

Polyoma virus early (PyC): sc-53480

BACKGROUND

The Polyoma virus (Py) is a small oncogenic DNA virus that belongs to the family *Polymaviridae* and produces multiple tumors in the infected host. Py encodes three early proteins: large, middle and small T (tumor) antigen. Polyoma virus Large T antigen (PvLT) is a nuclear phosphoprotein that helps to regulate viral replication and gene expression, allows isolation of viral T antigens, and can induce cellular DNA replication in the absence of other virus-transforming genes. Polyoma virus middle T antigen (PvMT) contains 421 amino acids and is divided into at least three domains, some of which are shared with PvLT and Polyoma virus small T antigen (PvST). PvMT is a major transforming protein responsible for inducing the phenotype of transformed cells and, without it, transformation does not occur. PvST functions in transformation and in productive infection.

REFERENCES

- Dilworth, S.M. and Griffin, B.E. 1982. Monoclonal antibodies against Polyoma virus tumor antigens. *Proc. Natl. Acad. Sci. USA* 79: 1059-1063.
- Dilworth, S.M. 1984. Protein kinase activities associated with distinct antigenic forms of Polyoma virus middle T antigen. *EMBO J.* 1: 1319-1328.
- Schaffhausen, B., Benjamin, T.L., Lodge, J., Kaplan, D. and Roberts, T.M. 1985. Expression of polyoma early gene products in *E. coli*. *Nucleic Acids Res.* 13: 501-519.
- Jat, P.S. and Sharp, P.A. 1986. Large T antigens of Simian Virus 40 and Polyoma virus efficiently establish primary fibroblasts. *J. Virol.* 59: 746-750.
- Berger, H. and Wintersberger, E. 1986. Polyoma virus small T antigen enhances replication of viral genomes in 3T6 mouse fibroblasts. *J. Virol.* 60: 768-770.
- Kingston, R.E., Cowie, A., Morimoto, R.I. and Gwinn, K.A. 1986. Binding of Polyoma virus Large T antigen to the human HSP 70 promoter is not required for trans activation. *Mol. Cell. Biol.* 6: 3180-3190.
- Forstová, J., Krauzewicz, N. and Griffin, B.E. 1989. Expression of biologically active middle T antigen of Polyoma virus from recombinant baculoviruses. *Nucleic Acids Res.* 17: 1427-1443.
- Weihua, X., Ramanujam, S., Lindner, D.J., Kudravalli, R.D., Freund, R. and Kalvakolanu, D.V. 1998. The Polyoma virus T antigen interferes with interferon-inducible gene expression. *Proc. Natl. Acad. Sci. USA* 95: 1085-1090.
- Nemethova, M. and Wintersberger, E. 1999. Polyoma virus Large T antigen binds the transcriptional coactivator protein p300. *J. Virol.* 73: 1734-1739.

SOURCE

Polyoma virus early (PyC) is a rat monoclonal antibody raised against Polyoma virus-transformed Wistar rat fibroblast cell line Py REWA5/T1A1.

STORAGE

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

PRODUCT

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

Polyoma virus early (PyC) is available conjugated to agarose (sc-53480 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-53480 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-53480 PE), fluorescein (sc-53480 FITC), Alexa Fluor[®] 488 (sc-53480 AF488), Alexa Fluor[®] 546 (sc-53480 AF546), Alexa Fluor[®] 594 (sc-53480 AF594) or Alexa Fluor[®] 647 (sc-53480 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-53480 AF680) or Alexa Fluor[®] 790 (sc-53480 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

Polyoma virus early (PyC) is recommended for detection of Polyoma virus early antigens large, middle and small of Polyoma Virus origin 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.