SANTA CRUZ BIOTECHNOLOGY, INC.

HSV-1 gD (vN-20): sc-17540

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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. 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. 3: R41-45.
2. Krummenacher, C., Baribaud, I., Ponce de Leon, M., Whitbeck, J.C., Lou, H., Cohen, G.H. and Eisenberg, R.J. 2000. Localization of a binding site for herpes simplex virus Glycoprotein D on herpesvirus entry mediator C by using antireceptor monoclonal antibodies. J. Virol. 23: 10863-10872.
3. Rauch, D.A., Rodriguez, N. and Roller, R.J. 2000. Mutations in herpes simplex virus Glycoprotein D distinguish entry of free virus from cell-cell spread. J. Virol. 24: 11437-11446.
4. Browne, H., Bruun, B. and Minson, T. 2001. Plasma membrane requirements for cell fusion induced by herpes simplex virus type 1 Glycoproteins gB, gD, gH and gL. J. Gen. Virol. 6: 1419-1422.
5. Connolly, S.A., Whitbeck, J.J., Rux, A.H., Krummenacher, C., van Drunen Littel-van den Hurk, S., Cohen, G.H. and Eisenberg, R.J. 2001. Glycoprotein D homologs in herpes simplex virus type 1, pseudorabies virus, and bovine herpes virus type 1 bind directly to human HveC (nectin-1) with different affinities. Virology 1: 7-18.

SOURCE

HSV-1 gD (vN-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Glycoprotein D of Human herpesvirus 1 origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-17540 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

HSV-1 gD (vN-20) is recommended for detection of gD of HSV-1 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

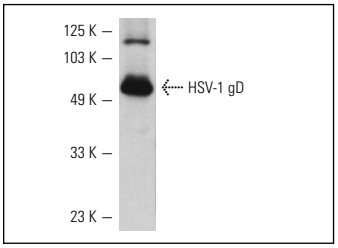
Molecular Weight of HSV-1 gD: 61 kDa.

Positive Controls: HSV-1 extract.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048.

DATA



HSV-1 gD (vN-20): sc-17540. Western blot analysis of HSV-1 gD expression in HSV-1 extract.

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 or our catalog for detailed protocols and support products.