



HSV-1/2 gB (T111): sc-51627

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. gB 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., et al. 1988. Role of glycoprotein B of herpes simplex virus type 1 in viral entry and cell fusion. *J. Virol.* 62: 2596-2604.
2. 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.
3. 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.
4. 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.
5. 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.
6. 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.
7. 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.
8. 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.
9. 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-1/2 gB (T111) is a mouse monoclonal antibody raised against extract of HSV-1 infected VERO green monkey kidney cells.

PRODUCT

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

APPLICATIONS

HSV-1/2 gB (T111) is recommended for detection of glycoprotein B of HSV-1 and HSV-2 origin by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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 or our catalog for detailed protocols and support products.