SANTA CRUZ BIOTECHNOLOGY, INC.

cyclin G1 (H-46): sc-7865

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Cyclins are the regulatory subunits of Cdc2 p34 and related cyclin-dependent kinases (Cdks) which play critical roles in the control of cell cycle progression. The catalytic subunit for cyclin A and B is Cdc2 p34 kinase. The Cdc2-cyclin B complex controls the G_2 to M transition whereas Cdc2-cyclin A regulates S phase progression. The G_1 to S transition, however, appears to be controlled by the G_1 cyclins. cyclin D1 accumulates during G_1 and associates with Cdk2, Cdk4 and Cdk5. cyclin E and Cdk2 interact during the G_1 to S transition. cyclin G contains a typical N terminal cyclin box and a carboxy terminal domain sequence homologous to the tyrosine phosphorylation site of the epidermal growth factor receptor. cyclin G expression is induced within three hours after growth stimulation and remains elevated with no apparent cell cycle dependency. cyclin G2 shares 53% amino acid sequence identity with cyclin G1. Peak expression of cyclin G2 is seen in late S phase, as opposed to cyclin G1 expression, which is constitutive.

CHROMOSOMAL LOCATION

Genetic locus: CCNG1 (human) mapping to 5q34; Ccng1 (mouse) mapping to 11 A5.

SOURCE

cyclin G1 (H-46) is a rabbit polyclonal antibody raised against amino acids 1-46 mapping at the N-terminus of cyclin G1 of human 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 G1 (H-46) is recommended for detection of cyclin G1 of mouse, rat and human 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

cyclin G1 (H-46) is also recommended for detection of cyclin G1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for cyclin G1 siRNA (h): sc-35139, cyclin G1 siRNA (m): sc-35140, cyclin G1 shRNA Plasmid (h): sc-35139-SH, cyclin G1 shRNA Plasmid (m): sc-35140-SH, cyclin G1 shRNA (h) Lentiviral Particles: sc-35139-V and cyclin G1 shRNA (m) Lentiviral Particles: sc-35140-V.

Molecular Weight of cyclin G1: 34 kDa.

Positive Controls: Jurkat nuclear extract: sc-2132, HeLa whole cell lysate: sc-2200 or HeLa nuclear extract: sc-2120.

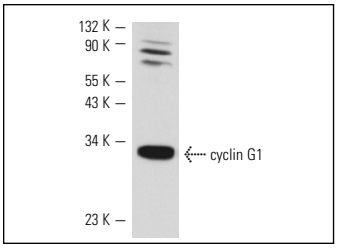
STORAGE

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

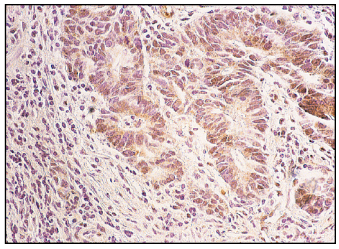
RESEARCH USE

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

DATA



cyclin G1 (H-46): sc-7865. Western blot analysis of cyclin G1 expression in Jurkat nuclear extract.



cyclin G1 (H-46): sc-7865. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human colon carcinoma showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Li, J.Q., et al. 2003. Cyclin B1, unlike cyclin G1, increases significantly during colorectal carcinogenesis and during later metastasis to lymph nodes. Int. J. Oncol. 22: 1101-1110.
2. Sayan, B.S., et al. 2007. Cleavage of the transactivation-inhibitory domain of p63 by caspases enhances apoptosis. Proc. Natl. Acad. Sci. USA 104: 10871-10876.
3. Hilton, G.D., et al. 2008. Roscovitine reduces neuronal loss, glial activation, and neurologic deficits after brain trauma. J. Cereb. Blood Flow Metab. 28: 1845-1859.
4. Zheng, H., et al. 2009. Nuclear cyclin B1 is overexpressed in low-malignant-potential ovarian tumors but not in epithelial ovarian cancer. Am. J. Obstet. Gynecol. 201: 367.e1-367.e6.
5. Jonckheere, N., et al. 2009. Tumour growth and resistance to gemcitabine of pancreatic cancer cells are decreased by AP-2α overexpression. Br. J. Cancer 101: 637-644.
6. Vaitaitis, G.M., et al. 2010. CD40 glycoforms and TNF-receptors 1 and 2 in the formation of CD40 receptor(s) in autoimmunity. Mol. Immunol. 47: 2303-2313.
7. Pitchakarn, P., et al. 2011. Induction of G_1 arrest and apoptosis in androgen-dependent human prostate cancer by Kuguacin J, a triterpenoid from *Momordica charantia* leaf. Cancer Lett. 306: 142-150.
8. Pitchakarn, P., et al. 2012. Kuguacin J, a triterpeniod from *Momordica charantia* leaf, modulates the progression of androgen-independent human prostate cancer cell line, PC3. Food Chem. Toxicol. 50: 840-847.

MONOS Satisfation Guaranteed

Try **cyclin G1 (F-5): sc-8016**, our highly recommended monoclonal alternative to cyclin G1 (H-46).