



# Varicella Zoster Diagnostics

Focus on Assay Performance

## Select YOUR Individual Raw Material Tools

The quality of a diagnostic assay depends on the right choice of raw materials. In this context, critical raw materials have a major impact on the clinical performance of any diagnostic test. In a world where time matters, reduced timelines for assay development and prevention of scale-up problems are keys to success. In view of these requirements SERION Immunologics now offers a complete range of selected raw materials for Varicella-Zoster Virus (VZV) assay development & production. This includes highly specific antigens, corresponding disease state sera and humanized monoclonal antibodies as an ultimate alternative.

## Background

### Pathogen

The ubiquitous Varicella-Zoster Virus belongs to the family of Herpesviruses and is also known as Human Herpesvirus Type 3 (HHV-3). Transmission occurs generally via droplets and aerosols or contact with virus containing vesicles or scabs.

### Disease

The incubation time ranges from two to three weeks. After a primary prodromal period with unspecific symptoms, the clinical picture of chickenpox appears. Polymorphic exanthemas with a strong itch leading to papulation, vesicles and eschar during the different development stages are typical for this children's disease. In healthy children, chickenpox is usually a harmless and self-limiting infection which results in the establishment of life-long immunity to the virus. Primary infection during pregnancy can cause transmission of the virus to the fetus which may lead to congenital varicella syndrome. Currently some 5 to 7 % of women of child-bearing age in Germany have no immunity to VZV. After primary infection the pathogen persists in the spinal ganglia. Following a latent phase, which may last over decades, declining immunity with advancing age allows the virus to replicate. This reactivation can lead to the clinical picture of herpes zoster (shingles).

### Diagnosis

IgG as well as IgM and, in most cases, also IgA antibodies are produced within a few days following the regular course of a primary infection with VZV. In cases of herpes zoster, IgG and IgA concentrations rise rapidly within a few days of disease onset. In most cases, IgM antibody activity is also detectable once again.



## VZV Antigens

SERION Immunologics offers two different native VZV antigens. For their production, Varicella Zoster Virus strain Ellen is cultivated in HEL 299 cells and purified by ultracentrifugation or via affinity chromatography. The virus lysate antigen performs with highest sensitivity in IgM antibody detection, while the VZV glycoprotein is best suited for highly specific IgG detection.

Component	Details VZV Lysate	Details VZV Glycoprotein
<b>Product</b>	Varicella Zoster Virus (VZV) Antigen	Varicella Zoster Virus (VZV) Glycoprotein
<b>Code</b>	BA104VS	BA104VSG
<b>Source</b>	Varicella Zoster Virus, strain Ellen, cultivated in HEL 299 cells	
<b>Purification</b>	Purified by ultracentrifugation through a sucrose cushion	Isolation by Lectin affinity chromatography
<b>Presentation</b>	100 mM glycine buffer, pH 9.5	
<b>Analysis</b>	ELISA	
<b>Storage</b>	≤ minus 65 °C	
<b>Applications</b>	ELISA, Western Blot, CLIA	
<b>Packaging</b>	1 mg	

## VZV Disease State Sera

Human sera and plasma are essential reagents in serological diagnostic tests. Infectious disease state sera/ plasma are used as manufacturing standards or as positive and negative controls or calibrators in most diagnostic test systems. SERION Immunologics offers numerous disease state sera, which are collected following applicable ethical guidelines.

Description	Class	Code	Packaging
Varicella Zoster Virus (VZV)	IgA	PLS104A	1 – 500 mL
Varicella Zoster Virus (VZV)	IgG	PLS104G	1 – 500 mL
Varicella Zoster Virus (VZV)	IgG negative	PLS104GN	1 – 500 mL
Measles/Mumps/Rubella/VZV	IgG negative	PLS_MMRZ_GN	1 – 500 mL
Varicella Zoster Virus (VZV)	IgM	PLS104M	1 – 500 mL

## VZV Antibodies

As batch sizes of disease state sera/ plasma are limited, SERION Immunologics offers humanized monoclonal anti-VZV IgM antibodies as a highly reliable and readily available alternative. Our chimeric antibodies consist of the human constant region of the heavy chain and the mouse variable region of the heavy chain and mouse light chain. These antibodies can optimally be used as calibrators, standards, or controls in various diagnostic assays.

Description	Class	Code	Clone	Packaging
Anti-Varicella Zoster Virus (VZV)	IgM	MAB104.001	D30B3D1	1 – 1.000 mL
Anti-Varicella Zoster Virus (VZV)	IgM	MAB104.002	D20F3C7	1 – 1.000 mL



## Features

- ✓ Suitable for IgA, IgG & IgM detection
- ✓ High sensitivity
- ✓ High specificity
- ✓ Bulk quantities



## Features

- ✓ IgA, IgG or IgM positive
- ✓ Multiple IgG negative
- ✓ Improved stability
- ✓ Customized screening

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## Features

- ✓ High affinity
- ✓ High specificity
- ✓ Industrial batch sizes
- ✓ Constant availability
- ✓ Constant quality

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