SANTA CRUZ BIOTECHNOLOGY, INC.

p21 Waf1/Cip1 (0.N.488): sc-71811

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

It is now well established that cyclins play a positive role in promoting cell cycle transitions via their ability to associate with and activate their cognate cyclin-dependent kinases (Cdks). Cdk2 associates with cyclins A, D and E, and has been implicated in the control of the G_1 to S phase transition in mammals. A novel Cdk-interacting protein, designated p21 Waf1/Cip1, Cip1 or WAF1, has been identified in cyclin A, cyclin D1, cyclin E and Cdk2 immunoprecipitates. p21 Waf1/Cip1 is a potent, tight-binding inhibitor of Cdks and can inhibit the phosphorylation of Rb by cyclin A-Cdk 2, cyclin E-Cdk2, cyclin D1-Cdk4 and cyclin D2-Cdk4 complexes. Expression of p21 Waf1/Cip1 is inducible by wildtype, but not mutant, p53. The mouse homolog of p21 Waf1/Cip1 is designated CAP20.

REFERENCES

1. Sherr, C.J. 1993. Mammalian G_1 cyclins. Cell 73: 1059-1065.
2. Harper, J.W., et al. 1993. The p21 Cdk-interacting protein Cip1 is a potent inhibitor of G_1 cyclin-dependent kinases. Cell 75: 805-816.
3. El-Deiry, W.S., et al. 1993. WAF1, a potential mediator of p53 tumor suppression. Cell 75: 817-825.

CHROMOSOMAL LOCATION

Genetic locus: CDKN1A (human) mapping to 6p21.2.

SOURCE

p21 Waf1/Cip1 (0.N.488) is a mouse monoclonal antibody raised against full length p21 Waf1/Cip1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

p21 Waf1/Cip1 (0.N.488) is recommended for detection of p21 Waf1/Cip1 of 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) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500); non cross-reactive with other mitotic inhibitors.

Suitable for use as control antibody for p21 Waf1/Cip1 siRNA (h): sc-29427, p21 Waf1/Cip1 shRNA Plasmid (h): sc-29427-SH and p21 Waf1/Cip1 shRNA (h) Lentiviral Particles: sc-29427-V.

Molecular Weight of p21 Waf1/Cip1: 21 kDa.

Positive Controls: HCT-116 whole cell lysate: sc-364175, T-47D cell lysate: sc-2293 or C32 whole cell lysate: sc-2205.

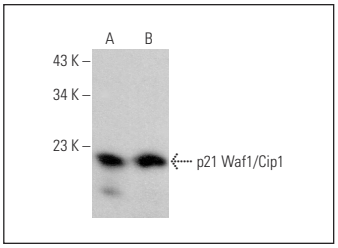
STORAGE

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

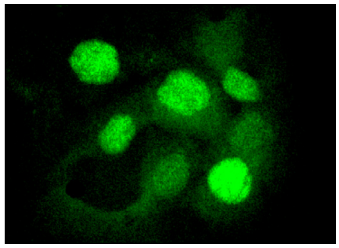
RESEARCH USE

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

DATA



p21 Waf1/Cip1 (0.N.488): sc-71811. Western blot analysis of p21 Waf1/Cip1 expression in HCT-116 (**A**) and T-47D (**B**) whole cell lysates.



p21 Waf1/Cip1 (0.N.488): sc-71811. Immunofluorescence stain-ing of formalin-fixed A-431 cells showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Wang, Z., et al. 2008. Glycogen synthase kinase 3 in MLL leukaemia maintenance and targeted therapy. Nature 455: 1205-1209.
2. Mirza, S., et al. 2010. Demethylating agent 5-aza-2-deoxycytidine enhances susceptibility of breast cancer cells to anticancer agents. Mol. Cell. Biochem. 342: 101-109.
3. Dogar, A.M., et al. 2011. Suppression of latent transforming growth factor (TGF)-β1 restores growth inhibitory TGF-β signaling through microRNAs. J. Biol. Chem. 286: 16447-16458.
4. Arbabian, A., et al. 2013. Modulation of endoplasmic reticulum calcium pump expression during lung cancer cell differentiation. FEBS J. 280: 5408-5418.
5. Yu, J., et al. 2018. MicroRNA-181a promotes cell proliferation and inhibits apoptosis in gastric cancer by targeting RASSF1A. Oncol. Rep. 40: 1959-1970.
6. Zhang, Y., et al. 2019. CDS-1548 induces apoptosis in HeLa cells by activating caspase 3. Oncol. Lett. 18: 1881-1887.
7. Guo, X., et al. 2020. RNA demethylase ALKBH5 prevents pancreatic cancer progression by posttranscriptional activation of PER1 in an m^6A-YTHDF2-dependent manner. Mol. Cancer 19: 91.
8. Zhang, Y., et al. 2020. Small molecule CDS-3078 induces G_2/M phase arrest and mitochondria-mediated apoptosis in HeLa cells. Exp. Ther. Med. 20: 284.
9. Pereira-Martins, D.A., et al. 2021. MLL5 improves ATRA driven differentiation and promotes xenotransplant engraftment in acute promyelocytic leukemia model. Cell Death Dis. 12: 371.

CONJUGATES

See **p21 Waf1/Cip1 (F-5): sc-6246** for p21 Waf1/Cip1 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.