

# EBV EBNA-2 (vC-20): sc-17501

## BACKGROUND

Epstein-Barr virus, frequently referred to as EBV, is a member of the herpesvirus 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, -LP and 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., et al. 1988. Epstein-Barr virus gene expression in nasopharyngeal carcinoma. *J. Gen. Virol.* 69: 1051-1065.
2. Horner, D., et al. 1995. Novel hypotheses for the roles of EBNA-1 and BHRF1 in EBV-related cancers. *Intervirology* 38: 195-205.
3. Tong, X., et al. 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., et al. 1999. Epstein-Barr virus regulates c-Myc, apoptosis, and tumorigenicity in Burkitt lymphoma. *Mol. Cell. Biol.* 19: 1651-1660.
6. Kivimaa, S., et al. 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., et al. 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-2 (vC-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of EBNA-2 of EBV origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-17501 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## RESEARCH USE

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

## APPLICATIONS

EBV EBNA-2 (vC-20) is recommended for detection of EBNA-2 of EBV origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of EBV EBNA-2: 61 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048.

## SELECT PRODUCT CITATIONS

1. Liu, C.D., et al. 2012. The nuclear chaperone nucleophosmin escorts an Epstein-Barr Virus nuclear antigen to establish transcriptional cascades for latent infection in human B cells. *PLoS Pathog.* 8: e1003084.
2. Perez-Chacon, G., et al. 2014. Indole-3-carbinol induces cMYC and IAP-family downmodulation and promotes apoptosis of Epstein-Barr virus (EBV)-positive but not of EBV-negative Burkitt's lymphoma cell lines. *Pharmacol. Res.* 89: 46-56.
3. Chen, Y.L., et al. 2014. Nucleolin is important for Epstein-Barr virus nuclear antigen 1-mediated episome binding, maintenance, and transcription. *Proc. Natl. Acad. Sci. USA* 111: 243-248.

## STORAGE

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

## PROTOCOLS

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