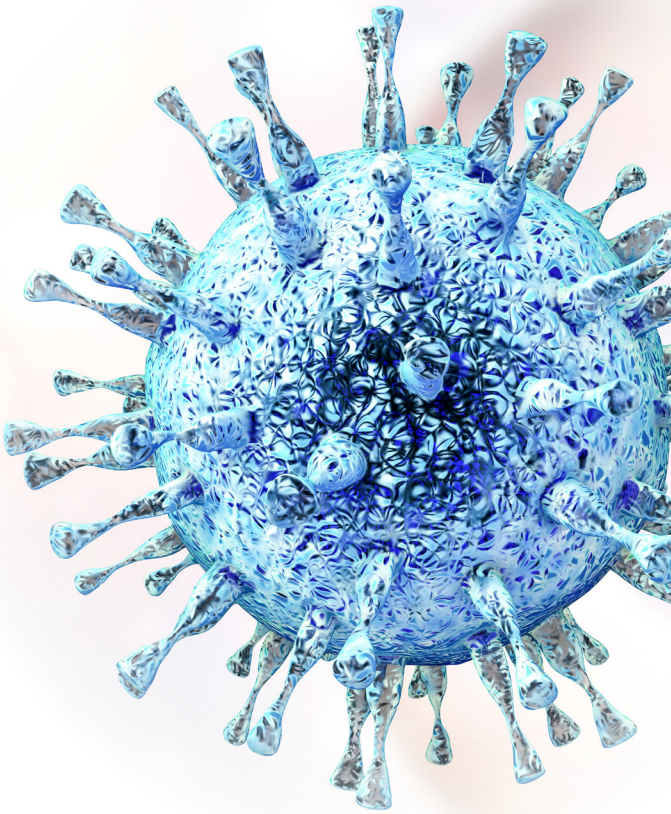
Anti-VZV

Specific IgG, IgM and IgA antibody determination



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The new language of life

Infections with VZV
Chicken pox and shingles

Pathogen

The varicella-zoster virus (VZV) belongs to the *herpesviridae* family. The virus envelope contains specific glycoproteins. Chickenpox (varicella) is the result of a VZV primary infection and one of the classic childhood diseases. VZV reactivations can lead to shingles (herpes zoster).

Epidemiology

VZV is widespread globally. In countries with immunization programs, the seroprevalence is over 95 %.

Transmission

The varicella-zoster virus is transmitted through direct contact with varicella or zoster blisters and through droplet infections. A primary infection during pregnancy may lead to transplacental transmission of the virus to the fetus.

Clinical Symptoms

Chickenpox is the result of a primary VZV infection usually in unvaccinated children. In immuno-competent individuals, the disease is usually harmless and provides lifelong immunity.
After infection, the varicella-zoster viruses persist life-long in the body. Weakening of the immune system can result in VZV reactivation, even after years of latency, leading to shingles (herpes zoster). Complications such as meningitis, encephalitis, pneumonia, generalized zoster rarely occur.
VZV infections in seronegative pregnant women can lead to transmission of the virus to the fetus and thus to fetal or neonatal varicella syndrome.
Immunization is recommended to prevent chicken pox and shingles.

Diagnosis

The diagnosis is based on the clinical symptoms and confirmed by laboratory methods. IgM and IgG antibodies are produced during primary infections. IgG antibodies against VZV glycoproteins usually remain life-long and are correlated with immune protection. Immune status determination against VZV is particularly important during pregnancy. VZV reactivations in the case of shingles generally lead to a rapid increase in IgA and IgG antibody activity.

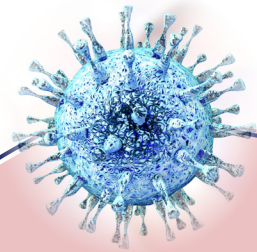
Anti-VZV IgA / IgG / IgM Abs.
Specific antibody determination

Antigen

The Alegria Anti-VZV IgG and IgA Monotests are based on VZV glycoproteins (strain Ellen). The Alegria Anti-VZV IgM Abs. Monotest is based on the use of VZV glycoprotein E for specific determination of antibodies.

Calibration

The Alegria Anti-VZV IgG Monotest is referenced to the international standard preparation NIBSC Code W1044. Results are expressed in mIU/mL. The Alegria Anti-VZV IgA and IgM Abs. Monotests are calibrated using internal reference samples. Results are expressed in U/mL.



Sensitivity and Specificity

	Sensitivity	Specificity	Diagnostic Efficiency
Anti-VZV IgA	91.1 %	> 99 %	98.5 %
Anti-VZV IgG	> 99 %	87.5 %	> 99 %
Anti-VZV IgM Abs.	76.2 %	98.8 %	97.5 %

Precision Anti-VZV IgG

	Intraassay Repeatability		Interassay Reproducibility	
	Antibody Activity (mIU/mL)	Coeffcient of Variation (CV)	Antibody Activity (mIU/mL)	Coeffcient of Variation (CV)
Sample 1	14.1	9.6 %	12.5	12.3 %
Sample 2	115.7	3.1 %	118.5	2.8 %
Sample 3	1010.1	8.3 %	876.3	7.0 %

Precision Anti-VZV IgM Abs.

	Intraassay Repeatability		Interassay Reproducibility	
	Antibody Activity (U/mL)	Coeffcient of Variation (CV)	Antibody Activity (U/mL)	Coeffcient of Variation (CV)
Sample 1	18.8	8.0 %	20.1	15.2 %
Sample 2	27.1	6.0 %	25.2	5.2 %
Sample 3	52.5	4.5 %	53.9	10.7 %

Product Highlights

- ELISA-based random access determination of IgG, IgM and IgA antibodies against VZV
- 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 antibodies by use of VZV glycoproteins
- Calibration of the Anti-VZV IgG Monotest with the international standard (NIBSC Code W1044)
- IgG antibody activity expressed in mIU/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-VZV IgA ..... **ORG 914A**
- Anti-VZV IgG ..... **ORG 914G**
- Anti-VZV IgM Abs. ..... **ORG 914MX**

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

Literature

Pan, D. *et al.* (2023) Current Methods for the Detection of Antibodies of Varicella-Zoster Virus: A Review. Microorganisms *11*, 519.

Kim, Y. H. *et al.* (2014) Evaluation of a commercial glycoprotein enzyme-linked immunosorbent assay for measuring vaccine immunity to varicella. Yonsei Med. J. 55, 459 - 66.

Hammond O. *et al.* (2006) The optimization and validation of the glycoprotein ELISA assay for quantitative varicella-zoster virus (VZV) antibody detection. J. Med. Virol. 78, 1679 - 87.

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ORGENTEC Diagnostika GmbH |
Carl-Zeiss-Straße 49-51 | 55129 Mainz | Deutschland |
Tel. : +49 6131 / 9258-0 | Fax : +49 6131 / 9258-58 | E-mail: orgentec@orgentec.com | **www.orgentec.com**