SANTA CRUZ BIOTECHNOLOGY, INC.

HSV-1 gD (DL6): sc-21719

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, HSV-1 (also known as type 1 or oral) and HSV-2 (type 2 or 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. HSV-1/2 gD (glycoprotein D) specifically allows a stable connection to cellular receptors. Late adsorption to host cell membranes is correlated to a conformation change of gD occurring after receptor binding, followed by interaction of gD with the gH/gL heterodimer.

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.

SOURCE

HSV-1 gD (DL6) is a mouse monoclonal antibody epitope mapping to amino acids 272-279 of HSV gD.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

HSV-1 gD (DL6) is available conjugated to agarose (sc-21719 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-21719 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-21719 PE), fluorescein (sc-21719 FITC), Alexa Fluor® 488 (sc-21719 AF488), Alexa Fluor® 546 (sc-21719 AF546), Alexa Fluor® 594 (sc-21719 AF594) or Alexa Fluor® 647 (sc-21719 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-21719 AF680) or Alexa Fluor® 790 (sc-21719 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

HSV-1 gD (DL6) is recommended for detection of HSV-1 glycoprotein D 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 flow cytometry (1 µg per 1 x 10^6 cells).

Molecular Weight of HSV gD: 61 kDa.

Positive Controls: HSV-1 infected Vero whole cell lysate.

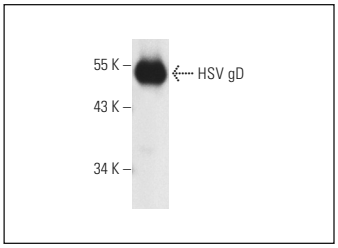
STORAGE

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.

DATA



HSV gD (DL6): sc-21719. Western blot analysis of HSV gD expression in HSV-1-infected Vero whole cell lysate.

SELECT PRODUCT CITATIONS

1. Sciortino, M.T., et al. 2008. Involvement of HVEM receptor in activation of nuclear factor κB by herpes simplex virus 1 glycoprotein D. Cell. Microbiol. 10: 2297-2311.
2. Arii, J., et al. 2009. Entry of herpes simplex virus 1 and other αherpesviruses via the paired immunoglobulin-like type 2 receptor α. J. Virol. 83: 4520-4527.
3. Suenaga, T., et al. 2010. Myelin-associated glycoprotein mediates membrane fusion and entry of neurotropic herpesviruses. Proc. Natl. Acad. Sci. USA 107: 866-71.
4. Glorieux, S., et al. 2011. Herpes simplex virus type 1 penetrates the basement membrane in human nasal respiratory mucosa. PLoS ONE 6: e22160.
5. Miettinen, J.J., et al. 2012. Global secretome characterization of herpes simplex virus 1-infected human primary macrophages. J. Virol. 86: 12770-12778.
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7. Jamin, A., et al. 2014. Barrier to auto integration factor becomes dephosphorylated during HSV-1 Infection and can act as a host defense by impairing viral DNA replication and gene expression. PLoS ONE 9: e100511.
8. Semblat, J.P., et al. 2015. Identification of the minimal binding region of a *Plasmodium falciparum* IgM binding PfEMP1 domain. Mol. Biochem. Parasitol. 201: 76-82.
9. Maeda, N., et al. 2016. Rapid screening by cell-based fusion assay for identifying novel antivirals of glycoprotein B-mediated herpes simplex virus type 1 infection. Biol. Pharm. Bull. 39: 1897-1902.

PROTOCOLS

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