SANTA CRUZ BIOTECHNOLOGY, INC.

EBV Ea-D (0261): sc-58121

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 (0261) is a mouse monoclonal antibody raised against Epstein-Barr virus.

PRODUCT

Each vial contains 100 µg IgG_2 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

EBV Ea-D (0261) is recommended for detection of EBV Ea-D by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) 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.

SELECT PRODUCT CITATIONS

1. Feng, X., et al. 2011. Proteome profiling of Epstein-Barr virus infected nasopharyngeal carcinoma cell line: identification of potential biomarkers by comparative iTRAQ-coupled 2D LC/MS-MS analysis. J. Proteomics 74: 567-576.
2. Li, Y., et al. 2015. Epstein-Barr virus BZLF1-mediated downregulation of proinflammatory factors is essential for optimal lytic viral replication. J. Virol. 90: 887-903.
3. Chang, P.J., et al. 2017. Diabetes and risk of Kaposi's sarcoma: effects of high glucose on reactivation and infection of Kaposi's sarcoma-associated herpesvirus. Oncotarget 8: 80595-80611.
4. Chen, L.W., et al. 2018. Expression and regulation of the BKRF2, BKRF3 and BKRF4 genes of Epstein-Barr virus. Virus Res. 256: 76-89.
5. Samson, A., et al. 2018. Oncolytic reovirus as a combined antiviral and anti-tumour agent for the treatment of liver cancer. Gut 67: 562-573.
6. Thomé, M.P., et al. 2019. Dipyridamole as a new drug to prevent Epstein-Barr virus reactivation. Antiviral Res. 172: 104615.
7. Kim, J.H., et al. 2021. Sildenafil prevents HDACi-induced Epstein-Barr virus reactivation through the PKG pathway in NK/T cell lymphoma; potential implications for HDACi-mediated fatal complications. Antiviral Res. 189: 105063.
8. Chen, Y., et al. 2021. B cell receptor-responsive miR-141 enhances Epstein-Barr virus lytic cycle via FOXO3 inhibition. mSphere 6: e00093-21.
9. Chen, L.W., et al. 2021. The Epstein-Barr virus lytic protein BMLF1 induces upregulation of GRP78 expression through ATF6 activation. Int. J. Mol. Sci. 22: 4024.
10. Glon, D., et al. 2022. Essential role of hyperacetylated microtubules in innate immunity escape orchestrated by the EBV-encoded BHRF1 protein. PLoS Pathog. 18: e1010371.
11. Xu, M., et al. 2023. Establishment and characterization of two Epstein-Barr virus-positive gastric cancer cell lines with epitheliotropic M81 strain undergoing distinct viral and altered cellular expression profiles. J. Med. Virol. 95: e28387.
12. Lange, P.T. and Damania, B. 2023. Epstein-Barr virus-positive lymphomas exploit ectonucleotidase activity to limit immune responses and prevent cell death. mBio. E-published.

STORAGE

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