

EBV LMP-1 (CS1/2/3/4): sc-57721

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, infecting about 90% of the population. EBV infects only B lymphocytes and, though often asymptomatic, it can cause infectious mononucleosis, a disease characterized by fatigue, fever, sore throat and muscle soreness. The linear genome of EBV circularizes once it enters the cell and exists there as an episome. The virus can execute either a lytic cycle, which results in the staged expression viral proteins with the ultimate objective of producing infectious virions, or a latent cycle, which allows the virus to exist in a host for years. EBV may play a role of the development of both Burkitt lymphoma, a disease in which a tumor can form on the mandible or maxilla, and nasopharyngeal carcinoma, a tumor found in the upper respiratory tract, most commonly in the nasopharynx. EBV LMP-1 (EBV Latent membrane protein-1) is a multi-pass membrane protein that is expressed during viral replication and is responsible for EBV-induced B cell transformation.

REFERENCES

- 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.
- 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.
- 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.
- Ruf, I.K., et al. 1999. Epstein-Barr virus regulates c-Myc, apoptosis, and tumorigenicity in Burkitt lymphoma. *Mol. Cell. Biol.* 19: 1651-1660.
- Gan, Y.Y., et al. 2001. Epstein-Barr viral antigens used in the diagnosis of nasopharyngeal carcinoma. *J. Biomed. Sci.* 3: 159-169.
- Ahsan, N., et al. 2005. Epstein-Barr virus transforming protein LMP1 plays a critical role in virus production. *J. Virol.* 79: 4415-4424.
- Spender, L.C., et al. 2006. Cell target genes of Epstein-Barr virus transcription factor EBNA-2: induction of the p53 α regulatory subunit of PI 3-kinase and its role in survival of EREB2.5 cells. *J. Gen. Virol.* 87: 2859-2867.

SOURCE

EBV LMP-1 (CS1/2/3/4) is a mouse monoclonal antibody raised against recombinant fusion protein containing sequences of bacterial β -galactosidase and EBV encoded latent membrane protein.

PRODUCT

Each vial contains 500 μ l culture supernatant containing IgG₁ with < 0.1% sodium azide.

RESEARCH USE

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

APPLICATIONS

EBV LMP-1 (CS1/2/3/4) is recommended for detection of LMP-1 of Epstein-Barr virus origin by immunofluorescence (starting dilution to be determined by researcher, dilution range 1:10-1:200) and immunohistochemistry (including paraffin-embedded sections) (starting dilution to be determined by researcher, dilution range 1:10-1:200); may cross-react with EBV positive lymphoblastoid cell lines and EBV infected B cell immunoblasts in infectious mononucleosis.

SELECT PRODUCT CITATIONS

- Trachte, G.J. 1986. Prostacyclin mediates arachidonic acid-induced relaxation of rabbit isolated mesenteric arteries. *J. Cardiovasc. Pharmacol.* 8: 758-764.
- Wan, X.B., et al. 2012. Molecular prognostic prediction for locally advanced nasopharyngeal carcinoma by support vector machine integrated approach. *PLoS ONE* 7: e31989.
- Palma, I., et al. 2013. Detection of Epstein-Barr virus and genotyping based on EBNA2 protein in Mexican patients with hodgkin lymphoma: a comparative study in children and adults. *Clin. Lymphoma Myeloma Leuk.* 13: 266-272.
- Lajoie, V., et al. 2015. LMP1 mediates multinuclearity through downregulation of shelterin proteins and formation of telomeric aggregates. *Blood* 125: 2101-2110.
- Jiang, L., et al. 2015. Exome sequencing identifies somatic mutations of DDX3X in natural killer/T-cell lymphoma. *Nat. Genet.* 47: 1061-1066.
- Wang, Y. and Sun, L.E. 2016. Knockdown of LMP1-induced miR-155 sensitizes nasopharyngeal carcinoma cells to radiotherapy *in vitro*. *Oncol. Lett.* 11: 3451-3456.

STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

PROTOCOLS

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