

# casein kinase I $\delta$ (R-19): sc-6474

## BACKGROUND

Casein kinase I (also designated CKI) and casein kinase II (also designated CKII) compose a family of Serine/Threonine protein kinases which are present in all eukaryotes examined to date. CKI family members, which include CKI $\alpha$ ,  $\gamma$ ,  $\epsilon$  and  $\delta$ , 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  $\alpha 2\beta 2$  or an  $\alpha\alpha'\beta 2$  structure. The  $\alpha$  catalytic subunit is stimulated by the  $\beta$  regulatory subunit, which undergoes autophosphorylation. CKII activity is high in the cytosol and nucleus of proliferating and differentiating cells. CKII is known to phosphorylate more than 100 different substrates including nuclear oncoproteins, transcription factors and enzymes involved in DNA metabolism.

## REFERENCES

- Lozeman, F.J., et al. 1990. Isolation and characterization of human cDNA clones encoding the  $\alpha$  and the  $\alpha'$  subunits of casein kinase II. *Biochem. J.* 268: 8436-47.
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## CHROMOSOMAL LOCATION

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

## SOURCE

casein kinase I $\delta$  (R-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of casein kinase I $\delta$  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-6474 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-6474 AC, 500  $\mu$ g/0.25 ml agarose in 1 ml.

## 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.

## APPLICATIONS

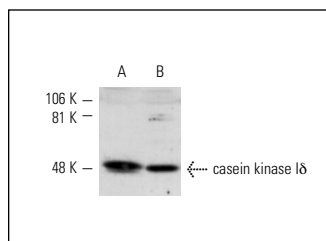
casein kinase I $\delta$  (R-19) is recommended for detection of casein kinase I $\delta$  of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

casein kinase I $\delta$  (R-19) is also recommended for detection of casein kinase I $\delta$  in additional species, including canine, bovine and avian.

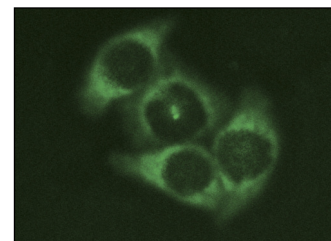
Suitable for use as control antibody for casein kinase I $\delta$  siRNA (h): sc-29910, casein kinase I $\delta$  siRNA (m): sc-29911, casein kinase I $\delta$  shRNA Plasmid (h): sc-29910-SH, casein kinase I $\delta$  shRNA Plasmid (m): sc-29911-SH, casein kinase I $\delta$  shRNA (h) Lentiviral Particles: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

Positive Controls: HeLa whole cell lysate: sc-2200, K-562 whole cell lysate: sc-2203 or rat testis extract: sc-2400.

## DATA



casein kinase I $\delta$  (R-19): sc-6474. Western blot analysis of casein kinase I $\delta$  expression in HeLa (A) and K-562 (B) whole cell lysates.



casein kinase I $\delta$  (R-19): sc-6474. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic staining.

## SELECT PRODUCT CITATIONS

- Bontems, S., et al. 2002. Phosphorylation of varicella-zoster virus IE63 protein by casein kinases influences its cellular localization and gene regulation activity. *J. Biol. Chem.* 277: 21050-21060.
- Becker, F., et al. 2004. A three-hybrid approach to scanning to proteome for targets of small molecule kinase inhibitors. *Chem. Biol.* 11: 211-233.
- Preuss, F., et al. 2004. *Drosophila* doubletime mutations which either shorten or lengthen the period of circadian rhythms decrease the protein kinase activity of casein kinase I. *Mol. Cell. Biol.* 24: 886-898.
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- Leroy, K., et al. 2007. Early axonopathy preceding neurofibrillary tangles in mutant tau transgenic mice. *Am. J. Pathol.* 171: 976-992.