

# cyclin D (dC-16): sc-15877

## 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. The *Drosophila melanogaster* cyclin-dependent protein kinase complex cyclin D/Cdk4 stimulates both cell cycle progression and cell growth. Cyclin D/Cdk4 promotes cell cycle progression via the RBF/E2F pathway.

## REFERENCES

1. Fotedar, R. and Fotedar, A. 1995. Cell cycle control of DNA replication. *Prog. Cell Cycle Res.* 1: 73-89.
2. Johnson, D.G. and Walker, C.L. Cyclins and cell cycle checkpoints. 1999. *Annu. Rev. Pharmacol. Toxicol.* 39: 295-312.
3. Finley, R.L., Jr., et al. 1996. Isolation of *Drosophila* cyclin D, a protein expressed in the morphogenetic furrow before entry into S phase. *Proc. Natl. Acad. Sci. USA* 93: 3011-3015.
4. Adams, M.D., Celniker, S.E., Holt, R.A., Evans, C.A., Gocayne, J.D., Amanatides, P., et al. 2000. The genome sequence of *Drosophila melanogaster*. *Science* 287: 2185-2195.
5. Datar, S.A., et al. 2000. The *Drosophila* cyclin D-Cdk4 complex promotes cellular growth. *EMBO J* 19: 4543-4554.
6. Meyer, C.A., et al. 2002. Cyclin D-Cdk4 is not a master regulator of cell multiplication in *Drosophila* embryos. *Curr. Biol.* 12: 661-666.

## SOURCE

cyclin D (dC-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of cyclin D 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.

Blocking peptide available for competition studies, sc-15877 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

cyclin D (dC-16) is recommended for detection of cyclin D of *Drosophila melanogaster* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## 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) or our catalog for detailed protocols and support products.