SANTA CRUZ BIOTECHNOLOGY, INC.

HSV-1 VP16 (vA-19): sc-17547

BACKGROUND

During infection with herpes simplex virus type 1 (HSV-1), VP16 serves multiple functions, including transcriptional activation of viral immediate early genes and downregulation of the virion host shutoff protein vhs. Furthermore, VP16 has been shown to be involved in some aspect of virus assembly and/or maturation. Removal of VP16 from the HSV-1 genome results in reduced levels of encapsidated DNA and a failure to produce extracellular enveloped particles. Although HSV VP16 does not bind DNA well on its own, when recruited to DNA by virtue of its interaction with an Oct-1 DNA bound protein, it strongly stimulates transcription of HSV immediate early genes. Herpes viruses appear to bud at the inner nuclear membrane and then enter the secretory pathway. During the maturation process at the inner nuclear membrane, the capsids are surrounded by tegument proteins, including VP16 and vhs, which may functionally interact to aid envelopment. The virus particle also exits the cell by the secretory pathway.

REFERENCES

1. Triezenberg, S.J., Kingsbury, R.C. and McKnight, S.L. 1988. Functional dissection of VP16, the *trans*-activator of herpes simplex virus immediate early gene expression. Genes Dev. 2: 718-729.
2. Triezenberg, S.J., LaMarco, K.L. and McKnight, S.L. 1988. Evidence of DNA: protein interactions that mediate HSV-1 immediate early gene activation by VP16. Genes Dev. 2: 730-742.
3. Mossman, K.L., Sherburne, R., Lavery, C., Duncan, J. and Smiley, J.R. 2000. Evidence that herpes simplex virus VP16 is required for viral egress downstream of the initial envelopment event. J. Virol. 14: 6287-6299.
4. Babb, R., Huang, C.C., Aufiero, D.J. and Herr, W. 2001. DNA recognition by the herpes simplex virus transactivator VP16: a novel DNA-binding structure. Mol. Cell. Biol. 14: 4700-4712.
5. Boulware, S.L., Bronstein, J.C., Nordby, E.C. and Weber, P.C. 2001. Identification and characterization of a benzothiophene inhibitor of herpes simplex virus type 1 replication which acts at the immediate early stage of infection. Antiviral Res. 2: 111-125.

SOURCE

HSV-1 VP16 (vA-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of HSV-1 VP16.

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-17547 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

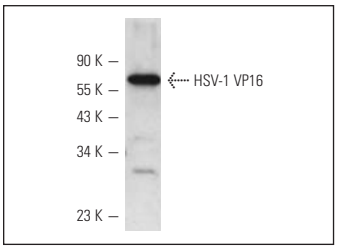
HSV-1 VP16 (vA-19) is recommended for detection of HSV-1 VP16 of HSV-1 protein VP16 origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of HSV-1 VP16: 65 kDa.

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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/ 2.0 ml).

DATA



HSV-1 VP16 (vA-19): sc-17547. Western blot analysis of HSV-1 VP16 expression in HSV-1 extract.

SELECT PRODUCT CITATIONS

1. Imai, J., Katagiri, H., Yamada, T., Ishigaki, Y., Ogihara, T., Uno, K., Hasegawa, Y., Gao, J., Ishihara, H., Sasano, H., Mizuguchi, H., Asano, T. and Oka, Y. 2005. Constitutively active PDX1 induced efficient insulin production in adult murine liver. Biochem. Biophys. Res. Commun. 326: 402-409.
2. Duffy, C., Lavail, J.H., Tauscher, A.N., Wills, E.G., Blaho, J.A. and Baines, J.D. 2006. Characterization of a UL49-null mutant: VP22 of herpes simplex virus type 1 facilitates viral spread in cultured cells and the mouse cornea. J. Virol. 80: 8664-8675.
3. Duffy, C., Mbong, E.F. and Baines, J.D. 2009. VP22 of herpes simplex virus 1 promotes protein synthesis at late times in infection and accumulation of a subset of viral mRNAs at early times in infection. J. Virol. 83: 1009-1017.

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.