SANTA CRUZ BIOTECHNOLOGY, INC.

casein kinase Iδ (C-8): sc-55553

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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, γ, δ and ε, 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 both 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.

CHROMOSOMAL LOCATION

Genetic locus: CSNK1D (human) mapping to 17q25.3; Csnk1d (mouse) mapping to 11 E2.

SOURCE

casein kinase Iδ (C-8) is a mouse monoclonal antibody raised against amino acids 296-355 mapping near the C-terminus of casein kinase Iδ of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

casein kinase Iδ (C-8) is available conjugated to agarose (sc-55553 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-55553 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-55553 PE), fluorescein (sc-55553 FITC), Alexa Fluor® 488 (sc-55553 AF488), Alexa Fluor® 546 (sc-55553 AF546), Alexa Fluor® 594 (sc-55553 AF594) or Alexa Fluor® 647 (sc-55553 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-55553 AF680) or Alexa Fluor® 790 (sc-55553 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

casein kinase Iδ (C-8) is recommended for detection of casein kinase Iδ of mouse, rat and human origin by Western Blotting (starting dilution 1:5000, dilution range 1:5,000-1:10,000), 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 1:30-1:3,000).

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

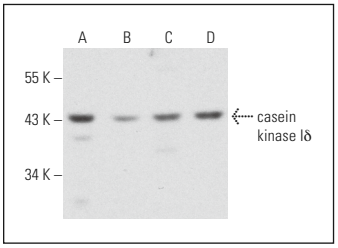
Molecular Weight of casein kinase Iδ: 49 kDa.

Molecular Weight of casein kinase Iδ C-terminal degradation product: 42 kDa.

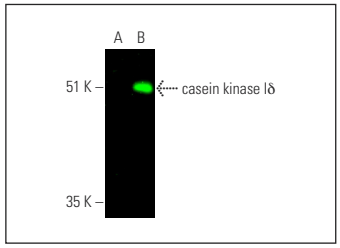
STORAGE

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

DATA



casein kinase Iδ (C-8): sc-55553. Western blot analysis of casein kinase Iδ expression in K-562 (**A**), LADMAC (**B**), I-11.15 (**C**) and KNRK (**D**) whole cell lysates.



casein kinase Iδ (C-8): sc-55553. Near-infrared western blot analysis of casein kinase Iδ expression in non-transfected: sc-117752 (**A**) and mouse casein kinase Iδ transfected: sc-125097 (**B**) 293T whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 680: sc-516180.

SELECT PRODUCT CITATIONS

1. Hirota, T., et al. 2010. High-throughput chemical screen identifies a novel potent modulator of cellular circadian rhythms and reveals CKIα as a clock regulatory kinase. PLoS Biol. 8: e1000559.
2. Penas, C., et al. 2014. Casein kinase 1δ-dependent Wee1 protein degradation. J. Biol. Chem. 289: 18893-18903.
3. 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.
4. Pangou, E., et al. 2016. HIF-2α phosphorylation by CK1δ promotes erythropoietin secretion in liver cancer cells under hypoxia. J. Cell Sci. 129: 4213-4226.
5. Fonseca Costa, S.S., et al. 2017. Normalisation against circadian and age-related disturbances enables robust detection of gene expression changes in liver of aged mice. PLoS ONE 12: e0169615.
6. Bar, I., et al. 2018. Silencing of casein kinase 1δ reduces migration and metastasis of triple negative breast cancer cells. Oncotarget 9: 30821-30836.
7. Wiersma, V.I., et al. 2019. Granulovacuolar degeneration bodies are neuron-selective lysosomal structures induced by intracellular Tau pathology. Acta Neuropathol. 138: 943-970.
8. Kyun, M.L., et al. 2020. Wnt3a stimulation promotes primary ciliogenesis through β-catenin phosphorylation-induced reorganization of centriolar satellites. Cell Rep. 30: 1447-1462.

RESEARCH USE

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