

p14 ARF (A-15): sc-30545

BACKGROUND

The progression of cells through the cell cycle is regulated by a family of proteins designated cyclin-dependent kinases (Cdk). Sequential activation of individual members of this family and their consequent phosphorylation of critical substrates promotes orderly progression through the cell cycle. Multiple proteins are encoded by the tumor suppressor gene CDKN2A (MTS1/p16^{INK4a}) via translation of alternate reading frames, resulting in the production of the p19 ARF protein in mice and the p14 ARF protein in humans. p14 ARF induces an increase in MDM2 and p21 levels and leads to cell cycle arrest in both G₁ and G₂/M. p14 ARF is negatively regulated by p53 and is known to bind directly to MDM2. CDKN2A also encodes the mitotic protein p16, which binds to and inhibits the Cdk4/cyclin D complex.

REFERENCES

- Sherr, C.J. 1993. Mammalian G₁ cyclins. *Cell* 73: 1059-1065.
- Hunter, T. 1993. Braking the cycle. *Cell* 75: 839-841.
- Larsen, C.J. 1997. Contribution of the dual coding capacity of the p16^{INK4a}/MTS1/CdkN2 locus to human malignancies. *Prog. Cell Cycle Res.* 3: 109-124.
- Serrano, M. 1997. The tumor suppressor protein p16^{INK4a}. *Exp. Cell Res.* 237: 7-13.
- Kamijo, T., et al. 1997. Tumor suppression at the mouse INK4a locus mediated by the alternative reading frame product p19ARF. *Cell* 91: 649-659.
- Stott, F.J., et al. 1998. The alternative product from the human CDKN2A locus, p14 (ARF), participates in a regulatory feedback loop with p53 and MDM2. *EMBO J.* 17: 5001-5014.

CHROMOSOMAL LOCATION

Genetic locus: CDKN2A (human) mapping to 9p21.3.

SOURCE

p14 ARF (A-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of p14 ARF of human 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-30545 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.

PROTOCOLS

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

APPLICATIONS

p14 ARF (A-15) is recommended for detection of p14 ARF of human 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 p14 ARF/p16 siRNA (h): sc-37622, p14 ARF/p16 shRNA Plasmid (h): sc-37622-SH and p14 ARF/p16 shRNA (h) Lentiviral Particles: sc-37622-V.

Molecular Weight of p14 ARF: 14 kDa.

Positive Controls: Saos-2 cell lysate: sc-2235, HeLa whole cell lysate: sc-2200 or BJAB whole cell lysate: sc-2207.

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.

RESEARCH USE

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



Try **p14 ARF (ARF 4C6/4): sc-53392** or **p14 ARF (14P02): sc-73434**, our highly recommended monoclonal alternatives to p14 ARF (A-15). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **p14 ARF (ARF 4C6/4): sc-53392**.