SANTA CRUZ BIOTECHNOLOGY, INC.

SV40 T Ag (Pab 101): sc-147

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 SV40-transformed cells. Nature 278: 261-263.
2. 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.
3. 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.

SOURCE

SV40 T Ag (Pab 101) is a mouse monoclonal antibody raised against SV-40 transformed cell line B4 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

SV40 T Ag (Pab 101) is available conjugated to agarose (sc-147 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-147 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-147 PE), fluorescein (sc-147 FITC), Alexa Fluor® 488 (sc-147 AF488), Alexa Fluor® 546 (sc-147 AF546), Alexa Fluor® 594 (sc-147 AF594) or Alexa Fluor® 647 (sc-147 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-147 AF680) or Alexa Fluor® 790 (sc-147 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

SV40 T Ag (Pab 101) is recommended for detection of the C-terminus of large T antigen of SV40 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) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Molecular Weight of SV40 small T antigen: 21 kDa.

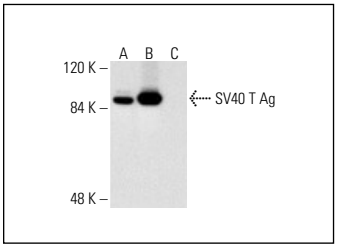
Molecular Weight of SV40 T Ag: 94 kDa.

Positive Controls: GM637 whole cell lysate: sc-364361 or RAW 264.7 whole cell lysate: sc-2211.

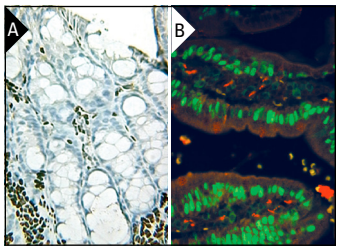
STORAGE

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 (Pab 101): sc-147. Western blot analysis of SV40 T Ag expression in MLZ (**A**), GM637 (**B**) and RAW 264.7 (**C**) whole cell lysates.



SV40 T Ag (Pab 101): sc-147. Immunoperoxidase staining of formalin-fixed, paraffin-embedded mouse colon tissue from transgenic mice over-expressing SV40 T antigen from an intestine-specific promoter construct (**A**). Immunofluorescence staining of methanol-fixed, paraffin-embedded small intestine from transgenic mice over-expressing SV40 T- antigen from an intestine-specific promoter construct. Green is SV40 T antigen and red is synaptophysin staining of neuronal/entero-endocrine cells (**B**). Kindly provided by J. Gum, S. Crawley and S. Yang of the VA Medical Center, San Francisco.

SELECT PRODUCT CITATIONS

1. Fei, Z.L., et al. 1995. Association of insulin receptor substrate 1 with simian virus 40 large T antigen. Mol. Cell. Biol. 15: 4232-4239.
2. Min, J., et al. 2017. Alternative lengthening of telomeres mediated by mitotic DNA synthesis engages break-Induced replication processes. Mol. Cell. Biol. 37: e00226-17.
3. Mitxelena, J., et al. 2018. An E2F7-dependent transcriptional program modulates DNA damage repair and genomic stability. Nucleic Acids Res. 46: 4546-4559.
4. Mitani, A., et al. 2019. Characterization of doxycycline-dependent inducible Simian Virus 40 large T antigen immortalized human conjunctival epithelial cell line. PLoS ONE 14: e0222454.
5. Xie, J., et al. 2020. TBC1D5-catalyzed cycling of Rab7 is required for retromer-mediated human papillomavirus trafficking during virus entry. Cell Rep. 31: 107750.
6. Miesen, L., et al. 2021. Establishment and characterization of a novel conditionally immortalized human parietal epithelial cell line. Exp. Cell Res. 405: 112712.
7. Tran, E., et al. 2022. Development of human alveolar epithelial cell models to study distal lung biology and disease. iScience 25: 103780.
8. Harwood, M.C., et al. 2023. HPV is a cargo for the COPI sorting complex during virus entry. Sci. Adv. 9: eadc9830.

RESEARCH USE

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