SANTA CRUZ BIOTECHNOLOGY, INC.

SV40 T Ag (Pab 101): sc-147

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. 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 lines—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.

SOURCE

SV40 T Ag (Pab 101) is a mouse monoclonal antibody 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.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

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).

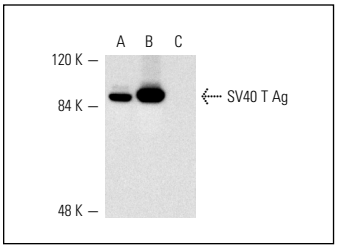
Molecular Weight of SV40 T Ag: 94 kDa.

Molecular Weight of SV40 small T antigen: 21 kDa.

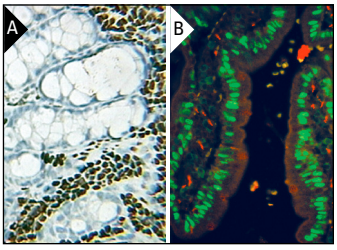
STORAGE

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. Knudsen, K.E., et al. 1998. Multiple G_1 regulatory elements control the androgen-dependent proliferation of prostatic carcinoma cells. J. Biol. Chem. 273: 20213-20222.
2. Drayman, N. and Oppenheim, A. 2011. Rapid titration of viruses by flow cytometry. Curr. Protoc. Cell Biol. 26: 11.
3. Cabrera, M.C., et al. 2012. The CDK4/6 inhibitor PD0332991 reverses epithelial dysplasia associated with abnormal activation of the cyclin-CDK-Rb pathway. Cancer Prev. Res. 5: 810-821.
4. Osinalde, N., et al. 2013. The nuclear protein ALY binds to and modulates the activity of transcription factor E2F2. Mol. Cell. Proteomics 12: 1087-1098.
5. Wang, J.W., et al. 2014. Preparation and properties of a papillomavirus infectious intermediate and its utility for neutralization studies. Virology 449: 304-316.
6. O'Hare, M., et al. 2016. Kif14 overexpression accelerates murine retinoblastoma development. Int. J. Cancer 139: 1752-1758.
7. Moore, R.W., et al. 2016. 2,3,7,8-Tetrachlorodibenzo-p-dioxin has both pro-carcinogenic and anti-carcinogenic effects on neuroendocrine prostate carcinoma formation in TRAMP mice. Toxicol. Appl. Pharmacol. 305: 242-249.
8. Mitxelena, J., et al. 2016. E2F7 regulates transcription and maturation of multiple microRNAs to restrain cell proliferation. Nucleic Acids Res. 9 pii: gkw146.

RESEARCH USE

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