

SV40 T Ag (PAb419): sc-58665

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 lines—a 53 kDa protein. *Proc. Natl. Acad. Sci. USA* 78: 41-45.

SOURCE

SV40 T Ag (PAb419) is a mouse monoclonal antibody raised against full length T antigen of SV40 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.

APPLICATIONS

SV40 T Ag (PAb419) is recommended for detection of N-terminal domain of large and small 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 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.

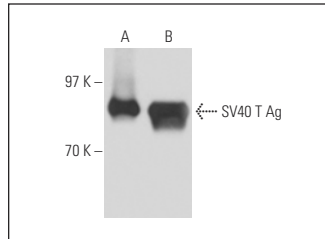
STORAGE

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

RESEARCH USE

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

DATA



SV40 T Ag (Pab 419): sc-58665. Western blot analysis of SV40 T Ag expression in GM637 (A) and XP12RO (B) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Robinson, C., et al. 2006. A novel SV40 T Ag transgenic model of asbestos-induced mesothelioma: malignant transformation is dose dependent. *Cancer Res.* 66: 10786-10794.
2. Jacca, S., et al. 2013. Bovine endometrial stromal cells support tumor necrosis factor α -induced bovine herpesvirus type 4 enhanced replication. *Biol. Reprod.* 88: 135.
3. Franceschi, V., et al. 2014. Generation and characterization of the first immortalized alpaca cell line suitable for diagnostic and immunization studies. *PLoS ONE* 9: e105643.
4. Kwun, H.J., et al. 2015. Restricted protein phosphatase 2A targeting by Merkel cell polyomavirus small T antigen. *J. Virol.* 89: 4191-4200.
5. Katamune, C., et al. 2016. Different roles of negative and positive components of the circadian clock in oncogene-induced neoplastic transformation. *J. Biol. Chem.* 291: 10541-10550.
6. Kwun, H.J., et al. 2017. Merkel cell polyomavirus small T antigen induces genome instability by E3 ubiquitin ligase targeting. *Oncogene* 36: 6784-6792.
7. Katamune, C., et al. 2019. Mutation of the gene encoding the circadian clock component PERIOD2 in oncogenic cells confers chemoresistance by up-regulating the Aldh3a1 gene. *J. Biol. Chem.* 294: 547-558.
8. Prideaux, M., et al. 2021. Generation of two multipotent mesenchymal progenitor cell lines capable of osteogenic, mature osteocyte, adipogenic, and chondrogenic differentiation. *Sci. Rep.* 11: 22593.
9. Aguilar, G., et al. 2022. Reduced expression of prion protein with increased interferon- β fail to limit Creutzfeldt-Jakob disease agent replication in differentiating neuronal cells. *Front. Physiol.* 13: 837662.

CONJUGATES

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.