

# cyclin B (D-5): sc-133183

## 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., Dalby, B. and Glover, D.M. 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.
3. Fotadar, R. and Fotadar, A. 1995. Cell cycle control of DNA replication. *Prog. Cell Cycle Res.* 1: 73-89.
4. Johnson, D.G. and Walker, C.L. 1999. Cyclins and cell cycle checkpoints. *Annu. Rev. Pharmacol. Toxicol.* 39: 295-312.
5. Adams, M.D., Celniker, S.E., Holt, R.A., Evans, C.A., Gocayne, J.D. and Amanatides, P. 2000. The genome sequence of *Drosophila melanogaster*. *Science* 287: 2185-2195.
6. Vied, C., Halachmi, N., Salzberg, A. and Horabin, J.I. 2003. Antizyme is a target of sex-lethal in the *Drosophila* germline and appears to act downstream of hedgehog to regulate sex-lethal and cyclin B. *Dev. Biol.* 253: 214-229.
7. Ji, J.Y., Squirrell, J.M. and Schubiger, G. 2004. Both cyclin B levels and DNA-replication checkpoint control the early embryonic mitoses in *Drosophila*. *Development* 131: 401-411.
8. The Interactive Fly. <http://sdb.bio.purdue.edu/fly/aimain/1aahome.htm>. <http://sdb.bio.purdue.edu/fly/aimain/6biochem.htm>

## SOURCE

cyclin B (D-5) 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<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

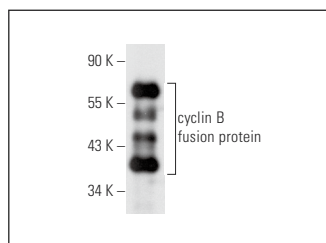
cyclin B (D-5) is recommended for detection of cyclin B of *Drosophila melanogaster* origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution 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.

## 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 B (D-5): sc-133183. Western blot analysis of *Drosophila* recombinant cyclin B fusion protein under reducing conditions.

## 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.