

# casein kinase I $\alpha$ (C-19): sc-6477

## 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 $\alpha$ , I $\gamma$ , I $\delta$  and I $\epsilon$ , 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  $\alpha$ -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.

## CHROMOSOMAL LOCATION

Genetic locus: CSNK1A1 (human) mapping to 5q33.1; Csnk1a1 (mouse) mapping to 18 E1.

## SOURCE

casein kinase I $\alpha$  (C-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of casein kinase I $\alpha$  of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-6477 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as agarose conjugate for immunoprecipitation, sc-6477 AC, 500  $\mu$ g/0.25 ml agarose in 1 ml.

## APPLICATIONS

casein kinase I $\alpha$  (C-19) is recommended for detection of casein kinase I $\alpha$  of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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); may cross-react with CSNK1A1L of human origin.

casein kinase I $\alpha$  (C-19) is also recommended for detection of casein kinase I $\alpha$  in additional species, including equine, canine, porcine and avian.

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

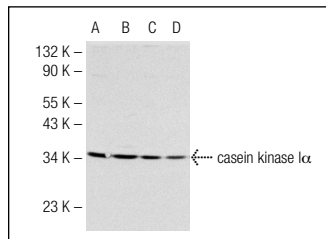
Molecular Weight of casein kinase I $\alpha$ : 38 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Jurkat whole cell lysate: sc-2204 or BJAB whole cell lysate: sc-2207.

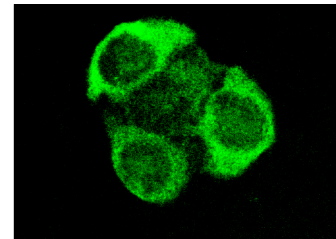
## STORAGE

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

## DATA



casein kinase I $\alpha$  (C-19): sc-6477. Western blot analysis of casein kinase I $\alpha$  expression in HeLa (A), Jurkat (B), BJAB (C) and K-562 (D) whole cell lysates



casein kinase I $\alpha$  (C-19): sc-6477. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic staining.

## SELECT PRODUCT CITATIONS

- Desagher, S., et al. 2001. Phosphorylation of bid by casein kinases I and II regulates its cleavage by caspase 8. *Mol. Cell* 21: 601-611.
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- Casagolda, D., et al. 2010. A p120-catenin-CK1 $\epsilon$  complex regulates Wnt signaling. *J. Cell Sci.* 123: 2621-2631.
- Papoff, G., et al. 2010. FADD-calmodulin interaction: a novel player in cell cycle regulation. *Biochim. Biophys. Acta* 1803: 898-911.
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- Del Valle-Pérez, B., et al. 2011. Coordinated action of CK1 isoforms in canonical Wnt signaling. *Mol. Cell. Biol.* 31: 2877-2888.

## RESEARCH USE

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

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Try **casein kinase I $\alpha$  (H-7): sc-74582** or **casein kinase I $\alpha$  (D-9): sc-74583**, our highly recommended monoclonal alternatives to casein kinase I $\alpha$  (C-19).