SANTA CRUZ BIOTECHNOLOGY, INC.

cyclin B3 (G-4): sc-515917

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Cell proliferation is controlled at specific stages of the cell cycle by distinct protein kinase complexes. These complexes consist of a catalytic subunit associating with a specific regulatory subunit to form the active kinase. The cyclins, which include cyclin A, B, C, D, E, F, G, H, I, K, L, T and their related proteins, including Dbf4, comprise the regulatory subunits of these kinase complexes. The controlled activation of the kinase complexes at various intervals of the cell cycle is regulated by the availability of the cyclins to the catalytic subunit. Unlike the catalytic subunit, which is expressed continually, the expression and stability of the regulatory subunit fluctuates depending on the stage of the cell cycle, thereby regulating kinase activity. Cyclin B3, also known as CCNB3 or CYCB3, is a 1,395 amino acid nuclear protein that belongs to the cyclin family of regulatory proteins. Expressed in testis with lower expression in a variety of other tissues, cyclin B3 is thought to be required for early meiotic prophase I, playing an important role in the meiotic cell cycle. Three isoforms of cyclin B3 exist due to alternative splicing events.

REFERENCES

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2. Mikulits, W., et al. 1997. Dynamics of cell cycle regulators: artifact-free analysis by recultivation of cells synchronized by centrifugal elutriation. DNA Cell Biol. 16: 849-859.
3. Lozano, J.C., et al. 2002. Molecular cloning, gene localization, and structure of human cyclin B3. Biochem. Biophys. Res. Commun. 291: 406-413.
4. Nguyen, T.B., et al. 2002. Characterization and expression of mammalian cyclin b3, a prepachytene meiotic cyclin. J. Biol. Chem. 277: 41960-41969.
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7. Refik-Rogers, J., et al. 2006. Misexpression of cyclin B3 leads to aberrant spermatogenesis. Cell Cycle 5: 1966-1973.
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CHROMOSOMAL LOCATION

Genetic locus: CCNB3 (human) mapping to Xp11.22.

SOURCE

cyclin B3 (G-4) is a mouse monoclonal antibody raised against amino acids 1-60 mapping at the N-terminus of cyclin B3 of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 200 µg IgG_3 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

cyclin B3 (G-4) is recommended for detection of cyclin B3 of human origin by Western Blotting (starting dilution 1:100, 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for cyclin B3 siRNA (h): sc-91156, cyclin B3 shRNA Plasmid (h): sc-91156-SH and cyclin B3 shRNA (h) Lentiviral Particles: sc-91156-V.

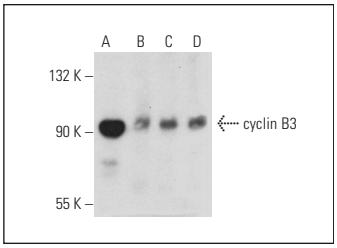
Molecular Weight of cyclin B3: 120 kDa.

Positive Controls: Hep G2 nuclear extract: sc-364819, human prostate extract: sc-363774 or human placenta extract: sc-363772.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



cyclin B3 (G-4): sc-515917. Western blot analysis of expression in Hep G2 nuclear extract (**A**) and human prostate (**B**), human testis (**C**) and human placenta (**D**) tissue extracts.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.