

p19 ARF (G-19): sc-7403

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

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- Hunter, T. 1993. Braking the cycle. *Cell* 75: 839-841.
- Serrano, M., et al. 1993. A new regulatory motif in cell-cycle control causing specific inhibition of cyclin D/Cdk4. *Nature* 366: 704-707.
- Kamb, A., et al. 1994. A cell cycle regulator potentially involved in genesis of many tumor types. *Science* 264: 436-440.
- Mao, L., et al. 1995. A novel p16INK4A transcript. *Cancer Res.* 55: 2995-2997.
- 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.

CHROMOSOMAL LOCATION

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

SOURCE

p19 ARF (G-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-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-7403 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

p19 ARF (G-19) 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: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

- Newcomb, E.W., et al. 2000. Incidence of p14ARF gene deletion in high-grade adult and pediatric astrocytomas. *Hum. Pathol.* 31: 115-119.
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- Ashktorab, H., et al. 2003. p53 and p14 increase sensitivity of gastric cells to *H. pylori*-induced apoptosis. *Dig. Dis. Sci.* 48: 1284-1291.
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- Aizu, W., et al. 2006. Circumvention and reactivation of the p53 oncogene checkpoint in mouse colon tumors. *Biochem. Pharmacol.* 72: 981-991.
- Iizuka, D., et al. 2010. DNA copy number aberrations and disruption of the p16Ink4a/Rb pathway in radiation-induced and spontaneous rat mammary carcinomas. *Radiat. Res.* 174: 206-215.



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Try **p19 ARF (5-C3-1): sc-32748** or **p19 ARF (12-A1-1): sc-32749**, our highly recommended monoclonal alternatives to p19 ARF (G-19). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **p19 ARF (5-C3-1): sc-32748**.