SANTA CRUZ BIOTECHNOLOGY, INC.

VP5 (6F10): sc-13525

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The viral double-stranded DNA of herpes simplex virus type 1 (HSV-1) is contained inside a large and elaborate icosahedral capsid protein shell and surrounded by a membrane envelope. For HSV-1, the outer shell is composed of four proteins: VP5; a small protein bound to hexons, VP26; and a triplex structure made up of heterotrimers of VP19C and VP23. Assembly of the capsomer occurs in the infected-cell nucleus, and the predominant polypetide component of the capsomer is the protein VP5, which is encoded by the gene UL19. VP5 is the structural subunit of both hexons and pentons, which pack together within the intricate lattice of the icosahedral surface. VP5 hexons are hexamers of VP5, and these hexons associate with the scaffolding protein VP26. Pentons comprise pentomers of VP5 and are localized at the capsid vertices.

SOURCE

VP5 (6F10) is a mouse monoclonal antibody raised against amino acids 862-880 of VP5 from HSV-1.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

VP5 (6F10) is available conjugated to agarose (sc-13525 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-13525 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-13525 PE), fluorescein (sc-13525 FITC), Alexa Fluor® 488 (sc-13525 AF488), Alexa Fluor® 546 (sc-13525 AF546), Alexa Fluor® 594 (sc-13525 AF594) or Alexa Fluor® 647 (sc-13525 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-13525 AF680) or Alexa Fluor® 790 (sc-13525 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

VP5 (6F10) is recommended for detection of VP5 and VP5 fusion proteins 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).

Positive Controls: HSV-1 infected cell extract.

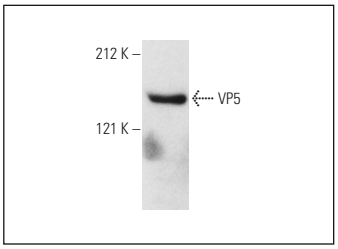
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

STORAGE

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

DATA



VP5 (6F10): sc-13525. Western blot analysis of VP5 expression in HSV-1 infected cell extract.

SELECT PRODUCT CITATIONS

1. Thurlow, J.K., et al. 2005. The herpes simplex virus type 1 DNA packaging protein UL17 is a virion protein that is present in both the capsid and the tegument compartments. J. Virol. 79: 150-158.
2. Radtke, A.L. and Herbst-Kralovetz, M.M. 2012. Culturing and applications of rotating wall vessel bioreactor derived 3D epithelial cell models. J. Vis. Exp. E-published.
3. Lurain, N.S., et al. 2013. Virological and immunological characteristics of human cytomegalovirus infection associated with Alzheimer disease. J. Infect. Dis. 208: 564-572.
4. Guan, Y., et al. 2014. HSV-1 nucleocapsid egress mediated by UL31 in association with UL34 is impeded by cellular transmembrane protein 140. Virology 464-465: 1-10.
5. Sheinboim, D., et al. 2015. The immunomodulator, ammonium trichloro[1,2-ethanediolato-O,O']-tellurate, suppresses the propagation of herpes simplex virus 2 by reducing the infectivity of the virus progeny. Int. J. Mol. Med. 36: 231-238.
6. Sauter, M.M. and Brandt, C.R. 2016. Primate neural retina upregulates IL-6 and IL-10 in response to a herpes simplex vector suggesting the presence of a pro-/anti-inflammatory axis. Exp. Eye Res. 148: 12-23.
7. Kobayashi, K., et al. 2017. MiR-199a inhibits secondary envelopment of herpes simplex virus-1 through the downregulation of Cdc42-specific GTPase activating protein localized in Golgi apparatus. Sci. Rep. 7: 6650.
8. Han, M., et al. 2019. Synthetic lethality of cytolytic HSV-1 in cancer cells with ATRX and PML deficiency. J. Cell Sci. 132: jcs222349.
9. Luo, Y., et al. 2020. Tumor-targeting oncolytic virus elicits potent immunotherapeutic vaccine responses to tumor antigens. Oncoimmunology 9: 1726168.

RESEARCH USE

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