

# SV40 T Ag (C-1): sc-55461

## 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., Pim, D.C., Gurney, E.G., Goodfellow, P. and Taylor-Papadimitriou, J. 1981. Detection of a common feature in several human tumor cell lines—a 53 kDa protein. *Proc. Natl. Acad. Sci. USA* 78: 41-45.
3. Sarnow, P., Ho, Y.S., Williams, J. and Levine, A.J. 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., Tamowski, S. and Deppert, W. 1986. Antigenic binding sites of monoclonal antibodies specific for simian virus 40 large T antigen. *J. Virol.* 57: 1168-1172.
5. Mitchell, P.J., Wang, C. and Tjian, R. 1987. Positive and negative regulation of transcription *in vitro*: enhancer-binding protein AP-2 is inhibited by SV40 T antigen. *Cell* 50: 847-861.
6. DeCaprio, J.A., Ludlow, J.W., Figge, J., Shew, J.Y., Huang, C.M., Lee, W.H., Marsillo, E., Paucha, E. and Livingston, D.M. 1988. SV40 large T antigen forms a specific complex with the product of the retinoblastoma susceptibility gene. *Cell* 54: 275-283.
7. Chen, S. and Paucha, E. 1990. Identification of a region of simian virus 40 Large T antigen required for cell transformation. *J. Virol.* 64: 3350-3357.
8. Hu, Q., Dyson, N. and Harlow, E. 1990. The regions of the retinoblastoma protein needed for binding to adenovirus E1A or SV40 large T antigen are common sites for mutations. *EMBO J.* 9: 1147-1155.

## SOURCE

SV40 T Ag (C-1) is a mouse monoclonal antibody raised against amino acids 4-30 of SV40 T Ag.

## 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.

## STORAGE

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

## APPLICATIONS

SV40 T Ag (C-1) is recommended for detection of large T antigen of SV40 by Western Blotting (starting dilution 1:100, 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

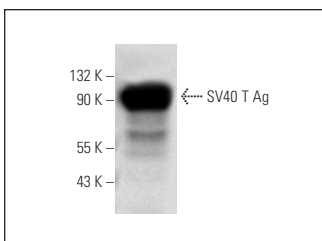
Molecular Weight of small SV40 T antigen: 21 kDa.

Molecular Weight of SV40 T Ag: 94 kDa.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA




SV40 T Ag (C-1): sc-55461. Western blot analysis of SV40 T Ag expression in GM637 whole cell lysate.

## SELECT PRODUCT CITATIONS

1. Drosch, M., Bullerdiek, J., Zollner, T.M., Prinz, F., Koch, M. and Schmidt, N. 2013. A novel mouse model that closely mimics human uterine leiomyomas. *Fertil. Steril.* 99: 927-935.
2. Sarkis, S., Lise, M.C., Darcissac, E., Dabo, S., Falk, M., Chaulet, L., Neuveut, C., Meurs, E.F., Lavergne, A. and Lacoste, V. 2018. Development of molecular and cellular tools to decipher the type I IFN pathway of the common vampire bat. *Dev. Comp. Immunol.* 81: 1-7.

## RESEARCH USE

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



See **SV40 T Ag (Pab 101): sc-147** for SV40 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.