SANTA CRUZ BIOTECHNOLOGY, INC.

HSV-1 UL42 (13C9): sc-53331

BACKGROUND

The herpes simplex virus (HSV) (also known as cold sore, night fever or fever blister) is a virus that causes a contagious disease. The HSV-1 strain generally appears in the orafacial organs. All herpes viruses are morphologically identical: they have a large double stranded DNA genome and the virion consists of an icosahedral nucleocapsid which is surrounded by a lipid bilayer envelope. Following primary infection, the virus establishes a latent infection in the host and may reactivate at any stage. Reactivation is frequently, but not always, associated with further disease. UL42, the processivity subunit of the HSV-1 DNA polymerase, binds DNA as a monomer and is essential for the replication of the virus. UL42 reduces the rate of dissociation from primer-template DNA, but it does not reduce the rate of elongation. UL42 increases the ability of UL9 to load onto DNA, thus increasing its assembly into a functional complex that is capable of unwinding duplex DNA.

REFERENCES

1. Reddig, P.J., et al. 1994. The essential *in vivo* function of the herpes simplex virus UL42 with its ability to stimulate the viral DNA polymerase *in vitro*. Virology 200: 447-456.
2. Sheaffer, A.K., et al. 1996. Characterization of monoclonal antibodies recognizing amino- and carboxy-terminal epitopes of the herpes simplex virus UL42 protein. Virus Res. 38: 305-314.
3. Weisshart, K., et al. 1999. Herpes simplex virus processivity factor UL42 imparts increased DNA-binding specificity to the viral DNA polymerase and decreased dissociation from primer-template without reducing the elongation rate. J. Virol. 73: 55-66.

SOURCE

HSV-1 UL42 (13C9) is a mouse monoclonal antibody raised against Baculovirus-expressed HSV DNA polymerase (POL) and POL/UL42 complex.

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.

HSV-1 UL42 (13C9) is available conjugated to agarose (sc-53331 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-53331 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-53331 PE), fluorescein (sc-53331 FITC), Alexa Fluor® 488 (sc-53331 AF488), Alexa Fluor® 546 (sc-53331 AF546), Alexa Fluor® 594 (sc-53331 AF594) or Alexa Fluor® 647 (sc-53331 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-53331 AF680) or Alexa Fluor® 790 (sc-53331 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

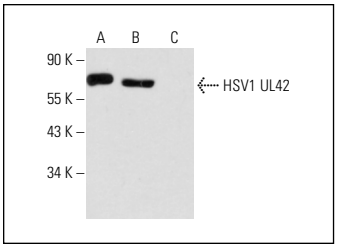
HSV-1 UL42 (13C9) is recommended for detection of UL42 of HSV-1 origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Molecular Weight of HSV-1 UL42: 61 kDa.

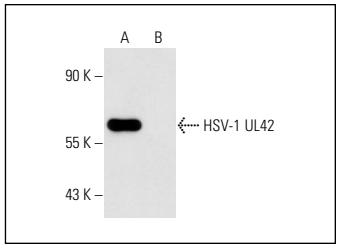
RECOMMENDED SUPPORT REAGENTS

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.

DATA



HSV-1 UL42 (13C9): sc-53331. Western blot analysis of HSV-1 UL42 expression in HSV-1 (MacIntyre strain) infected African Green monkey kidney (**A**), HSV-1 (117 syn + strain) infected baby hamster kidney (**B**) and mock infected control baby hampster kidney (**C**) tissue extracts.



HSV-1 UL42 (13C9): sc-53331. Western blot analysis of HSV-1 UL42 expression in HSV-1 (strain 17 syn$^+$) infected baby hamster kidney (**A**) and mock infected baby hamster kidney (**B**) tissue extracts.

SELECT PRODUCT CITATIONS

1. Nicolas, A., et al. 2010. Identification of rep-associated factors in herpes simplex virus type 1-induced adeno-associated virus type 2 replication compartments. J. Virol. 84: 8871-8887.
2. Hutterer, C., et al. 2017. Inhibitors of dual-specificity tyrosine phosphorylation-regulated kinases (DYRK) exert a strong anti-herpesviral activity. Antiviral Res. 143: 113-121.
3. Bravo García-Morato, M., et al. 2019. Impaired control of multiple viral infections in a family with complete IRF9 deficiency. J. Allergy Clin. Immunol. 144: 309-312.e10.
4. Kato, A., et al. 2020. Identification of a herpes simplex virus 1 gene encoding neurovirulence factor by chemical proteomics. Nat. Commun. 11: 4894.
5. Birzer, A., et al. 2020. Mass spectrometric characterization of HSV-1 L-particles from human dendritic cells and BHK21 cells and analysis of their functional role. Front. Microbiol. 11: 1997.

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.