SANTA CRUZ BIOTECHNOLOGY, INC.

EBV Ea-D (1108-1): sc-69679

BACKGROUND

Epstein-Barr virus (EBV), also designated human herpesvirus 4 (HHV-4), is a member of the herpesvirus family and is one of the most common human viruses. EBV infects B cells and, though often asymptomatic, it can cause infectious mononucleosis, a disease characterized by fatigue, fever, sore throat and muscle soreness. The EBV-induced early antigens (Ea) are among several antigen complexes that have been identified in EBV-infected cells. The Ea complex is composed of diffuse (Ea-D) and restricted (Ea-R) components. The activity of Ea-D is suppressed during latent infection. BMRF1, the gene that encodes for Ea-D, is closely associated with the gene encoding for EBV DNA polymerase, and Ea-D is essential for the activity of this polymerase. Ea-D forms a complex with EBV DNase and, together, they may play a role in viral replication.

REFERENCES

1. Luka, J., et al. 1986. Characterization of the restricted component of Epstein-Barr virus early antigens as a cytoplasmic filamentous protein. J. Virol. 58: 748-756.
2. Goldschmidts, W.L., et al. 1989. Neutralization of Epstein-Barr virus-induced ribonucleotide reductase with antibody to the major restricted early antigen polypeptide. Virology 170: 330-333.
3. Gorgievski-Hrisoho, M., et al. 1990. Serodiagnosis of infectious mononucleosis by using recombinant Epstein-Barr virus antigens and enzyme-linked immunosorbent assay technology. J. Clin. Microbiol. 28: 2305-2311.
4. Holley-Guthrie, E.A., et al. 1990. The Epstein-Barr virus (EBV) BMRF1 promoter for early antigen (EA-D) is regulated by the EBV transactivators, BRLF1 and BZLF1, in a cell-specific manner. J. Virol. 64: 3753-3759.
5. Daibata, M. and Sairenji, T. 1993. Epstein-Barr virus (EBV) replication and expressions of EA-D (BMRF1 gene product), virus-specific deoxyribonuclease, and DNA polymerase in EBV-activated Akata cells. Virology 196: 900-904.
6. Gan, Y.Y., et al. 1996. Epstein-Barr viral antigens used in the diagnosis of nasopharyngeal carcinoma. J. Biomed. Sci. 3: 159-169.
7. Ruf, I.K., et al. 1999. Epstein-Barr virus regulates c-Myc, apoptosis, and tumorigenicity in Burkitt lymphoma. Mol. Cell. Biol. 19: 1651-1660.
8. Spender, L.C., et al. 2006. Cell target genes of Epstein-Barr virus transcription factor EBNA-2: induction of the p55α regulatory subunit of PI3-kinase and its role in survival of EREB2.5 cells. J. Gen. Virol. 87: 2859-2867.

SOURCE

EBV Ea-D (1108-1) is a mouse monoclonal antibody raised against affinity purified early antigen polypeptides from induced Raji cells precipitated with African Burkitt's lymphoma sera.

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.

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.

EBV Ea-D (1108-1) is available conjugated to agarose (sc-69679 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-69679 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-69679 PE), fluorescein (sc-69679 FITC), Alexa Fluor® 488 (sc-69679 AF488), Alexa Fluor® 546 (sc-69679 AF546), Alexa Fluor® 594 (sc-69679 AF594) or Alexa Fluor® 647 (sc-69679 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-69679 AF680) or Alexa Fluor® 790 (sc-69679 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

EBV Ea-D (1108-1) is recommended for detection of EBV Ea-D p55/p50 of Epstein-Barr Virus 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 EBV Ea-D: 43 kDa.

Molecular Weight of EBV Ea-D p52/p50: 52/50 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. Zhang, L., et al. 2016. Trichloromethane fraction of *Incarvillea compacta* induces lytic cytotoxicity and apoptosis in Epstein-Barr virus-positive gastric cancer AGS cells. BMC Complement. Altern. Med. 16: 344.
2. Wu, M., et al. 2024. Synthetic BZLF1-targeted transcriptional activator for efficient lytic induction therapy against EBV-associated epithelial cancers. Nat. Commun. 15: 3729.

PROTOCOLS

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