SANTA CRUZ BIOTECHNOLOGY, INC.

p19 ARF (12-A1-1): sc-32749

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 $p16^{INK4A}$, 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 (12-A1-1) is a rat monoclonal antibody raised against a mixture of two peptides corresponding to amino acids 54-75 and 156-169 of p19 ARF of mouse origin; epitope mapping to amino acids 54-62.

PRODUCT

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

RESEARCH USE

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

APPLICATIONS

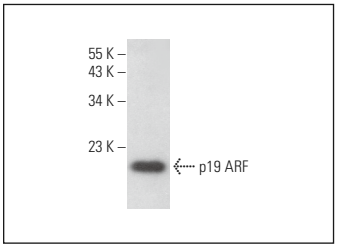
p19 ARF (12-A1-1) is recommended for detection of p19 ARF of mouse origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500); non cross-reactive with p19 ARF of human or golden hamster origin.

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.

Positive Controls: 3T3-L1 cell lysate: sc-2243.

DATA



p19 ARF (12-A1-1): sc-32749. Western blot analysis of p19 ARF expression in 3T3-L1 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Mirus, J.E., et al. 2014. Spatiotemporal proteomic analyses during pancreas cancer progression identifies serine/threonine stress kinase 4 (STK4) as a novel candidate biomarker for early stage disease. Mol. Cell. Proteomics 13: 3484-3496.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

CONJUGATES

See **p19 ARF (5-C3-1): sc-32748** for p19 ARF antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.