

# Varicella Zoster Virus gpIV (SG4): sc-58076

## BACKGROUND

Varicella Zoster Virus, known as VZV, is associated with two distinct diseases: childhood chickenpox (varicella) and shingles (zoster). Varicella Zoster Virus becomes dormant in sensory ganglia and may reactivate decades later to produce zoster (shingles) or herpes zoster. Varicella Zoster Virus is enveloped in the *trans*-Golgi network (TGN). Glycoprotein I (gI) is required within the TGN for Varicella Zoster Virus envelopment, and for efficient membrane fusion during Varicella Zoster Virus replication. The C-terminal domain of gI is required to segregate viral and cellular proteins in enveloping TGN cisternae. The N-terminus of mature gI is required for glycoprotein E (gE)-gI complex formation by the external domains of Varicella Zoster Virus gE and gI. gE is a major component of the virion envelope and can be found complexed with glycoprotein I on the infected host cell surface. gE expression is activated by IE4 and IE62. Varicella Zoster Virus gI is required for replication of the virus in Vero cells, for efficient replication of the virus in nonhuman cells, and for normal processing of gE.

## REFERENCES

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2. Cohen, J.I. and Nguyen, H. 1997. Varicella Zoster Virus glycoprotein I is essential for growth of virus in Vero cells. *J. Virol.* 71: 6913-6920.
3. Mallory, S., Sommer, M. and Arvin, A.M. 1997. Mutational analysis of the role of glycoprotein I in Varicella Zoster Virus replication and its effects on glycoprotein E conformation and trafficking. *J. Virol.* 71: 8279-8288.
4. Rahaus, M. and Wolff, M.H. 2000. Transcription factor Sp1 is involved in the regulation of Varicella Zoster Virus glycoprotein E. *Virus Res.* 69: 69-81.
5. Kleinschmidt-DeMasters, B.K. and Gilden, D.H. 2001. Varicella Zoster Virus infections of the nervous system: clinical and pathologic correlates. *Arch. Pathol. Lab Med.* 125: 770-780.
6. Wang, Z.H., Gershon, M.D., Lungu, O., Zhu, Z., Mallory, S., Arvin, A.M. and Gershon, A.A. 2001. Essential role played by the C-terminal domain of glycoprotein I in envelopment of Varicella Zoster Virus in the *trans*-Golgi network: interactions of glycoproteins with tegument. *J. Virol.* 75: 323-340.

## SOURCE

Varicella Zoster Virus gpIV (SG4) is a mouse monoclonal antibody raised against Varicella Zoster Virus, Ellen strain.

## PRODUCT

Each vial contains 100 µg IgG<sub>1</sub> in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

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

## APPLICATIONS

Varicella Zoster Virus gpIV (SG4) is recommended for detection of precursor and mature Varicella Zoster Virus glycoprotein IV (VZVgI) and, to a lesser extent, Varicella Zoster Virus glycoprotein I (VZVgE) of Varicella Zoster Virus Ellen strain origin by 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).

Molecular Weight of Varicella Zoster Virus gpIV isoforms: 58/70 kDa.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.