

HSV-2 gB (1-G-10): sc-52425

BACKGROUND

Membrane fusion is crucial for the entry, spread and formation of enveloped viruses, such as herpes simplex virus, and is mediated by envelope glycoproteins. Two serotypes of the herpes simplex virus, type 1 (HSV-1, oral) and type 2 (HSV-2, genital), have been shown to encode at least ten glycoproteins, four of which are necessary and sufficient to facilitate fusion. These four glycoproteins include glycoprotein B (gB), glycoprotein D (gD), glycoprotein H (gH) and glycoprotein L (gL). The fusion event is dependent upon the expression of a gD receptor on target cell membranes and does not require the presence of cell-surface glycosaminoglycans. Glycoprotein B is essential for viral growth, as gB-free virions are able to bind cells but not to synthesize virus-specific proteins upon infection. HSV-1 and HSV-2 gB exist as a homodimer which may be linked by disulfide bonds. HSV-1 gB is a 904 amino acid protein with an extracellular domain consisting of amino acids 31-730 and a cytoplasmic domain consisting of amino acids 796-904. HSV-2 gB is a protein also containing 904 amino acids with amino acids 23 to 727 making up the extracellular domain and amino acids 793 to 904 making up the cytoplasmic domain.

REFERENCES

1. Cai, W.H., Gu, B. and Person, S. 1988. Role of glycoprotein B of herpes simplex virus type 1 in viral entry and cell fusion. *J. Virol.* 62: 2596-2604.
2. Slomka, M.J. 1996. Seroepidemiology and control of genital herpes: the value of type specific antibodies to herpes simplex virus. *Commun. Dis. Rep. CDR Rev.* 6: R41-45.
3. Turner, A., et al. 1998. Glycoproteins gB, gD, and gHgL of herpes simplex virus type 1 are necessary and sufficient to mediate membrane fusion in a COS cell transfection system. *J. Virol.* 72: 873-875.
4. Muggeridge, M.I. 2000. Characterization of cell-cell fusion mediated by herpes simplex virus 2 glycoproteins gB, gD, gH and gL in transfected cells. *J. Gen. Virol.* 81: 2017-2027.
5. Rodger, G., et al. 2001. Assembly and organization of glycoproteins B, C, D, and H in herpes simplex virus type 1 particles lacking individual glycoproteins: No evidence for the formation of a complex of these molecules. *J. Virol.* 75: 710-716.
6. Browne, H., et al. 2001. Plasma membrane requirements for cell fusion induced by herpes simplex virus type 1 glycoproteins gB, gD, gH and gL. *J. Gen. Virol.* 82: 1419-1422.

SOURCE

HSV-2 gB (1-G-10) is a mouse monoclonal antibody raised against HSV-2 infected cells.

PRODUCT

Each vial contains 200 µg IgG₁ 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.

APPLICATIONS

HSV-2 gB (1-G-10) is recommended for detection of HSV-2 gB of Herpes Simplex Virus 2 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).

Molecular Weight of HSV-2 gB: 113 kDa.

SELECT PRODUCT CITATIONS

1. Cheshenko, N., et al. 2013. HSV activates Akt to trigger calcium release and promote viral entry: novel candidate target for treatment and suppression. *FASEB J.* 27: 2584-2599.
2. Liu, Y., et al. 2015. Tetherin restricts HSV-2 release and is counteracted by multiple viral glycoproteins. *Virology* 475: 96-109.

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.