SANTA CRUZ BIOTECHNOLOGY, INC.

Polyoma virus VP1 (2E4): sc-65930

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The Power to Question

BACKGROUND

Human Polyoma virus (JC) belongs to the genus *Polyomavirus*. JC is capable of transforming fetal brain cells and human amnion cells *in vitro* and can lead to tumor development in other species. JC VP1 (gp01) is one of the three constituent capsid proteins produced by the JC virion. JC also contains the capsid proteins VP2 (gp02) and VP3 (gp03), as well as a viral minichromosome. VP1 is the primary capsid protein, comprising 75% of the total capsid shell protein. It is thought that the tumor inducing properties of JC may be credited to an interaction between VP1, cellular retinoblastoma protein and p53. In immunocompromised individuals, JC has been known to cause progressive multifocal leukoencephalopathy (PML). About 10% of the capsid proteins are made from VP2 and VP3.

REFERENCES

1. Gee, G.V., Tsomaia, N., Mierke, D.F. and Atwood, W.J. 2004. Modeling a sialic acid binding pocket in the external loops of JC virus VP1. J. Biol. Chem. 279: 49172-49176.
2. Lundstig, A. and Dillner, J. 2006. Serological diagnosis of human polyomavirus infection. Adv. Exp. Med. Biol. 577: 96-101.
3. Gedvilaite, A., Dorn, D.C., Sasnauskas, K., Pecher, G., Bulavaite, A., Lawatscheck, R., Staniulis, J., Dalianis, T., Ramqvist, T., Schönrich, G., Raftery, M.J. and Ulrich, R. 2006. Virus-like particles derived from major capsid protein VP1 of different polyomaviruses differ in their ability to induce maturation in human dendritic cells. Virology 354: 252-260.
4. Zvirbliene, A., Samonskyte, L., Gedvilaite, A., Voronkova, T., Ulrich, R. and Sasnauskas, K. 2006. Generation of monoclonal antibodies of desired specificity using chimeric polyomavirus-derived virus-like particles. J. Immunol. Methods 311: 57-70.
5. Manley, K., Gee, G.V., Simkevich, C.P., Sedivy, J.M. and Atwood, W.J. 2007. Microarray analysis of glial cells resistant to JCV infection suggests a correlation between viral infection and inflammatory cytokine gene expression. Virology 366: 394-404.
6. Shiramizu, B., Hu, N., Frisque, R.J. and Nerurkar, V.R. 2007. High prevalence of human polyomavirus JC VP1 gene sequences in pediatric malignancies. Cell. Mol. Biol. 53: 4-12.
7. Gaynor, A.M., Nissen, M.D., Whiley, D.M., Mackay, I.M., Lambert, S.B., Wu, G., Brennan, D.C., Storch, G.A., Sloots, T.P. and Wang, D. 2007. Identification of a novel polyomavirus from patients with acute respiratory tract infections. PLoS Pathog. 3: e64.
8. Voronkova, T., Kazaks, A., Ose, V., Ozel, M., Scherneck, S., Pumpens, P. and Ulrich, R. 2007. Hamster polyomavirus-derived virus-like particles are able to transfer *in vitro* encapsidated plasmid DNA to mammalian cells. Virus Genes 34: 303-314.

SOURCE

Polyoma virus VP1 (2E4) is a mouse monoclonal antibody raised against recombiant major capsid protein VP1 of JC polyomavirus origin.

PRODUCT

Each vial contains 100 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Polyoma virus VP1 (2E4) is recommended for detection of major capsid protein VP1 of human Polyomavirus origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000).

Molecular Weight of Polyoma virus VP1: 40 kDa.

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.

PROTOCOLS

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