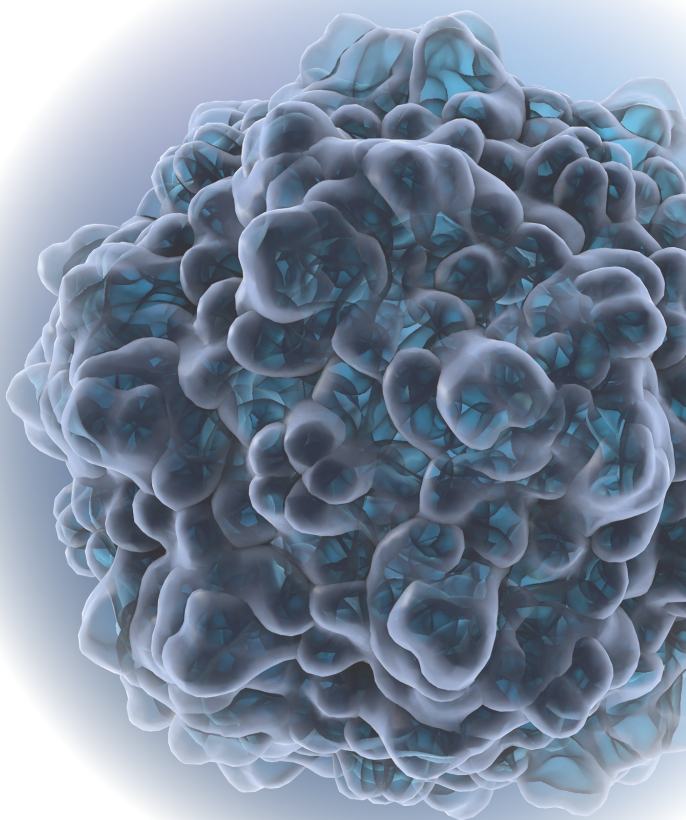


Anti-Parvovirus B19

*Reliable IgG and IgM
antibody determination*



sebia 

The new language of life



Infections with Parvovirus B19

More than a childhood disease

Pathogen

Parvovirus B19, a member of the *parvoviridae* family, belongs to the smallest human pathogens. Its icosahedral capsid of 20 to 24 nm consists of two structural proteins VP1 (5 %) and VP2 (95 %). An infection with the ssDNA virus may lead to fifth disease (*erythema infectiosum*), which is one of the classic childhood diseases.

Epidemiology

Parvovirus B19 is widespread worldwide. Many children under 6 years of age have already experienced an infection. The seroprevalence increases to >70 % in the adulthood.

Transmission

Parvovirus B19 is transmitted mainly through droplet and smear infections. A primary infection during pregnancy may lead to transplacental transmission of the virus to the fetus.

Clinical Symptoms

The majority of parvovirus B19 infections are clinically asymptomatic. In the remaining cases, fifth disease (*erythema infectiosum*) often manifests as a patchy, maculopapular rash and with flu-like symptoms in children. In adults, rheumatic complications of the hands or feet have been described. The infection results in lifelong immunity.

Infections of seronegative pregnant women with parvovirus B19 can lead to transmission of the virus to the fetus, which bears the risk of damaging the unborn child by anemia and *hydrops fetalis*. Miscarriage and stillbirth have also been described.

Diagnosis

The diagnosis of infections with parvovirus B19 is based on the clinical symptoms and confirmed by laboratory methods. IgM and IgG antibodies are generated during primary infection. Whereas IgM antibodies are usually no longer detectable a few weeks after primary infection, IgG antibodies usually remain life-long and are correlated with immune protection. Immune status determination against parvovirus B19 is particularly important during pregnancy.

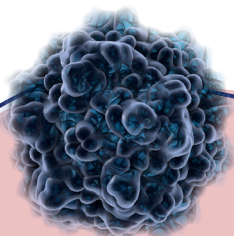
Anti-Parvovirus B19 IgG / IgM Abs. *Reliable antibody determination*

Antigen

The Anti-Parvovirus B19 IgG and IgM Abs. Monotests are based on parvovirus B19-like particles (VLPs) composed of recombinant parvovirus B19 VP2 produced in baculovirus-infected insect cells for a sensitive and specific determination of IgG and IgM antibodies.

Calibration

The Alegria Anti-Parvovirus B19 IgG Monotest is referenced to the international standard preparation NIBSC Code 01/602. Results are expressed in IU/mL. The Alegria Anti-Parvovirus B19 IgM Abs. Monotest is calibrated using an internal reference sample. Results are expressed in U/mL.





Sensitivity and Specificity

	Sensitivity	Specificity	Diagnostic Efficiency
Anti-Parvovirus B19 IgG	98.0 %	97.9 %	97.9 %
Anti-Parvovirus B19 IgM Abs.	> 99 %	> 99 %	> 99 %

Precision Anti-Parvovirus B19 IgG

	Intraassay Repeatability		Interassay Reproducibility	
	Antibody Activity (IU/mL)	Coefficient of Variation (CV)	Antibody Activity (IU/mL)	Coefficient of Variation (CV)
Sample 1	2.9 IU/mL	6.4 %	2.6 IU/mL	5.5 %
Sample 2	7.7 IU/mL	2.9 %	8.3 IU/mL	6.6 %
Sample 3	11.9 IU/mL	3.5 %	12.1 IU/mL	4.5 %

Precision Anti-Parvovirus B19 IgM Abs.

	Intraassay Repeatability		Interassay Reproducibility	
	Antibody Activity (U/mL)	Coefficient of Variation (CV)	Antibody Activity (U/mL)	Coefficient of Variation (CV)
Sample 1	2.4 U/mL	4.7 %	3.0 U/mL	6.2%
Sample 2	31.4 U/mL	2.2 %	24.9 U/mL	4.7 %
Sample 3	139.7 U/mL	2.2 %	127.6 U/mL	5.3 %





Product Highlights

- ELISA-based random access determination of IgG and IgM antibodies against parvovirus B19
- 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
- Sensitive detection of antibodies by use of virus-like particles (VLPs) composed of recombinant parvovirus B19 VP2
- Calibration of the Anti-Parvovirus B19 IgG Monotest with the international standard (NIBSC Code 01/602)
- IgG antibody activity expressed in IU/mL
- Integrated Rf-absorption prior to IgM detection
- 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-Parvovirus B19 IgG**ORG 912G**
- Anti-Parvovirus B19 IgM Abs.**ORG 912MX**



Scan here **for more information**
about Alegria Anti-Parvovirus B19
Monotests

Literature

Sun, Y. *et al.* (2019) Structure of Parvovirus B19 Decorated by Fabs from a Human Antibody. *J. Virol.* **93**, e01732–18.

Naciute, M. *et al.* (2016) Frequency and significance of parvovirus B19 infection in patients with rheumatoid arthritis. *J. Gen. Virol.* **97**, 3302 – 12.

Brown, C.S. *et al.* (1991) Assembly of empty capsids by using baculovirus recombinants expressing human parvovirus B19 structural proteins. *J. Virol.* **65**, 2702 – 6.



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