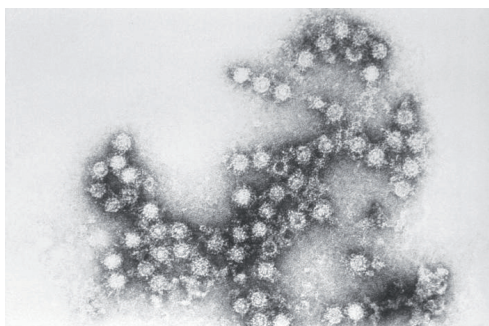


SERION ELISA *classic*

Coxsackievirus IgA / IgG / IgM

SERION ELISA *classic* Coxsackievirus IgA, IgG and IgM tests are quantitative and qualitative immunoassays for the detection of human antibodies in serum or plasma directed against Coxsackievirus. The separate detection of individual immunoglobulin classes offers a confirmation of contact with the pathogen and the determination of the disease state.



Electron micrograph of Coxsackievirus B4-Viriones (Source: United States Federal Government).

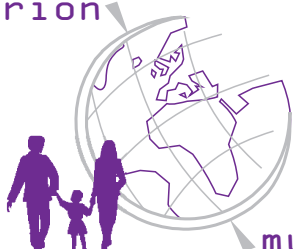
Pathogen

Coxsackieviruses A (23 serotypes) and B (6 serotypes) and Echoviruses (31 serotypes) belong to the family of *Picornaviridae*, genus *Enterovirus*. This virus group shares similar physical, chemical and biological properties and epidemiological patterns. Enteroviruses are ubiquitous pathogens that are primarily transmitted by faecal-oral route and additionally by aerosol (droplet infection). The portal of entry of enteroviruses is the respiratory tract (especially the oropharynx) and the intestine, where they infect and multiply in the oropharyngeal and intestinal epithelium. From there, the viruses may be carried by the bloodstream to the cells of the reticulo-endothelial system and certain target tissues such as myocard, meninges and skin.

Disease

More than 90 % of enterovirus infections progress subclinically or result only in temporary mild complaints in the upper respiratory tract such as sore throat with or without rhinitis often accompanied by fever. In addition, adults may suffer from pharyngitis, tonsillitis and common cold symptoms. In particular Coxsackieviruses are responsible for the so called summer flu and febrile, catarrhal infections.

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The following diseases may be caused by Coxsackieviruses: vesicular pharyngitis (herpangina), aseptic meningitis, meningoencephalitis, "hand-foot-and-mouth" disease, pleurodynia (Bornholm disease), carditis (myocarditis, pericarditis, myopericarditis, encephalomyocarditis), maculopapular exanthema, hepatitis, acute haemorrhagic conjunctivitis and fetal damage. Vesicular exanthema and paralysis are rare complications.

In patients with congenital or induced immune deficiency, Coxsackieviruses may persist after infection leading to chronic diseases such as arthritis, infection of the CNS, chronic enteritis or relapsing pericarditis.

Diagnosis

Coxsackievirus infections can be confirmed by virus isolation and identification or serologically by detection of specific antibodies. PCR completes the classic methods. In serodiagnostics ELISA techniques have been established during recent years. Due to the large number of serotypes, assays showing a broad reactivity are favoured for diagnosis. While intact virus particles show high type specificity, broad reactivity is achieved by using heat denaturated virions as antigens. In the SERION ELISA *classic* Coxsackievirus, highly purified, heat-treated Coxsackieviruses types B1 and B5 are bound to the solid phase. These two serotypes are described as sufficiently cross-reactive to enable heterotypical diagnosis of Coxsackievirus infection.

Validation of SERION ELISA *classic* Coxsackievirus

The SERION ELISA *classic* Coxsackievirus was evaluated in an external study by the analysis of 72 serum samples from patients with suspected Enterovirus infection.

Order Information

SERION ELISA *classic* Coxsackievirus IgA

SERION ELISA *classic* Coxsackievirus IgG

SERION ELISA *classic* Coxsackievirus IgM

Reference serum Coxsackievirus IgA

Reference serum Coxsackievirus IgG

Please visit our website www.virion-serion.com for more information on our SERION ELISA *classic* products.

Order Nr.: ESR 134 A

Order Nr.: ESR 134 G

Order Nr.: ESR 134 M

Order Nr.: BR 134 A

Order Nr.: BR 134 G

Two commercially available Enterovirus ELISA were used as a reference. Due to the fact, that only two positive serum samples were available for the evaluation of SERION ELISA *classic* Coxsackievirus IgM, a statistical confirmed determination of sensitivity was not possible.

SERION ELISA <i>classic</i>	Sensitivity	Specificity
Coxsackievirus IgA	88,9 %	> 99 %
Coxsackievirus IgG	> 99 %	> 99 %
Coxsackievirus IgM	-	> 99 %

Precision

SERION ELISA *classic* Coxsackievirus IgA

Sample	Mean value OD	Intraassay CV (%) (n=20)	Mean value OD	Interassay CV (%) (n=10)
negative	0,317	1,1	0,294	12,5
negative	0,569	1,4	0,586	10,5
positive	0,813	1,1	0,880	9,7

SERION ELISA *classic* Coxsackievirus IgG

Sample	Mean value OD	Intraassay CV (%) (n=20)	Mean value OD	Interassay CV (%) (n=10)
negative	0,158	4,6	0,164	7,3
weak positive	1,041	2,6	1,142	8,9
positive	1,162	2,7	1,250	9,6

SERION ELISA *classic* Coxsackievirus IgM

Sample	Mean value OD	Intraassay CV (%) (n=20)	Mean value OD	Interassay CV (%) (n=10)
negative	0,349	1,6	0,337	9,9
positive	0,729	2,5	0,762	8,6
positive	1,728	2,3	1,767	7,9

Institut Virion\Serion GmbH
Serion Immundiagnostica GmbH
Friedrich-Bergius-Ring 19
97076 Würzburg, Germany

Tel.: +49 (0)931 3045-222
Fax: +49 (0)931 3045-100
dialog@virion-serion.de
www.virion-serion.com

Institut Virion\Serion GmbH
Beijing 100005, China
www.virion-serion.cn