

cyclin E (d-300): sc-33748

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. Cyclin E in *Drosophila* binds the cyclin dependent kinase *cdc2c* that is required for the transcription of E2F dependent genes.

REFERENCES

- Evans, T., et al. 1983. Cyclin: a protein specified by maternal mRNA in sea urchin eggs that is destroyed at each cleavage division. *Cell* 33: 389-396.
- Lew, D.J., et al. 1991. Isolation of three novel human cyclins by rescue of G₁ cyclin (Cln) function in yeast. *Cell* 66: 1197-1206.
- Fotedar, R. and Fotedar, A. 1995. Cell cycle control of DNA replication. *Prog. Cell Cycle Res.* 1: 73-89.
- Johnson, D.G. and Walker, C.L. Cyclins and cell cycle checkpoints. 1999. *Annu. Rev. Pharmacol. Toxicol.* 39: 295-312.
- Adams, M.D., et al. 2000. The genome sequence of *Drosophila melanogaster*. *Science* 287: 2185-2195.
- The Interactive Fly. <http://www.sdbonline.org/fly/aimain/1aahome.htm>.
<http://www.sdbonline.org/fly/newgene/cyclin-e.htm>

SOURCE

cyclin E (d-300) is a rabbit polyclonal antibody raised against amino acids 410-709 mapping at the C-terminus of cyclin E of *Drosophila melanogaster* origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

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 or our catalog for detailed protocols and support products.

APPLICATIONS

cyclin E (d-300) is recommended for detection of cyclin E of *Drosophila melanogaster* 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of cyclin E: 53 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

- Szuplewski, S., et al. 2009. *Drosophila* Minus is required for cell proliferation and influences cyclin E turnover. *Genes Dev.* 23: 1998-2003.
- Guest, S.T., et al. 2011. A protein network-guided screen for cell cycle regulators in *Drosophila*. *BMC Syst. Biol.* 5: 65.
- Azzam, G., et al. 2012. *Drosophila* Argonaute 1 and its miRNA biogenesis partners are required for oocyte formation and germline cell division. *Dev. Biol.* 365: 384-394.

RESEARCH USE

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