

cyclin D (d-260): sc-25765

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. Finley, R.L., 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.
3. Johnson, D.G. and Walker, C.L. 1999. Cyclins and cell cycle checkpoints. *Annu. Rev. Pharmacol. Toxicol.* 39: 295-312.
4. Adams, M.D., 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 (d-260) is a rabbit polyclonal antibody raised against amino acids 222-481 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.

APPLICATIONS

cyclin D (d-260) is recommended for detection of cyclin D 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).

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

1. Mohammed, S.I., et al. 2006. Cyclooxygenase inhibitors in urinary bladder cancer: *in vitro* and *in vivo* effects. *Mol. Cancer Ther.* 5: 329-336.
2. Mooso, B.A., et al. 2012. Enhancing the effectiveness of androgen deprivation in prostate cancer by inducing Filamin A nuclear localization. *Endocr. Relat. Cancer* 19: 759-777.
3. Kim, S.H., et al. 2013. Prognostic significance and function of phosphorylated ribosomal protein S6 in esophageal squamous cell carcinoma. *Mod. Pathol.* 26: 327-335.
4. Wu, Y., et al. 2013. A novel colon cancer gene therapy using rAAV-mediated expression of human shRNA-FHL2. *Int. J. Oncol.* 43: 1618-1626.
5. Liu, Y., et al. 2015. Involvement of p29/SYF2/fSAP29/NTC31 in the progression of NSCLC via modulating cell proliferation. *Pathol. Res. Pract.* 211: 36-42.

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 or our catalog for detailed protocols and support products.