

# p19 (C-20)-G: sc-1076-G

## 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, p18 and p19. p15 expression is upregulated approximately 30-fold in TGF  $\beta$ -treated human keratinocytes, suggesting that p15 may function as an effector of TGF  $\beta$ -mediated cell cycle arrest through inhibition of Cdk4 and Cdk6 kinases. 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. Two p16-related proteins, p19 and p18, specifically inhibit the kinase activities of Cdk4 and Cdk6 but do not affect those of cyclin E-Cdk2, cyclin A-Cdk2 or cyclin B-Cdc2 complexes. p19 is expressed at maximal level during S phase, while overexpression of p19 leads to G<sub>1</sub> arrest.

## 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. Kamb, A., et al. 1994. A cell cycle regulator potentially involved in genesis of many tumor types. *Science* 264: 436-440.
3. Hannon, G.J., et al. 1994. p15ink4B is a potential effector of TGF $\beta$ -induced cell cycle arrest. *Nature* 371: 257-261.
4. Guan, K.L., et al. 1994. Growth suppression by p18, a p16ink4/MTS1 and p14ink4B/MTS2-related Cdk6 inhibitor, correlates with wildtype pRb function. *Genes Dev.* 8: 2939-2952.
5. Hussussian, C.J., et al. 1994. Germline p16 mutations in familial melanoma. *Nat. Genet.* 8: 15.
6. Cairns, P., et al. 1994. Rates of p16 (MTS1) mutations in primary tumors with 9p loss. *Science* 265: 415-417.

## CHROMOSOMAL LOCATION

Genetic locus: CDKN2D (human) mapping to 19p13.2.

## SOURCE

p19 (C-20)-G is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of p19 of human origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-1076 P, (100  $\mu$ g 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.

## RESEARCH USE

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

## APPLICATIONS

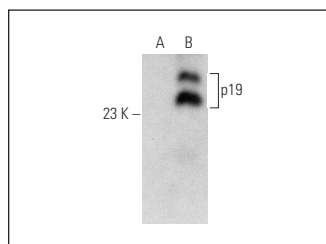
p19 (C-20)-G is recommended for detection of p19 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for p19 siRNA (h): sc-36148, p19 shRNA Plasmid (h): sc-36148-SH and p19 shRNA (h) Lentiviral Particles: sc-36148-V.

Molecular Weight of p19: 19 kDa.

Positive Controls: p19 (h2): 293T Lysate: sc-174520.

## DATA



p19 (C-20)-G: sc-1076-G. Western blot analysis of p19 expression in non-transfected: sc-117752 (A) and human p19 transfected: sc-174520 (B) 293T whole cell lysates.

## SELECT PRODUCT CITATIONS

1. Chen, G.G., et al. 2004. Heme Oxygenase 1 protects against apoptosis induced by tumor necrosis factor- $\alpha$  and cycloheximide in papillary thyroid carcinoma cells. *J. Cell. Biochem.* 92: 1246-1256.
2. Liu, Z.M., et al. 2004. Upregulation of Heme Oxygenase 1 and p21 confers resistance to apoptosis in human gastric cancer cells. *Oncogene* 23: 503-513.
3. Yokota, T., et al. 2004. Histone deacetylase inhibitors activate INK4d gene through Sp1 site in its promoter. *Oncogene* 23: 5340-5349.
4. Guidoboni, M., et al. 2005. Retinoic acid inhibits the proliferative response induced by CD40 activation and interleukin-4 in mantle cell lymphoma. *Cancer Res.* 65: 587-595.
5. Wu, W., et al. 2008. Antibody array analysis with label-based detection and resolution of protein size. *Mol. Cell. Proteomics* 8: 245-257.

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Try **p19 (DCS-100): sc-56334** or **p19 (SPM429): sc-65594**, our highly recommended monoclonal alternatives to p19 (C-20).