SANTA CRUZ BIOTECHNOLOGY, INC.

p14 ARF (1-132): sc-4544 WB

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 promotes orderly progression through the cell cycle. The tumor suppressor gene p16INK4a encodes the mitotic protein p16, which binds to and inhibits the Cdk4/cyclin D complex. Multiple proteins are encoded by the p16INK4a gene 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 it is known to bind directly to MDM2.

REFERENCES

1. Hunter, T. 1993. Braking the cycle. Cell 75: 839-841.
2. Sherr, C.J. 1993. Mammalian G1 cyclins. Cell 73: 1059-1065.
3. Larsen, C.J. 1997. Contribution of the dual coding capacity of the p16INK4a/MTS1/CDKN2 locus to human malignancies. Prog. Cell Cycle Res. 3: 109-124.
4. Serrano, M. 1997. The tumor suppressor protein p16INK4a. Exp. Cell Res. 237: 7-13.
5. Kamijo, T., Zindy, F., Roussel, M.F., Quelle, D.E., Downing, J.R., Ashmun, R.A., Grosveld, G., and Sherr, C.J. 1997. Tumor suppression at the mouse INK4a locus mediated by the alternative reading frame product p19ARF. Cell 91: 649-659.
6. Stott, F.J., Bates, S., James, M.C., McConnell, B.B., Starborg, M., Brookes, S., Palmero, I., Ryan, K., Hara, E., Vousden, K.H., and Peters, G. 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.

SOURCE

p14 ARF (1-132) is expressed in *E. coli* as a 42 kDa tagged fusion protein corresponding to amino acids 1-132 representing full length p14 ARF of human origin.

PRODUCT

p14 ARF (1-132) is purified from bacterial lysates (>98%) by glutathione agarose affinity chromatography; supplied as 10 µg in 0.1 ml SDS-PAGE loading buffer.

APPLICATIONS

p14 ARF (1-132) is suitable as a Western blotting control for sc-8340 and sc-8613.

STORAGE

Store at -20° C; stable for one year from the date of shipment.

RESEARCH USE

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