SANTA CRUZ BIOTECHNOLOGY, INC.

p21 (F-5): sc-6246

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 Cip1, has been identified in cyclin A, cyclin D1, cyclin E and Cdk2 immunoprecipitates. p21 is a potent, tight-binding inhibitor of Cdks and can inhibit the phosphorylation of Rb by cyclin A-Cdk2, cyclin E-Cdk2, cyclin D1-Cdk4 and cyclin D2-Cdk4 complexes. Expression of p21 (also designated WAF1/Cip1) is inducible by wildtype, but not mutant, p53. The mouse homolog of p21 is designated CAP20.

CHROMOSOMAL LOCATION

Genetic locus: CDKN1A (human) mapping to 6p21.2; Cdkn1a (mouse) mapping to 17 A3.3.

SOURCE

p21 (F-5) is a mouse monoclonal antibody raised against amino acids 1-159 representing full length p21 of mouse origin.

PRODUCT

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

p21 (F-5) is available conjugated to agarose (sc-6246 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-6246 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-6246 PE), fluorescein (sc-6246 FITC), Alexa Fluor® 488 (sc-6246 AF488), Alexa Fluor® 546 (sc-6246 AF546), Alexa Fluor® 594 (sc-6246 AF594) or Alexa Fluor® 647 (sc-6246 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-6246 AF680) or Alexa Fluor® 790 (sc-6246 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

In addition, p21 (F-5) is available conjugated to biotin (sc-6246 B), 200 µg/ml, for WB, IHC(P) and ELISA; and to either TRITC (sc-6246 TRITC, 200 µg/ml) or Alexa Fluor® 405 (sc-6246 AF405), 100 µg/2 ml, for IF, IHC(P) and FCM.

APPLICATIONS

p21 (F-5) is recommended for detection of p21 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 flow cytometry (1 µg per 1 x 10^6 cells).

Suitable for use as control antibody for p21 siRNA (h): sc-29427, p21 siRNA (m): sc-29428, p21 shRNA Plasmid (h): sc-29427-SH, p21 shRNA Plasmid (m): sc-29428-SH, p21 shRNA (h) Lentiviral Particles: sc-29427-V and p21 shRNA (m) Lentiviral Particles: sc-29428-V.

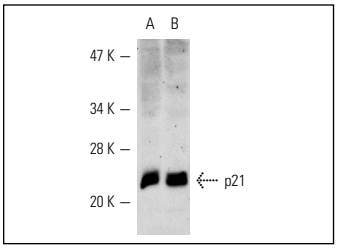
Molecular Weight of p21: 21 kDa.

Positive Controls: KNRK nuclear extract: sc-2141, C32 whole cell lysate: sc-2205 or C32 nuclear extract: sc-2136.

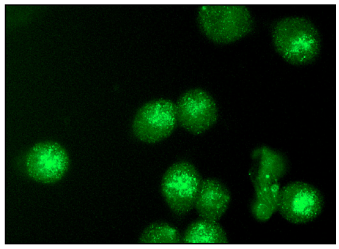
STORAGE

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

DATA



p21 (F-5): sc-6246. Western blot analysis of p21 expression in KNRK (**A**) and C32 (**B**) nuclear extracts.



p21 (F-5): sc-6246. Immunofluorescence staining of methanol-fixed KNRK cells showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Zimmermann, S., et al. 1999. Phosphorylation and regulation of Raf by Akt (protein kinase B). Science 286: 1741-1744.
2. Dierov, J., et al. 1999. Retinoic acid modulates a bimodal effect on cell cycle progression in human adult T-cell leukemia cells. Clin. Cancer Res. 5: 2540-2547.
3. Ashraf, R., et al. 2017. Coumarin-chalcone hybrid instigates DNA damage by minor groove binding and stabilizes p53 through post translational modifications. Sci. Rep. 7: 45287.
4. Noack, K., et al. 2017. Analysis of the interplay between all-*trans* retinoic acid and histone deacetylase inhibitors in leukemic cells. Arch. Toxicol. 91: 2191-2208.
5. He, D.M., et al. 2017. Oncogenic activity of amplified miniature chromosome maintenance 8 in human malignancies. Oncogene 36: 3629-3639.
6. Singh, P., et al. 2017. The heparanase inhibitor PG545 attenuates colon cancer initiation and growth, associating with increased p21 expression. Neoplasia 19: 175-184.
7. Lim, S.C., et al. 2017. Andrographolide induces apoptotic and non-apoptotic death and enhances tumor necrosis factor-related apoptosis-inducing ligand-mediated apoptosis in gastric cancer cells. Oncol. Lett. 13: 3837-3844.
8. Deng, M., et al. 2017. Combination of celecoxib and PD184161 exerts synergistic inhibitory effects on gallbladder cancer cell proliferation. Oncol. Lett. 13: 3850-3858.
9. Yu, G.Q., et al. 2017. 5-bromo-3-(3-hydroxyprop-1-ynyl)-2H-pyran-2-one induces apoptosis in T24 human bladder cancer cells through mitochondria-dependent signaling pathways. Mol. Med. Rep. 15: 153-159.

RESEARCH USE

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