

# SV40 T Ag (v-300): sc-20800

## BACKGROUND

Simian virus SV40 has provided an important model for studies of cellular mechanisms involved in a malignant transformation. The major SV40 translational products include the large T antigen and the small T antigen, both of which are encoded by the early region of the SV40 viral genome. The large T antigen complexes with the p53 suppressor gene, resulting in its functional inactivation, thus promoting cell transformation. In addition, SV40 large T antigen binds DNA polymerase and the transcription factor AP-2. It also forms complexes with a second tumor suppressor gene-encoded protein, Rb 105. Binding of SV40 T antigen is specific for the "pocket" domain of Rb p105, which is also the binding site for the E2F cellular transcription factor.

## REFERENCES

1. Lane, D.P. and Crawford, L.V. 1979. T antigen is bound to a host protein in SV40-transformed cells. *Nature* 278: 261-263.
2. Crawford, L.V., et al. 1981. Detection of a common feature in several human tumor cell line—a 53 kDa protein. *Proc. Natl. Acad. Sci. USA* 78: 41-45.
3. Sarnow, P., et al. 1982. Adenovirus E1B 58 kDa tumor antigen and SV40 large tumor antigen are physically associated with the same 54 kDa cellular protein in transformed cells. *Cell* 28: 387-394.
4. Gurney, E.G., et al. 1986. Antigenic binding sites of monoclonal antibodies specific for simian virus 40 large T antigen. *J. Virol.* 57: 1168-1172.
5. DeCaprio, J.A., et al. 1988. SV40 large T antigen forms a specific complex with the product of the retinoblastoma susceptibility gene. *Cell* 54: 275-283.

## SOURCE

SV40 T Ag (v-300) is a rabbit polyclonal antibody raised against amino acids 4-30 mapping near the N-terminus of SV40 T Ag of SV40 origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

SV40 T Ag (v-300) is recommended for detection of large T antigen and small T antigen of SV40 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of small SV40 T Ag: 21 kDa.

Molecular Weight of large SV40 T Ag: 94 kDa.

Positive Controls: GM637 whole cell lysate: sc-364361 or XP12RO whole cell lysate: sc-364364.

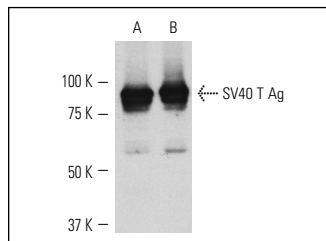
## RESEARCH USE

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

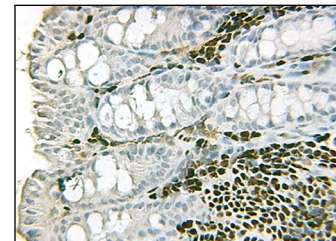
## STORAGE

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

## DATA



SV40 T Ag (v-300): sc-20800. Western blot analysis of SV40 T Ag expression in XPro-12 (A) and GM637 (B) whole cell lysates.



SV40 T Ag (v-300): sc-20800. Immunoperoxidase staining of formalin-fixed, paraffin-embedded mouse colon tissue from transgenic mice over-expressing SV40 T-antigen from an intestine-specific promoter construct. Kindly provided by J. Gum, S. Crawley and S. Yang of the VA Medical Center, San Francisco.

## SELECT PRODUCT CITATIONS

1. López-Ríos, F., et al. 2004. Evidence against a role for SV40 infection in human mesotheliomas and high risk of false-positive PCR results owing to presence of SV40 sequences in common laboratory plasmids. *Lancet* 364: 1157-1166.
2. Tan, C., et al. 2009. Detection of JC virus DNA and proteins in the bone marrow of HIV-positive and HIV-negative patients: implications for viral latency and neurotropic transformation. *J. Infect. Dis.* 199: 881-888.
3. Jeong, K.H., et al. 2009. Expression of a gonadotropin-releasing hormone receptor-simian virus 40 T-antigen transgene has sex-specific effects on the reproductive axis. *Endocrinology* 150: 3383-3391.
4. Wüthrich, C., et al. 2009. Frequent infection of cerebellar granule cell neurons by polyomavirus JC in progressive multifocal leukoencephalopathy. *J. Neuropathol. Exp. Neurol.* 68: 15-25.
5. Wüthrich, C., et al. 2009. Fulminant JC virus encephalopathy with productive infection of cortical pyramidal neurons. *Ann. Neurol.* 65: 742-748.
6. Tan, C.S., et al. 2010. JC virus latency in the brain and extraneural organs of patients with and without progressive multifocal leukoencephalopathy. *J. Virol.* 84: 9200-9209.
7. Fulcher, A.J., et al. 2010. The BRCA-1 binding protein BRAP2 is a novel, negative regulator of nuclear import of viral proteins, dependent on phosphorylation flanking the nuclear localization signal. *FASEB J.* 24: 1454-1466.



Try **SV40 T Ag (Pab 101): sc-147** or **SV40 T Ag (Pab 108): sc-148**, our highly recommended monoclonal alternatives to SV40 T Ag (v-300). Also, for AC, HRP, FITC, PE, Alexa Fluor<sup>®</sup> 488 and Alexa Fluor<sup>®</sup> 647 conjugates, see **SV40 T Ag (Pab 101): sc-147**.