SANTA CRUZ BIOTECHNOLOGY, INC.

p19 ARF (M-20): sc-7401

BACKGROUND

The progression of cells through the cell cycle is regulated by a family of proteins designated cyclin-dependent kinases (Cdks). Sequential activation of individual members of this family and their consequent phosphorylation of critical substrates promote orderly progression through the cell cycle. The protein p16INK4A, identified as a negative regulator of the cell cycle, has been shown to bind to and inhibit the activity of the Cdk4/cyclin D complex. p19 ARF, which is unrelated to p16, arises from transcription of an alternative reading frame of the p16 gene. Like p16, p19 ARF has been shown to induce cell cycle arrest. Mice lacking p19 ARF but expressing functional p16 have been shown to develop tumors early in life. Further studies have indicated that p19 ARF may be disrupted in a large percentage of human T cell acute lymphoblastic leukemias.

REFERENCES

1. Sherr, C.J. 1993. Mammalian G_1 cyclins. Cell 73: 1059-1065.
2. Hunter, T. 1993. Braking the cycle. Cell 75: 839-841.
3. Serrano, M., et al. 1993. A new regulatory motif in cell-cycle control causing specific inhibition of cyclin D/Cdk4. Nature 366: 704-707.
4. Kamb, A., et al. 1994. A cell cycle regulator potentially involved in genesis of many tumor types. Science 264: 436-440.
5. Mao, L., et al. 1995. A novel p16INK4A transcript. Cancer Res. 55: 2995-2997.
6. Quelle, D.E., et al. 1995. Alternative reading frames of the INK4a tumor suppressor gene encode two unrelated proteins capable of inducing cell cycle arrest. Cell 83: 993-1000.
7. Kamijo, T., et al. 1997. Tumor suppression at the mouse INK4a locus mediated by the alternative reading frame product p19 ARF. Cell 91: 649-659.
8. Gardie, B., et al. 1998. Genomic alterations of the p19 ARF encoding exons in T cell acute lymphoblastic leukemia. Blood 91: 1016-1020.
9. Bertwistle, D., et al. 2004. Monoclonal antibodies to the mouse p19 ARF tumor suppressor protein. Hybrid. Hybridomics 23: 293-300.

CHROMOSOMAL LOCATION

Genetic locus: Cdkn2a (mouse) mapping to 4 C4.

SOURCE

p19 ARF (M-20) is available as either goat (sc-7401) or rabbit (sc-7401-R) polyclonal affinity purified antibody raised against a peptide mapping at the C-terminus of p19 ARF of mouse origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-7401 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

p19 ARF (M-20) is recommended for detection of p19 ARF of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Suitable for use as control antibody for p19 ARF siRNA (m): sc-270046, p19 ARF shRNA Plasmid (m): sc-270046-SH and p19 ARF shRNA (m) Lentiviral Particles: sc-270046-V.

Molecular Weight of p19 ARF: 19 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: for goat primary antibody (sc-7401): use donkey anti-goat IgG-HRP: sc-2020 (range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (range: 1:2000-1:5000), for rabbit primary antibody (sc-7401-R): use goat anti-rabbit IgG-HRP: sc-2004 (range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (range: 1:2000-1:5000); Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 (use 50 mM NaF, sc-24988, as diluent) and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: for goat primary antibody (sc-7401): use donkey anti-goat IgG-FITC: sc-2024 (range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (range: 1:100-1:400), for rabbit primary antibody (sc-7401-R): use goat anti-rabbit IgG-FITC: sc-2012 (range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Dey, D., et al. 2002. Induction and bypass of p53 during productive infection by polyomavirus. J. Virol. 76: 9526-9532.
2. Delobel, P., et al. 2006. Cell-cycle markers in a transgenic mouse model of human tauopathy: increased levels of cyclin-dependent kinase inhibitors $p21^{Cip1}$ and $p27^{Kip1}$. Am. J. Pathol. 168: 878-887.

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.