SANTA CRUZ BIOTECHNOLOGY, INC.

casein kinase Iα (H-57): sc-28886

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, membrane trafficking, circadian rhythm, cell cycle progression, chromosome segregation, apoptosis and cellular differentiation. Casein kinase I isoform α-like (CSNK1A1L) is a 337 amino acid protein that shares a high degree of sequence similarity with the alpha isoform of casein kinase 1. CSNK1A1L resides in the cytoplasm and participates in the Wnt signaling pathway. By utilizing ATP within its protein kinase domain, CSNK1A1L phosphorylates a large number of proteins.

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., et al. 1991. Casein kinase I and II multipotential serine protein kinases: structure, function, and regulation. Adv. Second Messenger Phosphoprotein Res. 23: 123-164.
3. Litchfield, D.W., et al. 1993. Casein kinase II in signal transduction and cell cycle regulation. Mol. Cell. Biochem. 127-128: 187-199.
4. Graves, P.R., et al. 1993. Molecular cloning, expresion, and characterization of a 49 kilodalton casein kinase I isoform from rat testis. J. Biol. Chem. 268: 6394-6401.
5. Zhai, L., et al. 1995. Casein kinase I γ 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., et al. 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: CSNK1A1 (human) mapping to 5q32, CSNK1A1L (human) mapping to 13q13.3; Csnk1a1 (mouse) mapping to 18 E1.

SOURCE

casein kinase Iα (H-57) is a rabbit polyclonal antibody raised against amino acids 281-337 mapping at the C-terminus of casein kinase Iα of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

casein kinase Iα (H-57) is recommended for detection of casein kinase Iα of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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), 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); also recommended for detection of CSNK1A1L of human origin.

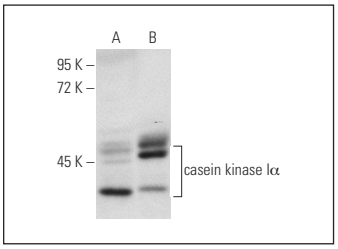
casein kinase Iα (H-57) is also recommended for detection of casein kinase Iα in additional species, including equine, canine, porcine and avian.

Suitable for use as control antibody for casein kinase Iα siRNA (h): sc-29912, casein kinase Iα siRNA (m): sc-29913, casein kinase Iα shRNA Plasmid (h): sc-29912-SH, casein kinase Iα shRNA Plasmid (m): sc-29913-SH, casein kinase Iα shRNA (h) Lentiviral Particles: sc-29912-V and casein kinase Iα shRNA (m) Lentiviral Particles: sc-29913-V.

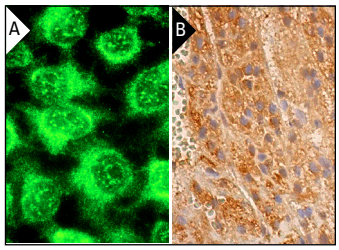
Molecular Weight of casein kinase Iα: 38 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, casein kinase Iα (m): 293T Lysate: sc-119017 or HeLa whole cell lysate: sc-2200.

DATA



casein kinase Iα (H-57): sc-28886. Western blot analysis of casein kinase Iα expression in non-transfected: sc-117752 (**A**) and mouse casein kinase Iα transfected: sc-119017 (**B**) 293T whole cell lysates.



casein kinase Iα: sc-28886. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing cytoplasmic staining of glandular cells (**B**).

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.