

# p14 ARF (ARF 4C6/4): sc-53392

## 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. Multiple proteins are encoded by the tumor suppressor gene CDKN2A (MTS1/p16<sup>INK4a</sup>) 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 G<sub>1</sub> and G<sub>2</sub>/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.

## CHROMOSOMAL LOCATION

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

## SOURCE

p14 ARF (ARF 4C6/4) is a mouse monoclonal antibody raised against His-tagged recombinant p14 ARF of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

p14 ARF (ARF 4C6/4) is available conjugated to agarose (sc-53392 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-53392 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-53392 PE), fluorescein (sc-53392 FITC), Alexa Fluor® 488 (sc-53392 AF488), Alexa Fluor® 546 (sc-53392 AF546), Alexa Fluor® 594 (sc-53392 AF594) or Alexa Fluor® 647 (sc-53392 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-53392 AF680) or Alexa Fluor® 790 (sc-53392 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

p14 ARF (ARF 4C6/4) is recommended for detection of p14 ARF of human 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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for p14 ARF/p16 INK4A siRNA (h): sc-37622, p14 ARF/p16 INK4A shRNA Plasmid (h): sc-37622-SH and p14 ARF/p16 INK4A shRNA (h) Lentiviral Particles: sc-37622-V.

Molecular Weight of p14 ARF: 14 kDa.

Positive Controls: NCI-H1299 whole cell lysate: sc-364234, HeLa whole cell lysate: sc-2200 or BJAB whole cell lysate: sc-2207.

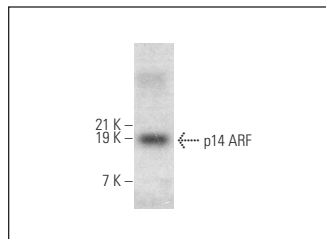
## RESEARCH USE

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

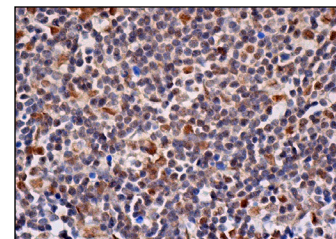
## STORAGE

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

## DATA



p14 ARF (ARF 4C6/4): sc-53392. Western blot analysis of p14 ARF expression in NCI-H1299 whole cell lysate.



p14 ARF (ARF 4C6/4): sc-53392. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lymph node tissue showing nuclear and cytoplasmic staining of cells in non-germinal centers.

## SELECT PRODUCT CITATIONS

- Vestey, S.B., et al. 2004. p14 ARF expression in invasive breast cancers and ductal carcinoma *in situ*—relationships to p53 and Hdm2. *Breast Cancer Res.* 6: R571-R585.
- van Leeuwen, I.M., et al. 2013. Modulation of p53 C-terminal acetylation by mdm2, p14<sup>ARF</sup>, and cytoplasmic SirT2. *Mol. Cancer Ther.* 12: 471-480.
- Omatsu, M., et al. 2014. Cyclin-dependent kinase inhibitors, p16 and p27, demonstrate different expression patterns in thymoma and thymic carcinoma. *Gen. Thorac. Cardiovasc. Surg.* 62: 678-684.
- Gravina, G.L., et al. 2016. Dual PI3K/mTOR inhibitor, XL765 (SAR245409), shows superior effects to sole PI3K [XL147 (SAR245408)] or mTOR [rapamycin] inhibition in prostate cancer cell models. *Tumour Biol.* 37: 341-351.
- Yu, G., et al. 2018. Salidroside induces apoptosis in human ovarian cancer SKOV3 and A2780 cells through the p53 signaling pathway. *Oncol. Lett.* 15: 6513-6518.
- Pezzuto, F., et al. 2021. P14/ARF-positive malignant pleural mesothelioma: a phenotype with distinct immune microenvironment. *Front. Oncol.* 11: 653497.
- Onea, G., et al. 2022. Distinct nuclear and cytoplasmic assemblies and interactomes of the mammalian CTLH E3 ligase complex. *J. Cell Sci.* 135: jcs259638.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.