SANTA CRUZ BIOTECHNOLOGY, INC.

# VZV gE (9C8): sc-56995

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## BACKGROUND

Varicella-Zoster Virus (VZV), also known as human herpesvirus-3 (HHV-3), is associated with two distinct diseases: childhood chickenpox (varicella) and shingles (zoster). VZV becomes dormant in sensory ganglia and may reactivate decades later to produce zoster (shingles) or herpes zoster. VZV is enveloped in the *trans*-Golgi network (TGN). Glycoprotein I (gI) is required within the TGN for VZV envelopment and for efficient membrane fusion during VZV replication. The C-terminal domain of gI is required to segregate viral and cellular proteins in enveloping TGN cisternae. The amino-terminus of mature gI is required for glycoprotein E (gE)-gI complex formation by the external domains of VZV 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. VZV 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


1. Kimura, H., et al. 1997. Varicella-zoster virus glycoproteins E and I expressed in insect cells form a heterodimer that requires the N-terminal domain of glycoprotein I. Virology 2: 382-391.
2. Cohen, J.I. and Nguyen, H. 1997. Varicella-Zoster Virus glycoprotein I is essential for growth of virus in Vero cells. J. Virol. 9: 6913-6920.
3. Mallory, S., et al. 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. 11: 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. 1: 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. 6: 770-780.
6. Wang, Z.H., et al. 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. 1: 323-340.


## SOURCE

VZV gE (9C8) is a mouse monoclonal antibody raised against VZV infected cell extract.

## PRODUCT

Each vial contains 100 µg $IgG_1$ kappa light chain in 1.0 ml of 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.

## PROTOCOLS

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

## APPLICATIONS

VZV gE (9C8) is recommended for detection of glycoprotein E of Varicella Zoster Virus by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Molecular Weight of VZV gE: 78 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) 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.

## SELECT PRODUCT CITATIONS


1. Buckingham, E.M., et al. 2016. Exocytosis of varicella-zoster virus virions involves a convergence of endosomal and autophagy pathways. J. Virol. 90: 8673-8685.
2. Cohrs, R.J., et al. 2017. Targeted genome sequencing reveals varicella-zoster virus open reading frame 12 deletion. J. Virol. 91: e01141-17.
3. Mehta, S.K., et al. 2017. Localization of VZV in saliva of zoster patients. J. Med. Virol. 89: 1686-1689.
4. Buckingham, E.M., et al. 2018. Identification of herpes zoster-associated temporal arteritis among cases of giant cell arteritis. Am. J. Ophthalmol. 187: 51-60.
5. Como, C.N., et al. 2018. Interleukin-6 and type 1 interferons inhibit varicella zoster virus replication in human neurons. Virology 522: 13-18.
6. Sammel, A.M., et al. 2020. Assessment for varicella zoster virus in patients newly suspected of having giant cell arteritis. Rheumatology 59: 1992-1996.
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9. Mescher, T., et al. 2021. Detection of varicella zoster virus antigen and DNA in two cases of cerebral amyloid angiopathy. J. Neurol. Sci. 422: 117315.
10. Oh, S.J., et al. 2024. Varicella zoster virus glycoprotein E facilitates PINK1/Parkin-mediated mitophagy to evade STING and MAVS-mediated antiviral innate immunity. Cell Death Dis. 15: 16.


## RESEARCH USE

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