SANTA CRUZ BIOTECHNOLOGY, INC.

# casein kinase IIβ (6D5): sc-12739

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## 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 CKIα, γ, ε and δ, 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 α catalytic subunit is stimulated by the β 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.

## CHROMOSOMAL LOCATION

Genetic locus: CSNK2B (human) mapping to 6p21.33; Csnk2b (mouse) mapping to 17 B1.

## SOURCE

casein kinase IIβ (6D5) is a mouse monoclonal antibody raised against purified casein kinase IIβ of human origin.

## PRODUCT

Each vial contains 200 µg $IgG_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

casein kinase IIβ (6D5) is available conjugated to agarose (sc-12739 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-12739 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-12739 PE), fluorescein (sc-12739 FITC), Alexa Fluor® 488 (sc-12739 AF488), Alexa Fluor® 546 (sc-12739 AF546), Alexa Fluor® 594 (sc-12739 AF594) or Alexa Fluor® 647 (sc-12739 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-12739 AF680) or Alexa Fluor® 790 (sc-12739 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

casein kinase IIβ (6D5) is recommended for detection of casein kinase IIβ 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) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

casein kinase IIβ (6D5) is also recommended for detection of casein kinase IIβ in additional species, including bovine.

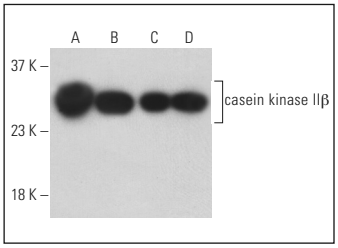
Suitable for use as control antibody for casein kinase IIβ siRNA (h): sc-29916, casein kinase IIβ siRNA (m): sc-29917, casein kinase IIβ shRNA Plasmid (h): sc-29916-SH, casein kinase IIβ shRNA Plasmid (m): sc-29917-SH, casein kinase IIβ shRNA (h) Lentiviral Particles: sc-29916-V and casein kinase IIβ shRNA (m) Lentiviral Particles: sc-29917-V.

Molecular Weight of casein kinase IIβ: 28 kDa.

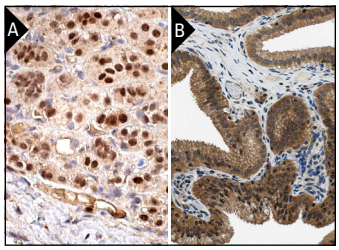
## STORAGE

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

## DATA




casein kinase IIβ (6D5) HRP: sc-12739 HRP. Direct western blot analysis of casein kinase IIβ expression in U-251-MG (**A**), MOLT-4 (**B**), U-698-M (**C**) and HeLa (**D**) whole cell lysates.




casein kinase IIβ (6D5): sc-12739. Immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing nuclear and cytoplasmic staining of glandular cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human gall bladder tissue showing nuclear and cytoplasmic staining of glandular cells. Kindly provided by The Swedish Human Protein Atlas (HPA) program (**B**).

## SELECT PRODUCT CITATIONS


1. Brooks, H.L., et al. 2003. cDNA array identification of genes regulated in rat renal medulla in response to vasopressin infusion. Am. J. Physiol. Renal Physiol. 284: F218-F228.
2. Pizzi, M., et al. 2015. Protein kinase CK2 is widely expressed in follicular, Burkitt and diffuse large B-cell lymphomas and propels malignant B-cell growth. Oncotarget 6: 6544-6552.
3. Ahmed, K., et al. 2016. CK2 targeted RNAi therapeutic delivered via malignant cell-directed tenfibgen nanocapsule: dose and molecular mechanisms of response in xenograft prostate tumors. Oncotarget 7: 61789-61805.
4. Padilla-Benavides, T., et al. 2017. Casein kinase 2-mediated phosphorylation of Brahma-related gene 1 controls myoblast proliferation and contributes to SWI/SNF complex composition. J. Biol. Chem. 292: 18592-18607.
5. Li, P., et al. 2018. Myosin IIa is critical for cAMP-mediated endothelial secretion of von Willebrand factor. Blood 131: 686-698.
6. Alcaraz, E., et al. 2020. Effects of CK2β subunit down-regulation on Akt signalling in HK-2 renal cells. PLoS ONE 15: e0227340.
7. Asif, M., et al. 2022. *De novo* variants of CSNK2B cause a new intellectual disability-craniodigital syndrome by disrupting the canonical Wnt signaling pathway. HGG Adv. 3: 100111.
8. Qiu, F., et al. 2023. MiR-93 alleviates DEHP plasticizer-induced neurotoxicity by negatively regulating TNFAIP1 and inhibiting ubiquitin-mediated degradation of CK2β. Food Chem. Toxicol. 178: 113888.


## RESEARCH USE

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