

# CDK2AP1 (A-9): sc-515036

## BACKGROUND

CDK2AP1 (also designated p12 and DOC-1) is a growth suppressor that binds to and inhibits DNA pol  $\alpha$ /primase. When bound, CDK2AP1 affects the initiation step, but not the elongation phase, of replication. CDK2AP1 also binds to cyclin-dependent kinase 2 (Cdk2) and targets it for proteolysis. CDK2AP1 promotes cell cycle arrest by regulating the S phase of the cycle, and may trigger apoptosis. The growth factor TGF $\beta$ 1 transcriptionally-induces CDK2AP1 expression, which, in turn, mediates the growth inhibitory activity of TGF $\beta$ 1 by modulating Cdk2 activities and pRB phosphorylation. Due to its ability to trigger apoptosis, CDK2AP1 may be a good candidate for a tumor suppressor in oral cancer.

## REFERENCES

1. Tsuji, T., et al. 1998. Cloning, mapping, expression, function, and mutation analyses of the human ortholog of the hamster putative tumor suppressor gene Doc-1. *J. Biol. Chem.* 273: 6704-6709.
2. Shintani, S., et al. 2000. p12<sup>DOC-1</sup> is a novel cyclin-dependent kinase 2-associated protein. *Mol. Cell. Biol.* 20: 6300-6307.
3. Matsuo, K., et al. 2000. p12<sup>DOC-1</sup>, a growth suppressor, associates with DNA polymerase  $\alpha$ /primase. *FASEB J.* 14: 1318-1324.
4. Hu, M.G., et al. 2004. Role of p12<sup>CDK2AP1</sup> in transforming growth factor- $\beta$ 1-mediated growth suppression. *Cancer Res.* 64: 490-499.
5. Sotsky Kent, T., et al. 2004. Deleted in oral cancer-1 expression upregulates proapoptosis elements in microsatellite-unstable human colorectal cancer. *Ann. Surg. Oncol.* 11: 192-196.
6. Buajeeb, W., et al. 2004. Interaction of the Cdk2-associated protein-1, p12<sup>DOC-1/CDK2AP1</sup>, with its homolog, p14<sup>DOC-1R</sup>. *Biochem. Biophys. Res. Commun.* 315: 998-1003.
7. Kim, Y., et al. 2005. p12<sup>CDK2AP1</sup> mediates DNA damage responses induced by cisplatin. *Oncogene* 24: 407-418.
8. Diederichs, S., et al. 2005. Expression patterns of mitotic and meiotic cell cycle cancer and development. *Int. J. Cancer* 116: 207-217.

## CHROMOSOMAL LOCATION

Genetic locus: CDK2AP1 (human) mapping to 12q24.31; Cdk2ap1 (mouse) mapping to 5 F.

## SOURCE

CDK2AP1 (A-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 44-62 within an internal region of CDK2AP1 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>3</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-515036 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

CDK2AP1 (A-9) is recommended for detection of CDK2AP1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 CDK2AP1 siRNA (h): sc-60343, CDK2AP1 siRNA (m): sc-60344, CDK2AP1 shRNA Plasmid (h): sc-60343-SH, CDK2AP1 shRNA Plasmid (m): sc-60344-SH, CDK2AP1 shRNA (h) Lentiviral Particles: sc-60343-V and CDK2AP1 shRNA (m) Lentiviral Particles: sc-60344-V.

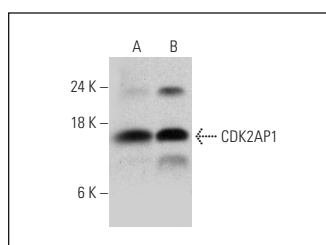
Molecular Weight of CDK2AP1: 12 kDa.

Positive Controls: T-47D cell lysate: sc-2293 or HeLa whole cell lysate: sc-2200.

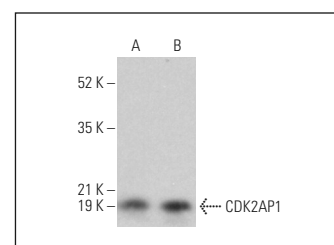
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>TM</sup> 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 m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## DATA



CDK2AP1 (A-9): sc-515036. Western blot analysis of CDK2AP1 expression in T-47D (A) and HeLa (B) whole cell lysates.



CDK2AP1 (A-9): sc-515036. Western blot analysis of CDK2AP1 expression in T-47D (A) and HeLa (B) whole cell lysates. Detection reagent used: m-IgG $\kappa$  BP-HRP: sc-516102.

## 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.

## PROTOCOLS

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