzzling regulation. FASEB J. 9: 313-323.

CHROMOSOMAL LOCATION

Genetic locus: CSNK1G2 (human) mapping to 19p13.3.

SOURCE

casein kinase Iγ2 (26-P) is a mouse monoclonal antibody raised against recombinant casein kinase Iγ2 of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

casein kinase Iγ2 (26-P) is recommended for detection of casein kinase Iγ2 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for casein kinase Iγ2 siRNA (h): sc-38959, casein kinase Iγ2 shRNA Plasmid (h): sc-38959-SH and casein kinase Iγ2 shRNA (h) Lentiviral Particles: sc-38959-V.

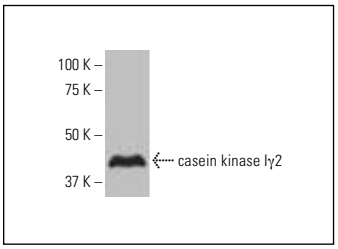
Molecular Weight of casein kinase Iγ2: 70-75 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, K-562 whole cell lysate: sc-2203 or NTERA-2 cl.D1 whole cell lysate: sc-364181.

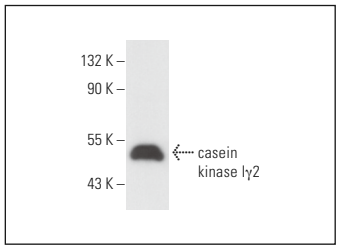
RECOMMENDED SUPPORT REAGENTS

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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



casein kinase Iγ2 (26-P): sc-130365. Western blot analysis of casein kinase Iγ2 expression in HeLa nuclear extract.



casein kinase Iγ2 (26-P): sc-130365. Western blot analysis of casein kinase Iγ2 expression in K-562 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Penas, C., et al. 2014. Casein kinase 1δ-dependent Wee1 protein degradation. J. Biol. Chem. 289: 18893-18903.
2. Penas, C., et al. 2015. Casein kinase 1δ is an APC/C(Cdh1) substrate that regulates cerebellar granule cell neurogenesis. Cell Rep. 11: 249-260.

STORAGE

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

PROTOCOLS

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