



## EBV Ea-D (CG12): sc-517584

### 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., Miller, G., Jörnvall, H. and Pearson, G.R. 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., Ginsburg, M. and Pearson, G.R. 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., Hinderer, W., Nebel-Schickel, H., Horn, J., Vornhagen, R., Sonneborn, H.H., Wolf, H. and Siegl, G. 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., Quinlivan, E.B., Mar, E.C. and Kenney, S. 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. Ruf, I.K., Rhyne, P.W., Yang, H., Borza, C.M., Hutt-Fletcher, L.M., Cleveland, J.L. and Sample, J.T. 1999. Epstein-Barr virus regulates c-MYC, apoptosis, and tumorigenicity in Burkitt lymphoma. *Mol. Cell. Biol.* 19: 1651-1660.
7. Gan, Y.Y., Fones-Tan, A., Chan, S.H. and Gan, L.H. 2001. Epstein-Barr viral antigens used in the diagnosis of nasopharyngeal carcinoma. *J. Biomed. Sci.* 3: 159-169.
8. Spender, L.C., Lucchesi, W., Bodelon, G., Bilancio, A., Karstegl, C.E., Asano, T., Dittich-Breiholz, O., Kracht, M., Vanhaesebroeck, B. and Farrell, P.J. 2006. Cell target genes of Epstein-Barr virus transcription factor EBNA-2: induction of the p55 $\alpha$  regulatory subunit of PI3-kinase and its role in survival of EREB2.5 cells. *J. Gen. Virol.* 87: 2859-2867.

### SOURCE

EBV Ea-D (CG12) is a mouse monoclonal antibody raised against Epstein-Barr virus Ea-D.

### PRODUCT

Each vial contains 100  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

### APPLICATIONS

EBV Ea-D (CG12) is recommended for detection of Epstein-Barr Virus Ea-D of Epstein-Barr virus origin 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.

### RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:

1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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.

### RESEARCH USE

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

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.