



SERION ELISA *classic*

Epstein-Barr Virus IgG/IgM

Intended use

- Qualitative and quantitative detection of human IgA, IgG and IgM antibodies in serum or plasma directed against components of the Epstein-Barr Virus (EBV)
- Detection of EBV EA IgG and EBV VCA specific IgM antibodies support in the diagnosis of acute infections or reactivations
- Detection of EBV VCA specific IgG antibodies determines primary and recent infections
- Demonstration of EBV EBNA-1 IgG antibodies is recommended for the determination of past infections

Diagnostic Efficiency

The evaluation of SERION ELISA *classic* EBV VCA IgG, EBV VCA IgM and EBV EBNA-1 IgG was performed in an internal study with more than 140 serum samples from healthy blood donors and patients with suspected infection against the ELISA of another manufacturer.

The evaluation of SERION ELISA *classic* EBV EA IgG was performed in an internal study with 125 serum samples from healthy blood donors and patients with suspected infection against two ELISA of other manufacturers.

Product	Sensitivity	Specificity
SERION ELISA <i>classic</i> EBV VCA IgG	>99 %	>99 %
SERION ELISA <i>classic</i> EBV VCA IgM	>99 %	92.5 %
SERION ELISA <i>classic</i> EBV EBNA 1 IgG	96.8 %	92.4 %
SERION ELISA <i>classic</i> EBV EA IgG	96.9 %	81.8 %

Precision

SERION ELISA *classic* EBV VCA IgG

Sample	Mean value (OD)	Intraassay CV (%) (n=20)	Mean value (OD)	Interassay CV (%) (n=10)
Serum 1	0.554	2.2	0.644	7.1
Serum 2	1.355	2.4	1.510	4.5
Serum 3	1.437	3.0	1.636	4.5

SERION ELISA *classic* EBV VCA IgM

Sample	Mean value (OD)	Intraassay CV (%) (n=20)	Mean value (OD)	Interassay CV (%) (n=10)
Serum 1	0.530	8.7	0.551	7.2
Serum 2	1.582	5.1	1.703	6.4
Serum 3	2.249	7.9	2.311	8.7

SERION ELISA *classic* EBV EBNA 1 IgG

Sample	Mean value (OD)	Intraassay CV (%) (n=20)	Mean value (OD)	Interassay CV (%) (n=10)
Serum 1	0.305	2.8	0.341	8.4
Serum 2	0.952	2.5	1.093	4.1
Serum 3	1.622	3.1	1.799	4.2

Pathogen

The Epstein-Barr Virus is a worldwide distributed human pathogenic DNA virus of the family *Herpesviridae*. Seroprevalence in adults is high (90–95%). In adolescents and younger adults, infection with EBV frequently leads to the clinical manifestation of infectious mononucleosis.

Disease

In primary EBV infections, cells of the salivary gland are infected first. This disease stage is accompanied by mild flu-like symptoms. As soon as the virus infects B cells in the adjacent lymphoid tissue and spreads throughout the body, the clinical picture of infectious mononucleosis or glandular fever occurs. This disease is usually characterized by high fever, splenomegalia, lymphad-

SERION ELISA *classic* EBV EA IgG

Sample	Mean value (OD)	Intraassay CV (%) (n=20)	Mean value (OD)	Interassay CV (%) (n=10)
Serum 1	0.616	4.5	0.637	5.5
Serum 2	0.746	5.3	0.814	6.6
Serum 3	2.125	3.0	2.191	2.8

enitis, and thrombocytopenia. Furthermore, EBV infections are associated with nasopharyngeal carcinoma and Burkitt's lymphoma in some regions.

Diagnosis

IgG antibodies directed against early antigen (EA) and/or IgM antibodies against virus capsid antigens (VCA) in combination with negative EBNA-1 IgG activity serve as evidence of acute primary infections. High IgG antibody activities against EBNA-1 exclude acute primary infections. IgG antibodies directed against VCA can usually be detected life-long and serve as confirmation of contact with the pathogen. In reactivations, high IgG antibody activities directed against VCA and EA can frequently be found.

Highlights

- Combination of the listed EBV-immunoassays to confirm an infectious mononucleosis
- Demonstration of IgG antibodies already in the early phase of an EBV infection due to an optimized antigen composition of the EBV VCA IgG immunoassay
- Quantitative determination of all relevant antibody classes for the analysis of paired sera for disease stage monitoring and therapy control
- Detection of intrathecally synthesized EBV VCA and EBNA-1 IgG antibodies for CSF diagnostics

Product	Order No.
SERION ELISA <i>classic</i> EBV VCA IgG	ESR1361G
SERION ELISA <i>classic</i> EBV VCA IgM	ESR1361M
SERION ELISA <i>classic</i> EBV EBNA 1 IgG	ESR1362G
SERION ELISA <i>classic</i> EBV EA IgG	ESR1363G

SERION ELISA *control*

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