SANTA CRUZ BIOTECHNOLOGY, INC.

SV40 T Ag (H-1): sc-25326



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 supressor 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., et al. 1979. T antigen is bound to a host protein in SV40transformed cells. Nature 278: 261-263.
- Crawford, L.V., et al. 1981. Detection of a common feature in several human tumor cell lines—a 53 kDa protein. Proc. Natl. Acad. Sci. USA 78: 41-45.
- Sarnow, P., et al. 1982. Adenovirus Elb-58kd tumor antigen and SV40 large tumor antigen are physically associated with the same 54 kDa cellular protein in transformed cells. Cell 28: 387-394.
- 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.
- Mitchell, P.J., et al. 1987. Positive and negative regulation of transcription in vitro: enhancer-binding protein AP-2 is inhibited by SV40 T antigen. Cell 50: 847-861.

SOURCE

SV40 T Ag (H-1) is a mouse monoclonal antibody raised against amino acids 260-559 of SV40 large T antigen.

PRODUCT

Each vial contains 200 μ g IgG_{2a} 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 (H-1) is recommended for detection of large T antigen of SV40 by Western Blotting (starting dilution 1:100, dilution range 1:100-1:500), 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 SV40 small 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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA





SV40 T Ag (H-1): sc-25326 Western blot analysis of SV40 T Ag expression in GM637 (\pmb{A}) and XP12R0 (\pmb{B}) whole cell lysates.

SV40 T Ag (H-1): sc-25326. Immunofluorescence staining of methanol-fixed GM637 cells showing nuclear localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human breast tissue showing nuclear and cytoplasmic localization (**B**).

SELECT PRODUCT CITATIONS

- Rybkin, I., et al. 2003. Conditional expression of SV40 T-antigen in mouse cardiomyocytes facilitates an inducible switch from proliferation to differentiation. J. Biol. Chem. 278: 15927-15934.
- Ying, W., et al. 2007. Reversible transfection of human melanocytes mediated by Cre/loxP site-specific recombination system and SV40 large T antigen. Exp. Dermatol. 16: 437-444.
- Perdomo, L., et al. 2015. Protective role of oleic acid against cardiovascular Insulin resistance and in the early and late cellular atherosclerotic process. Cardiovasc. Diabetol. 14: 75.
- Connelly, Z.M., et al. 2018. Foxa2 activates the transcription of androgen receptor target genes in castrate resistant prostatic tumors. Am. J. Clin. Exp. Urol. 6: 172-181.

RESEARCH USE

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



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