



HSV-1 gC Envelope Protein (3G9): sc-56982

BACKGROUND

Herpes simplex virus 1 (HSV-1) is a member of the *Herpesviridae* family of DNA viruses that have relatively large double-stranded, linear genomes within an icosahedral capsid which is wrapped in a lipid bilayer envelope. HSV-1 causes painful, watery blisters in the skin and/or mucous membranes of infected individuals. The disease is contagious, particularly during an out-break, and is transmitted by direct contact. When not symptomatic, HSV-1 lies dormant in the bodies of the nerve cells, replicating within the axons towards the skin. HSV-1 glycoprotein C (HSV-1 gC) is an immune evasion molecule that binds to and inhibits the complement component C3b, thereby protecting the virus from complement-mediated neutralization. HSV-1 gC also enhances coagulation Factor VIIa activity on the virus, which activates Factor X.

REFERENCES

1. Bystricka, M., et al. 1991. Type-common and type-specific monoclonal antibodies to herpes simplex virus types 1 and 2. *Acta Virol.* 35: 152-164.
2. Bystricka, M., et al. 1997. Monoclonal antibodies to the distinct antigenic sites on glycoproteins C and B and their protective abilities in herpes simplex virus infection. *Acta Virol.* 41: 5-12.
3. Bystricka, M., et al. 1999. Monoclonal antibodies suitable for type-specific identification of herpes simplex viruses by a rapid culture assay. *Acta Virol.* 43: 399-402.
4. Gregory, D., et al. 2004. Efficient replication by herpes simplex virus type 1 involves activation of the I κ B kinase-I κ B-p65 pathway. *J. Virol.* 78: 13582-13590.
5. Sutherland, M.R., et al. 2004. Herpes simplex virus type 1-encoded glycoprotein C enhances coagulation Factor VIIa activity on the virus. *Thromb. Haemost.* 92: 947-955.
6. Chang, Y.J., et al. 2005. Implications for herpes simplex virus vaccine strategies based on antibodies produced to herpes simplex virus type 1 glycoprotein gC immune evasion domains. *Vaccine* 23: 4658-4665.
7. Livingston, J.R., et al. 2005. Herpes simplex virus type 1-encoded glycoprotein C contributes to direct coagulation Factor X-virus binding. *Biochem. J.* 393: 529-535.
8. Perelygina, L., et al. 2005. Production of herpes B virus recombinant glycoproteins and evaluation of their diagnostic potential. *J. Clin. Microbiol.* 43: 620-628.
9. Hook, L.M., et al. 2006. Herpes simplex virus type 1 and 2 glycoprotein C prevents complement-mediated neutralization induced by natural immunoglobulin M antibody. *J. Virol.* 80: 4038-4046.

SOURCE

HSV-1 gC Envelope Protein (3G9) is a mouse monoclonal antibody raised against herpes virus.

PRODUCT

Each vial contains 100 μ g IgG_{2a} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

HSV-1 gC Envelope Protein (3G9) is recommended for detection of glycoprotein C envelope protein of origin 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).

SELECT PRODUCT CITATIONS

1. Mostafa, H.H. and Davido, D.J. 2013. Herpes simplex virus 1 ICP22 but not US 1.5 is required for efficient acute replication in mice and VICE domain formation. *J. Virol.* 87: 13510-13519.
2. Grabowska, K., et al. 2020. Alphaherpesvirus gB homologs are targeted to extracellular vesicles, but they differentially affect MHC class II molecules. *Viruses* 12 pii: E429.
3. Ly, C.Y., et al. 2022. Inhibitors of one or more cellular aurora kinases impair the replication of herpes simplex virus 1 and other DNA and RNA viruses with diverse genomes and life cycles. *Microbiol. Spectr.* E-published.

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.