



SERION ELISA *classic*

Aspergillus fumigatus IgA/IgG/IgM

Intended Use

- Qualitative and quantitative detection of human IgA, IgG and IgM antibodies in serum or plasma directed against *Aspergillus fumigatus*
- Differential detection of individual antibody classes offers a detailed view for the mycological monitoring of at risk patients

Diagnostic Efficiency

To calculate the performance characteristics of the SERION ELISA *classic* Aspergillus fumigatus IgA, IgG and IgM tests, 201 serum samples from healthy blood donors and patients with suspected infection were examined in comparison to Aspergillus fumigatus IgA, IgG and IgM ELISA test systems from other manufacturers.

Product	Sensitivity	Specificity
SERION ELISA <i>classic</i> Aspergillus fumigatus IgA	>99 %	99.4 %
SERION ELISA <i>classic</i> Aspergillus fumigatus IgG	>99 %	>99 %
SERION ELISA <i>classic</i> Aspergillus fumigatus IgM	>99 %	90.4 %

Precision

SERION ELISA *classic* Aspergillus fumigatus IgA

Sample	Mean value (OD)	Intraassay CV (%) (n=20)	Mean value (OD)	Interassay CV (%) (n=10)
Serum 1	0.574	3.5	0.592	4.7
Serum 2	0.726	3.1	0.792	7.7
Serum 3	0.798	3.8	0.842	6.1

SERION ELISA *classic* *Aspergillus fumigatus* IgG

Sample	Mean value (OD)	Intraassay CV (%) (n=20)	Mean value (OD)	Interassay CV (%) (n=10)
Serum 1	0.488	3.7	0.521	5.3
Serum 2	0.492	4.2	0.537	6.6
Serum 3	1.138	2.6	1.218	6.5

Pathogens

The fungus *Aspergillus* belong to the group of *ascomycetes*. These organisms develop branched mycelia and spread through conidiospores which are released from mycelia as extremely resistant lasting spores. Approximately 20 species of *Aspergillus* are opportunistic infectious agents affecting humans. The most common species is *Aspergillus fumigatus*.

Disease

Aspergillus fumigatus causes a range of allergic diseases in humans. Bronchopulmonary diseases belong to the most common manifestations of invasive aspergillosis. Patients with a persisting immune suppression after bone marrow or organ transplantation may develop a severe clinical picture of aspergillosis, e. g. an aspergillosis of the lungs, which appears as an acute pneumonia, accompanied by high fever and increasing pulmonary infiltrates. The spores are transmitted through the air and inhaled into the

SERION ELISA *classic* *Aspergillus fumigatus* IgM

Sample	Mean value (OD)	Intraassay CV (%) (n=20)	Mean value (OD)	Interassay CV (%) (n=10)
Serum 1	0.221	4.4	0.237	7.4
Serum 2	0.358	4.9	0.404	5.7
Serum 3	0.652	7.0	0.748	11.5

lungs where, due to their small size of about 3 µm, they reach the lung alveoli. In case of an invasive aspergillosis, the fungus penetrates the bronchial mucosa and the surrounding lung parenchyma with the aid of released proteases. Subsequently, the pathogen is able to penetrate the blood vessels, disseminate via the blood stream and may settle down in remote tissues.

Diagnosis

For serological diagnosis of invasive aspergillosis indirect haemagglutination assays are widely used. Due to their low sensitivity values, they are not suited as screening assays. ELISA techniques enable a differentiated analysis of the antibody response in the process of monitoring of at risk patients by using immunoglobulin class-specific enzyme conjugates. For a further diagnosis of a systemic aspergillosis the lungs of patients with suspected infection should be examined by biopsy.

Highlights

- Use of a native cytoplasmic extract of *Aspergillus fumigatus*
- Support in the diagnosis of acute and systemic aspergillosis
- Individual demonstration of all relevant immunoglobulin classes for categorization of the disease stage
- Quantification of antibody activities for mycological monitoring of at risk patients
- Exclusion of background seroprevalence IgG antibodies resulting in the specific detection of clinically relevant antibody activities

Product	Order No.
SERION ELISA <i>classic</i> <i>Aspergillus fumigatus</i> IgA	ESR132A
SERION ELISA <i>classic</i> <i>Aspergillus fumigatus</i> IgG	ESR132G
SERION ELISA <i>classic</i> <i>Aspergillus fumigatus</i> IgM	ESR132M

SERION ELISA *control*

Please visit our website for more information.

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