SANTA CRUZ BIOTECHNOLOGY, INC.

cyclin B (D-1): sc-166210

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Drosophila melanogaster is a proven and effective model for studying developmental and cellular processes common to higher eukaryotes. Approximately 13,600 genes have been elucidated from more than 120 megabases of euchromatin, and they are organized among the chromosomes 2, 3, 4, X and Y, with the Y chromosome being predominately heterochromatic. *Drosophila* genes can be categorized based on the type of protein for which they encode and are represented by six major classifications, which include intracellular signaling proteins, transmembrane proteins, RNA binding proteins, secreted factors, transcription regulators (basic helix-loop-helix, homeodomain containing, zinc finger containing, and chromatin associated) or other functional proteins. Cyclins are a diverse family of proteins whose defining feature is that they bind and activate cyclin dependent kinase (Cdk) family members and influence cell-cycle control. *Drosophila* cyclin A and B both regulate the cyclin dependent kinase Cdc2, with cyclin A expression peaking in prophase, while cyclin B expression peaks until metaphase.

REFERENCES

1. Dalby, B. and Glover, D.M. 1992. 3' non-translated sequences in *Drosophila* cyclin B transcripts direct posterior pole accumulation late in oogenesis and peri-nuclear association in syncytial embryos. Development 115: 989-997.
2. Rimmington, G., et al. 1994. Expression of N-terminally truncated cyclin B in the *Drosophila* larval brain leads to mitotic delay at late anaphase. J. Cell Sci. 107: 2729-2738.

SOURCE

cyclin B (D-1) is a mouse monoclonal antibody raised against amino acids 1-300 of cyclin B of *Drosophila melanogaster* 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.

cyclin B (D-1) is available conjugated to agarose (sc-166210 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-166210 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166210 PE), fluorescein (sc-166210 FITC), Alexa Fluor® 488 (sc-166210 AF488), Alexa Fluor® 546 (sc-166210 AF546), Alexa Fluor® 594 (sc-166210 AF594) or Alexa Fluor® 647 (sc-166210 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166210 AF680) or Alexa Fluor® 790 (sc-166210 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

cyclin B (D-1) is recommended for detection of cyclin B of *Drosophila melanogaster* 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).

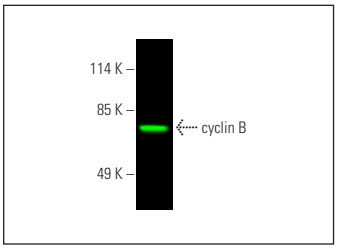
Molecular Weight of cyclin B: 63 kDa.

Positive Controls: Schneider's *Drosophila* Line 2 whole cell lysate: sc-364794.

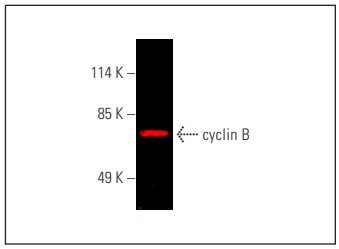
STORAGE

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

DATA



cyclin B (D-1): sc-166210. Near-infrared western blot analysis of cyclin B expression in Schneider's *Drosophila* Line 2 whole cell lysate. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 680: sc-516180.



cyclin B (D-1): sc-166210. Near-infrared western blot analysis of cyclin B expression in Schneider's *Drosophila* Line 2 whole cell lysate. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 790: sc-516181.

SELECT PRODUCT CITATIONS

1. Jablonska, B., et al. 2016. Sirt1 regulates glial progenitor proliferation and regeneration in white matter after neonatal brain injury. Nat. Commun. 7: 13866.
2. Zhang, D., et al. 2017. REST regulates the cell cycle for cardiac development and regeneration. Nat. Commun. 8: 1979.
3. Xiao, M., et al. 2018. Deoxypodophyllotoxin induces cell cycle arrest and apoptosis in human cholangiocarcinoma cells. Oncol. Lett. 16: 3177-3182.
4. Hong, D., et al. 2019. Deletion of TMEM268 inhibits growth of gastric cancer cells by downregulating the ITGB4 signaling pathway. Cell Death Differ. 26: 1453-1466.
5. Sobczak, M., et al. 2020. BRG1 activates proliferation and transcription of cell cycle-dependent genes in breast cancer cells. Cancers 12: 349.
6. Dey, P., et al. 2020. Biological evaluation of oxindole derivative as a novel anticancer agent against human kidney carcinoma cells. Biomolecules 10: 1260.
7. Lafranchi, L., et al. 2020. FRET-based sorting of live cells reveals shifted balance between PLK1 and CDK1 activities during checkpoint recovery. Cells 9: 2126.
8. Lin, J., et al. 2021. G_2/M cell cycle arrest and apoptosis induced by COH-203 in human promyelocytic leukemia HL-60 cells. Oncol. Lett. 22: 815.
9. Yu, J., et al. 2021. Dictamnine, a novel c-Met inhibitor, suppresses the proliferation of lung cancer cells by downregulating the PI3K/Akt/mTOR and MAPK signaling pathways. Biochem. Pharmacol. 195: 114864.

RESEARCH USE

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