

## Datasheet: MCA2466

<b>Description:</b>	RAT ANTI EPSTEIN-BARR VIRUS LMP2A
<b>Specificity:</b>	EPSTEIN-BARR VIRUS LMP2A
<b>Other names:</b>	EBV
<b>Format:</b>	Purified
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	14B7
<b>Isotype:</b>	IgG2a
<b>Quantity:</b>	0.25 mg

## Product Details

### Applications

This product has been reported to work in the following applications. This information is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information. For general protocol recommendations, please visit [www.bio-rad-antibodies.com/protocols](http://www.bio-rad-antibodies.com/protocols).

	Yes	No	Not Determined	Suggested Dilution
Flow Cytometry			■	
Immunohistology - Frozen			■	
Immunohistology - Paraffin		■		
ELISA			■	
Immunoprecipitation	■			
Western Blotting	■			1/100 - 1/1000
Immunofluorescence	■			

Where this antibody has not been tested for use in a particular technique this does not necessarily exclude its use in such procedures. Suggested working dilutions are given as a guide only. It is recommended that the user titrates the antibody for use in their own system using appropriate negative/positive controls.

<b>Target Species</b>	Viral
<b>Product Form</b>	Purified IgG - liquid
<b>Preparation</b>	Purified IgG prepared by affinity chromatography on Protein G from tissue culture supernatant
<b>Buffer Solution</b>	Phosphate buffered saline
<b>Preservative Stabilisers</b>	0.09% Sodium Azide
<b>Approx. Protein Concentrations</b>	IgG concentration 1.0 mg/ml
<b>Immunogen</b>	Bacterial TrpE-LMP2A fusion protein
<b>Fusion Partners</b>	Spleen cells from immunised Lou/C rats were fused with cells of the P3X63.Ag8.653 myeloma cell

line.

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## Specificity

**Rat anti Epstein-Barr Virus LMP2A antibody, clone 14B7** recognizes latent membrane protein 2A (LMP2A) of Epstein-Barr virus (EBV). EBV is a human herpesvirus, which is associated with conditions such as Hodgkin's disease and Burkitt's Lymphoma and is the causative agent in mononucleosis in adolescents.

EBV latently infects B lymphocytes. Infected B cells express EBV nuclear antigens and latent proteins LMP1, LMP2A and LMP2B. LMP2A forms aggregates in the plasma membranes of B lymphocytes, where it functions as a negative regulator of the Src and Syk protein tyrosine kinases.

Studies show that LMP2A blocks B-cell receptor (BCR) signal transduction in EBV immortalized B cells *in vitro* and may play an important role in maintaining a latent EBV infection within the peripheral blood B cells of infected individuals.

Rat anti Epstein-Barr Virus LMP2A antibody, clone 14B7 detects wild-type LMP2A protein.

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## References

1. Fruehling, S. *et al.* (1996) Identification of latent membrane protein 2A (LMP2A) domains essential for the LMP2A dominant-negative effect on B-lymphocyte surface immunoglobulin signal transduction. [J Virol. 70 \(9\): 6216-26.](#)
2. Fruehling, S. *et al.* (1998) Tyrosine 112 of latent membrane protein 2A is essential for protein tyrosine kinase loading and regulation of Epstein-Barr virus latency. [J Virol. 72 \(10\): 7796-806.](#)
3. Ikeda, A. *et al.* (2003) Itchy, a Nedd4 ubiquitin ligase, downregulates latent membrane protein 2A activity in B-cell signaling. [J Virol. 77: 5529-34.](#)
4. Longan, L. and Longnecker, R. (2000) Epstein-Barr virus latent membrane protein 2A has no growth-altering effects when expressed in differentiating epithelia. [J Gen Virol. 81: 2245-52.](#)
5. Lynch, D.T. *et al.* (2002) Epstein-Barr virus latent membrane protein 2B (LMP2B) co-localizes with LMP2A in perinuclear regions in transiently transfected cells. [J Gen Virol. 83: 1025-35.](#)
6. Bultema, R. *et al.* (2009) Epstein-Barr virus LMP2A accelerates MYC-induced lymphomagenesis. [Oncogene. 28: 1471-6.](#)
7. Katzman, R.B. and Longnecker, R. (2004) LMP2A does not require palmitoylation to localize to buoyant complexes or for function. [J Virol. 78: 10878-87.](#)
8. Anderson, L.J. and Longnecker, R. (2008) An auto-regulatory loop for EBV LMP2A involves activation of Notch. [Virology. 371: 257-66.](#)
9. Merchant, M. *et al.* (2000) The LMP2A ITAM is essential for providing B cells with development and survival signals *in vivo*. [J Virol. 74: 9115-24.](#)
10. Bieging, K.T. *et al.* (2009) Epstein-Barr virus LMP2A bypasses p53 inactivation in a MYC model of lymphomagenesis. [Proc Natl Acad Sci USA 106: 17945-50.](#)
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12. Moody, C.A. *et al.* (2005) Modulation of the cell growth regulator mTOR by Epstein-Barr virus-encoded LMP2A. [J Virol. 79: 5499-506.](#)
13. Rovedo, M. and Longnecker, R. (2007) Epstein-barr virus latent membrane protein 2B (LMP2B) modulates LMP2A activity. [J Virol. 81: 84-94.](#)
14. Sim, A.C. *et al.* (2013) Defining the expression hierarchy of latent T-cell epitopes in Epstein-Barr virus infection with TCR-like antibodies. [Sci Rep. 3: 3232.](#)
15. Cao, Q. *et al.* (2016) A human Fab exclusively binding to the extracellular domain of LMP2A [Biochemical and Biophysical Research Communications. Nov 11 \[Epub ahead of print\]](#)

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## Storage

Store at +4°C or at -20°C if preferred.

Storage in frost-free freezers is not recommended.

This product should be stored undiluted. Avoid repeated freezing and thawing as this may denature the antibody. Should this product contain a precipitate we recommend microcentrifugation before

use.

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<b>Shelf Life</b>	18 months from date of despatch.
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<b>Health And Safety Information</b>	Material Safety Datasheet documentation available at: Material Safety Datasheet Documentation #10040 available at: <a href="https://www.bio-rad-antibodies.com/uploads/MSDS/10040.pdf">https://www.bio-rad-antibodies.com/uploads/MSDS/10040.pdf</a>
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<b>Regulatory</b>	For research purposes only
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## Related Products

### Recommended Secondary Antibodies

Rabbit Anti Rat IgG (STAR16...)	<a href="#">DyLight®800</a>
Goat Anti Rat IgG (STAR73...)	<a href="#">RPE</a>
Rabbit Anti Rat IgG (STAR21...)	<a href="#">HRP</a>
Rabbit Anti Rat IgG (STAR17...)	<a href="#">FITC</a>
Goat Anti Rat IgG (MOUSE ADSORBED) (STAR71...)	<a href="#">DyLight®549</a> , <a href="#">DyLight®649</a> , <a href="#">DyLight®800</a>
Goat Anti Rat IgG (STAR131...)	<a href="#">Alk. Phos.</a> , <a href="#">Biotin</a>
Goat Anti Rat IgG (STAR69...)	<a href="#">FITC</a>
Goat Anti Rat IgG (STAR72...)	<a href="#">HRP</a>

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