SANTA CRUZ BIOTECHNOLOGY, INC.

p21 Waf1/Cip1 (DCS-60): sc-56335

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.

CHROMOSOMAL LOCATION

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

SOURCE

p21 Waf1/Cip1 (DCS-60) 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 (DCS-60) 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), 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); 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: HeLa nuclear extract: sc-2120, Hep G2 cell lysate: sc-2227 or Raji whole cell lysate: sc-364236.

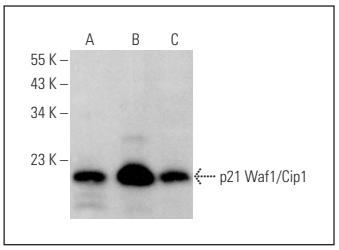
STORAGE

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

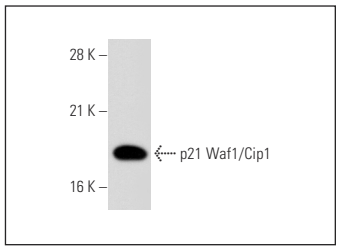
RESEARCH USE

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

DATA



p21 Waf1/Cip1 (DCS-60): sc-56335. Western blot analysis of p21 Waf1/Cip1 expression in Hep G2 (**A**), HUV-EC-C (**B**) and Raji (**C**) whole cell lysates.



p21 Waf1/Cip1 (DCS-60): sc-56335. Western blot analysis of p21 Waf1/Cip1 expression in HeLa nuclear extract.

SELECT PRODUCT CITATIONS

1. Ho, C., et al. 2009. SIRT1 markedly extends replicative lifespan if the NAD^+ salvage pathway is enhanced. FEBS Lett. 583: 3081-3085.
3. Clozel, T., et al. 2013. Mechanism-based epigenetic chemosensitization therapy of diffuse large B-cell lymphoma. Cancer Discov. 3: 1002-1019.
4. Chander, H., et al. 2014. Toca-1 is suppressed by p53 to limit breast cancer cell invasion and tumor metastasis. Breast Cancer Res. 16: 3413.
5. Brazina, J., et al. 2015. DNA damage-induced regulatory interplay between DAXX, p53, ATM kinase and Wip1 phosphatase. Cell Cycle 14: 375-387.
6. Samatiwat, P., et al. 2016. Nrf2 inhibition sensitizes cholangiocarcinoma cells to cytotoxic and antiproliferative activities of chemotherapeutic agents. Tumour Biol. 37: 11495-11507.
7. Sharif, T., et al. 2017. Autophagic homeostasis is required for the pluripotency of cancer stem cells. Autophagy 13: 264-284.
8. Su, Y.C., et al. 2018. Elovl6 is a negative clinical predictor for liver cancer and knockdown of Elovl6 reduces murine liver cancer progression. Sci. Rep. 8: 6586.
9. Minata, M., et al. 2019. Phenotypic plasticity of invasive edge glioma stem-like cells in response to Ionizing radiation. Cell Rep. 26: 1893-1905.e7.
10. Wu, P.K., et al. 2020. Mortalin/HSPA9 targeting selectively induces KRAS tumor cell death by perturbing mitochondrial membrane permeability. Oncogene 39: 4257-4270.
11. Xue, Y., et al. 2021. Resveratrol confers vascular protection by suppressing TLR4/Syk/NLRP3 signaling in oxidized low-density lipoprotein-activated platelets. Oxid. Med. Cell. Longev. 2021: 8819231.

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.