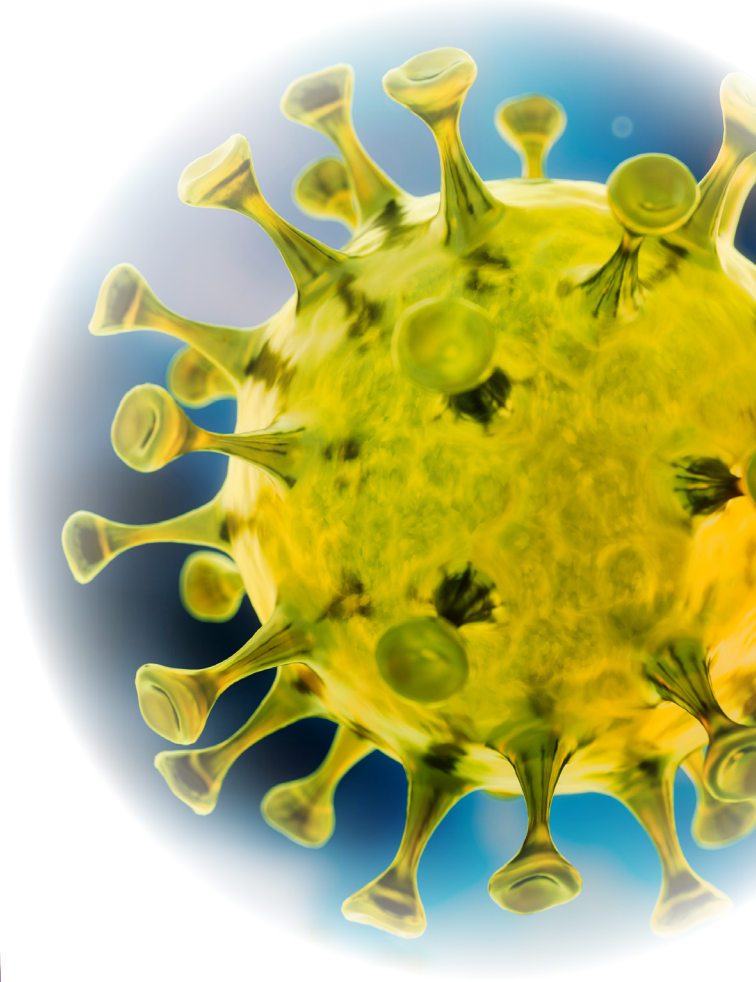
Anti-EBV

Sensitive and specific IgG and IgM antibody determination



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The new language of life

Epstein-Barr Virus
Infectious mononucleosis

Pathogen

Infectious mononucleosis (glandular fever) is the result of a primary infection with the human pathogenic Epstein-Barr virus (EBV) of the *herpesviridae* family.

Epidemiology

The Epstein-Barr virus is widespread globally. A primary infection usually occurs in childhood. The seroprevalence in the population is generally high and reaches more than 98 % in adults.

Transmission

The Epstein-Barr virus is transmitted primarily through direct contact and droplet infections.

Clinical Symptoms

In adolescents and adults, a primary EBV infection can manifest as infectious mononucleosis (Pfeiffer's glandular fever). In immunocompetent people, the disease results in a lifelong immunity. Although reactivations are possible, they are usually asymptomatic. The Epstein-Barr virus can contribute to the development of Hodgkin's disease, Burkitt's lymphoma and other cancers such as nasopharyngal carcinoma. In addition, EBV is associated with chronic fatigue syndrome and a variety of autoimmune diseases (MS, SLE, RA).

Diagnosis

The diagnosis of Epstein-Barr virus infections is based on clinical symptoms and confirmed by the detection of EBV-specific antibodies. IgM und IgG antibodies are generated during primary infection. IgM antibodies against ZEBRA or VCA are usually no longer detectable a few weeks after primary infection. IgG antibodies against EBNA-1 do not appear until weeks after infection and exclude an acute primary infection. IgG antibodies against VCA and EBNA-1 usually remain life-long.

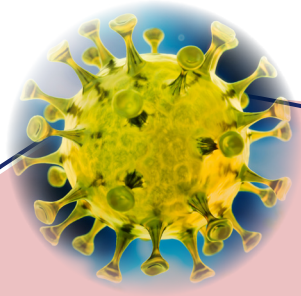
Anti-EBV IgG / IgM
Sensitive and specific test systems

Antigen

The Alegria Anti-EBV (VCA) IgG Monotest is based on a mixture of rec. EBV VCA p18 and p23. The test strips of the Alegria Anti-EBV (VCA) IgM Abs. are coated with rec. EBV VCA p18. The Alegria Anti-EBV (EBNA-1) IgG Monotest uses rec. EBNA-1 p72 and the Alegria Anti-EBV (ZEBRA) IgM is based on a rec. ZEBRA peptide. The combination of all immunoassays allows for a sensitive and specific determination of IgG and IgM antibodies against Epstein-Barr virus.

Calibration

All Alegria Anti-EBV Monotests are calibrated using internal reference samples. Results are expressed in U/mL.



Sensitivity and Specificity

	Sensitivity	Specificity	Diagnostic Efficiency
Anti-EBV (ZEBRA) IgM	92.9 %	98.9 %	98.7 %
Anti-EBV (VCA) IgM Abs.	> 99 %	> 99 %	> 99 %
Anti-EBV (VCA) IgG	> 99 %	83.3 %	98.7 %
Anti-EBV (EBNA-1) IgG	96.0 %	96.4 %	96.1 %

Precision Anti-EBV (VCA) IgG

	Intraassay Repeatability		Interassay Reproducibility	
	Antibody Activity (U/mL)	Coeffcient of Variation (CV)	Antibody Activity (U/mL)	Coeffcient of Variation (CV)
Sample 1	4.7 U/mL	8.1 %	5.1 U/mL	2.8 %
Sample 2	26.5 U/mL	4.3 %	28.7 U/mL	4.1 %
Sample 3	166.3 U/mL	8.4 %	175.5 U/mL	12.0 %

Precision Anti-EBV (VCA) IgM Abs.

	Intraassay Repeatability		Interassay Reproducibility	
	Antibody Activity (U/mL)	Coeffcient of Variation (CV)	Antibody Activity (U/mL)	Coeffcient of Variation (CV)
Sample 1	17.6 U/mL	6.2 %	17.1 U/mL	6.3 %
Sample 2	36.2 U/mL	5.5 %	32.2 U/mL	2.0 %
Sample 3	139.3 U/mL	2.8 %	151.0 U/mL	8.3 %

Product Highlights

- Random access ELISA-based determination of IgG and IgM antibodies against EBV
- Full automation and complete traceability with Alegria 2
- Lab-on-a-Strip: ready-to-use test-specific reagents in individually sealed and barcoded Alegria Monotest strips
- Specific detection of IgM antibodies in acute primary EBV infections against recombinant VCA and ZEBRA antigens
- Sensitive detection of IgG antibodies against recombinant EBV VCA to demonstrate contact with the pathogen
- Exclusion of acute primary infections by detection of IgG antibodies against recombinant EBNA-1
- Excellent diagnostic efficiency
- High reproducibility for reliable test results
- Economical all-in-one Alegria Monotests, particularly suited for small series
- Flexible combination of Alegria Monotests for optimal workflow efficiency

Ordering *information*

- Anti-EBV (VCA) IgG ..... **ORG 901G**
- Anti-EBV (VCA) IgM Abs. ..... **ORG 901MX**
- Anti-EBV (EBNA-1) IgG ..... **ORG 902**
- Anti-EBV (ZEBRA) IgM ..... **ORG 910**

Scan here **for more information** about Alegria Anti-EBV Monotests

Literature

Houen, G. and Trier, N.H. (2021) Epstein-Barr Virus and Systemic Autoimmune Diseases. Front. Immunol. *11*, 587380.

De Paschale, M. *et al.* (2012) Serological diagnosis of Epstein-Barr virus infection: Problems and solutions. World. J. Virol. *1*, 31 - 43.

Bravo, D. *et al.* (2009) Evaluation of an immunofiltration assay that detects immuno-globulin M antibodies against the ZEBRA protein for the diagnosis of Epstein-Barr virus infectious mononucleosis in immunocompetent patients. Clin. Vaccine Immunol. *16*, 885 – 8.

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