SANTA CRUZ BIOTECHNOLOGY, INC.

CMV UL84 (Mab84): sc-56977

BACKGROUND

Cytomegalovirus (CMV) is a member of the herpes virus group which includes herpes simplex virus types 1 and 2; Varicella Zoster Virus, which causes chicken pox; and Epstein Barr virus, which causes infectious mononucleosis. These viruses remain dormant within the body over a long period. In humans, CMV is known as HCMV or human herpesvirus 5 (HHV-5). HHV-5 causes only a brief mononeucleosis-like malaise in immunocompetent adults, but may cause severe illness or death in immunosuppressed individuals. CMV UL84 is an essential regulatory protein with nuclear localization that may play an important role during initiation of viral-DNA synthesis, and is required for lytic DNA replication. The immediate-early protein 2, namely CMV pp86, interacts with CMV UL84 and may be regulated by this viral protein. In addition, CMV UL84 is capable of forming a homo- or heterodimeric molecule.

REFERENCES

1. Alford, C.A., et al. 1990. Congenital and perinatal cytomegalovirus infections. Rev. Infect. Dis. 12: S745-S753.
2. Rubin, R.H. 1990. Impact of cytomegalovirus infection on organ transplant recipients. Rev. Infect. Dis. 12: S754-S766.
3. Toome, B.K., et al. 1991. Diagnosis of cutaneous cytomegalovirus infection: a review and report of a case. J. Am. Acad. Dermatol. 24: 860-867.
4. He, Y.S., et al. 1992. Characterization of human cytomegalovirus UL84 early gene and identification of its putative protein product. J. Virol. 66: 1098-1108.
5. Schmolke, S., et al. 1995. The dominant phosphoprotein pp65 (UL83) of human cytomegalovirus is dispensable for growth in cell culture. J. Virol. 69: 5959-5968.
6. Xu, Y., et al. 2002. Human cytomegalovirus UL84 localizes to the cell nucleus via a nuclear localization signal and is a component of viral replication compartments. J. Virol. 76: 8931-8938.
7. Xu, Y., et al. 2004. Human cytomegalovirus UL84 insertion mutant defective for viral DNA synthesis and growth. J. Virol. 78: 10360-10369.
8. Colletti, K.S., et al. 2005. Human cytomegalovirus UL84 is a phosphoprotein that exhibits UTPase activity and is a putative member of the DExD/H box family of proteins. J. Biol. Chem. 280: 11955-11960.
9. Lischka, P., et al. 2006. Human cytomegalovirus UL84 protein contains two nuclear export signals and shuttles between the nucleus and the cytoplasm. J. Virol. 80: 10274-10280.

SOURCE

CMV UL84 (Mab84) is a mouse monoclonal antibody raised against recombinant UL84 protein of CMV origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

CMV UL84 (Mab84) is recommended for detection of UL84 protein of CMV 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 CMV UL84: 75 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.

SELECT PRODUCT CITATIONS

1. Du, G., et al. 2011. Alternative splicing of the human cytomegalovirus major immediate-early genes affects infectious-virus replication and control of cellular cyclin-dependent kinase. J. Virol. 85: 804-817.
2. Oduro, J.D., et al. 2012. Inhibition of human cytomegalovirus immediate-early gene expression by cyclin A2-dependent kinase activity. J. Virol. 86: 9369-9383.
3. Wiebusch, L. and Hagemeier, C. 2014. Use of 5-ethynyl-2'-deoxyuridine labelling and flow cytometry to study cell cycle-dependent regulation of human cytomegalovirus gene expression. Methods Mol. Biol. 1119: 123-132.
4. Kapoor, A., et al. 2020. Validation and characterization of five distinct novel inhibitors of human cytomegalovirus. J. Med. Chem. 63: 3896-3907.
5. Lai, S., et al. 2021. Site-specific SUMOylation of viral polymerase processivity factor: a way of localizingtoND10 subnuclear domains for restricted and self-controlled reproduction of herpesvirus. Virulence. E-published.

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.

PROTOCOLS

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