

# p18 (3F298): sc-71806

## BACKGROUND

The normal progression of cells through the cell cycle is under the control of the cyclin dependent protein kinases Cdk4 and Cdk6, which are subject to inhibition by the mitotic inhibitory protein p16. Isolated members of the p16 family have been designated p15 and p18. p15 expression is upregulated approximately 30-fold in TGF $\beta$ -treated human keratinocytes. The gene encoding p15 has been mapped to chromosome 9p21.3 at a position adjacent to the p16 gene, at a site of frequent chromosomal abnormality in human tumors. It has been suggested that p15 may function as an effector of TGF $\beta$ -mediated cell cycle arrest through inhibition of Cdk4 and Cdk6 kinase. The second p16-related protein, p18, interacts strongly with Cdk6 and to a lesser extent with Cdk4, but lacks apparent interaction with other Cdks. Recombinant p18 has been shown to inhibit cyclin D-Cdk6 kinase activity. In contrast to p21/p27 that form ternary complexes with cyclin-Cdks, only binary complexes of p15, p16 and p18 have been identified in association with Cdk4 and/or Cdk6.

## REFERENCES

1. Serrano, M., et al. 1993. A new regulatory motif in cell cycle control causing specific inhibition of cyclin D/Cdk4. *Nature* 366: 704-707.
2. Sherr, C.J. 1994. G<sub>1</sub> phase progression: cycling on cue. *Cell* 79: 551-555.
3. Hunter, T., et al. 1994. Cyclins and cancer II: cyclin D and Cdk inhibitors come of age. *Cell* 79: 573-582.
4. Kamb, A., et al. 1994. A cell cycle regulator potentially involved in genesis of many tumor types. *Science* 264: 436-440.
5. Hannon, G.J., et al. 1994. p15INK4B is a potential effector of TGF $\beta$ -induced cell cycle arrest. *Nature* 371: 257-261.
6. Guan, K.L., et al. 1994. Growth suppression by p18, a p16INK4/Mts1 and p14INK4B/Mts2-related Cdk6 inhibitor, correlates with wild-type pRb function. *Genes Dev.* 8: 2939-2952.
7. Hussussian, C.J., et al. 1994. Germline p16 mutations in familial melanoma. *Nature Genetics* 8: 15.
8. Cairns, P., et al. 1994. Rates of p16 (MTS1) mutations in primary tumors with 9p loss. *Science* 265: 415-417.

## CHROMOSOMAL LOCATION

Genetic locus: CDKN2C (human) mapping to 1p32; Cdkn2c (mouse) mapping to 4 C7.

## SOURCE

p18 (3F298) is a mouse monoclonal antibody raised against full length p18 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

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

## APPLICATIONS

p18 (3F298) is recommended for detection of p18 of mouse and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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 p18 siRNA (h): sc-36145, p18 siRNA (m): sc-36146, p18 shRNA Plasmid (h): sc-36145-SH, p18 shRNA Plasmid (m): sc-36146-SH, p18 shRNA (h) Lentiviral Particles: sc-36145-V and p18 shRNA (m) Lentiviral Particles: sc-36146-V.

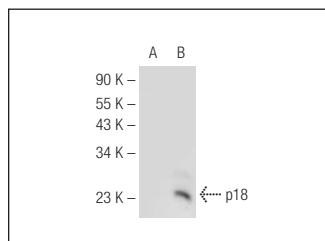
Molecular Weight of p18: 18 kDa.

Positive Controls: p18 (h): 293T Lysate: sc-174498, NIH/3T3 nuclear extract: sc-2138 or C32 nuclear extract: sc-2136.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2050 or ABC: sc-2017 mouse IgG Staining Systems.

## DATA



p18 (3F298): sc-71806. Western blot analysis of p18 expression in non-transfected: sc-117752 (A) and human p18 transfected: sc-174498 (B) 293T whole cell lysates.

## RESEARCH USE

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

## PROTOCOLS

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