

EBV EBNA-1 (3EB16): sc-81587

BACKGROUND

Epstein-Barr virus, frequently referred to as EBV, is a member of the herpes-virus family and is one of the most common human viruses. Epstein-Barr virus, an agent with growth transforming potential for human B cells, is associated with certain human cancers (e.g. B cell lymphomas and Burkitt's lymphoma) and one type of epithelial tumor, designated NPC (undifferentiated nasopharyngeal carcinoma). EBV nuclear antigen 1 protein (EBV EBNA-1) is expressed in all EBV-associated tumors, including Burkitt's lymphoma and nasopharyngeal carcinoma tumors. EBV EBNA-1 is also required for synthesis and maintenance of the Epstein-Barr virus genome. Epstein-Barr virus nuclear antigen 2 (EBV EBNA-2) activates transcription of specific genes and is essential for B lymphocyte transformation. EBV EBNA-2 is specifically bound to a novel nuclear protein, p100, which can co-activate gene expression mediated by the EBV EBNA-2 acidic domain. It is generally accepted that the Epstein-Barr nuclear antigen latent genes EBNA-2, -3A, -3C and -LP, LMP-1 are essential for growth transformation and immortalization of B lymphocytes. EBNA-3A and EBNA-3B co-activation are, at most, 40% that of EBNA-3C.

REFERENCES

1. Young, L.S., Dawson, C.W., Clark, D., Rupani, H., Busson, P., Tursz, T., Johnson, A. and Rickinson, A.B. 1988. Epstein-Barr virus gene expression in nasopharyngeal carcinoma. *J. Gen. Virol.* 69: 1051-1065.
2. Horner, D., Lewis, M. and Farrell, P.J. 1995. Novel hypotheses for the roles of EBNA-1 and BHRF1 in EBV-related cancers. *Intervirology* 38: 195-205.
3. Tong, X., Drapkin, R., Yalamanchili, R., Mosialos, G. and Kieff, E. 1995. The Epstein-Barr virus nuclear protein 2 acidic domain forms a complex with a novel cellular co-activator that can interact with TFIIE. *Mol. Cell. Biol.* 15: 4735-4744.
4. Cludts, I. and Farrell, P.J. 1998. Multiple functions within the Epstein-Barr virus EBNA-3A protein. *J. Virol.* 72: 1862-1869.
5. 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.
6. Kivimäe, S., Allikas, A., Kurg, R. and Ustav, M. 2001. Replication of a chimeric origin containing elements from Epstein-Barr virus ori P and bovine papillomavirus minimal origin. *Virus Res.* 75: 1-11.
7. Lin, J., Johannsen, E., Robertson, E. and Kieff, E. 2002. Epstein-Barr virus nuclear antigen-3C putative repression domain mediates co-activation of the LMP-1 promoter with EBNA-2. *J. Virol.* 76: 232-242.

SOURCE

EBV EBNA-1 (3EB16) is a mouse monoclonal antibody raised against Epstein-Barr Virus nuclear antigen 1, with epitope mapping to amino acids 458-641.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

EBV EBNA-1 (3EB16) is recommended for detection of EBV EBNA-1 by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Molecular Weight of EBV EBNA-1: 88 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).

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.



See **EBV EBNA-1 (1EB12): sc-81581** for EBV EBNA-1 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.