



SERION ELISA *classic*

Yersinia IgA/IgG/IgM

Intended use

- Qualitative and quantitative detection of human IgA, IgG and IgM antibodies in serum or plasma directed against plasmid encoded virulence markers of *Yersinia*.
- Differentiation of acute and recent infections in case of gastrointestinal diseases and reactive arthritis.

Diagnostic Efficiency

The performance characteristics of the SERION ELISA *classic* Yersinia IgA and IgG tests were evaluated by the analysis of more than 150 serum samples from patients with suspected yersiniosis, healthy blood donors and samples from interlaboratory tests. The immunoassays of leading European manufacturers were used as references. The performance characteristics of the SERION ELISA *classic* Yersinia IgM was evaluated using 22 serum samples from patients with suspected infection. An ELISA and an Immunoblot of a leading European manufacturer was used as reference test.

Product	Sensitivity	Specificity
SERION ELISA <i>classic</i> Yersinia IgA	94.8 %	89.7 %
SERION ELISA <i>classic</i> Yersinia IgG	97.7 %	97.8 %
SERION ELISA <i>classic</i> Yersinia IgM	>99 %	90.0 %

Precision

SERION ELISA *classic* Yersinia IgA

Sample	Mean value (OD)	Intraassay CV (%) (n=20)	Mean value (OD)	Interassay CV (%) (n=10)
Serum 1	0.400	3.1	0.491	4.1
Serum 2	0.866	2.7	0.990	3.0
Serum 3	2.289	3.0	2.697	2.9

SERION ELISA *classic* Yersinia IgG

Sample	Mean value (OD)	Intraassay CV (%) (n=20)	Mean value (OD)	Interassay CV (%) (n=10)
Serum 1	0.755	3.9	0.634	7.1
Serum 2	1.030	4.1	0.940	6.9
Serum 3	1.518	3.7	1.480	5.0

Pathogen

Yersinia are distributed globally in temperate and subtropical areas. The gram-negative bacteria express a range of plasmid-encoded virulence factors, referred to as *Yersinia Outer Proteins* (YOPs). These molecules influence signal cascades within cells and inhibit the immune response of the host.

Disease

The human pathogenic bacteria *Y. enterocolitica* and *Y. pseudotuberculosis* may cause inflammation of the intestine (enteritis) associated with stomach pain, diarrhea and vomiting. The disease symptoms are often difficult to distinguish from appendicitis (pseudoappendicitis). Possible postinfectious sequelae include reactive arthritis and *erythema nodosum*. These complications are frequently apparent in individuals carrying the HLA-B27 gene. Furthermore, cases of acute glomerulonephritis and myocarditis have been described. In patients with weakened immune systems, the disease may take a septic course.

Highlights

- Use of a preparation of virulence factors of *Yersinia enterocolitica* (YOPs) for the demonstration of antibodies directed against *Yersinia enterocolitica* and *Yersinia pseudotuberculosis*
- Sensitive demonstration of IgM antibodies for the detection of acute primary infections, particularly in children
- Demonstration of IgA and IgG antibodies for detection and differentiation of acute, chronic and past infections, particularly for differential diagnosis in cases of enteritis and reactive arthritis
- Quantification of the IgA, IgG and IgM antibody activity for disease stage monitoring and therapy control

Product	Order No.
SERION ELISA <i>classic</i> Yersinia IgA	ESR138A
SERION ELISA <i>classic</i> Yersinia IgG	ESR138G
SERION ELISA <i>classic</i> Yersinia IgM	ESR138M

SERION ELISA *classic* Yersinia IgM

Sample	Mean value (OD)	Intraassay CV (%) (n=20)	Mean value (OD)	Interassay CV (%) (n=10)
Serum 1	0.272	2.9	0.296	2.8
Serum 2	0.626	1.2	0.605	2.8
Serum 3	1.045	2.6	1.028	2.6

Diagnosis

The use of sensitive and specific ELISA with quantitative determination of IgG, IgM and IgA antibodies is the method of choice for a clear differentiation between acute and chronic yersiniosis. The determination of the individual antibody activities is important for the differential diagnosis of post-infectious sequelae such as rheumatoid arthritis or *erythema nodosum*. Following the normal course of an acute *Yersinia* infection, IgG antibody activity often persists for several years while the IgA and IgM antibody activities decrease within a few months post infection. By contrast, in the case of postinfection complications, the IgA antibody activity remains elevated for years.

SERION ELISA *control*

Please visit our website for more information.

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