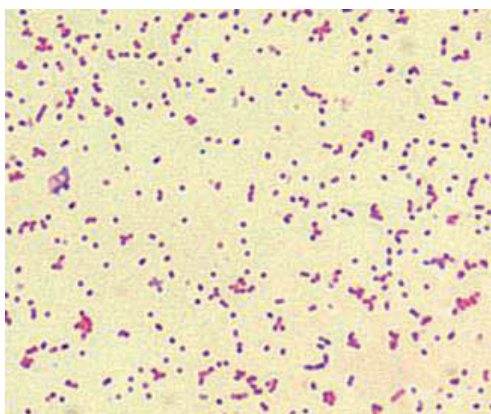


SERION ELISA *classic* Brucella IgA / IgG / IgM

SERION ELISA *classic* Brucella IgA, IgG and IgM tests are quantitative and qualitative immunoassays for the detection of human antibodies in serum and plasma directed against *Brucella ssp.* The evaluation of individual immunoglobulin classes can be used for the determination of pathogen contact and disease stage.



Micrograph of *Brucella ssp.* (Source: Centers for Disease Control and Prevention, United States Department of Health and Human Services).

Pathogen

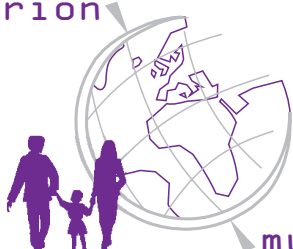
Brucella ssp. are gram-negative non-motile bacteria which live as intracellular parasites in a wide spectrum of host, particularly farm animals. Infections of humans are mainly caused by *Brucella melitensis* ("Malta fever"), *Brucella abortus* ("Morbus Bang"), *Brucella suis* and *Brucella canis*. The pathogen is transmitted by infected animals, their excretions and contaminated food.

Disease

The disease starts with moderate fever, which rises in the evenings during the acute stage of the disease, in which hepatomegaly and splenomegaly or swollen lymph nodes are characteristic. Undulating fever within afebrile intervals manifests often in *Brucella melitensis* and *Brucella suis* infections.

Spontaneous healing as well as transition into a chronic stage with a wide spectrum of symptoms is possible. Multiple organs or organ systems, bones or joints can be affected during the chronic stage. Histologically, characteristic granulomas are observed in infected tissues. Bacterial endocarditis might be fatal if it remains untreated.

During the late stage of brucellosis, neurologic and even psychiatric manifestations might occur.



Diagnosis

Due to the variable clinical picture of chronic brucellosis, accurate diagnosis is possible only by direct detection of the pathogen or detection of specific antibody response in serum or CSF. Direct pathogen detection in culture systems can be performed with punctate from blood, bone marrow, synovia or urine. In this regard the special demands on nutrients have to be taken into account. Generally direct pathogen detection is done by gram staining and agglutination with Brucella-specific hyperimmunoglobulin preparations. More rapid results are obtained with serological methods such as agglutination tests, Coombs-tests or Complement Fixation Tests (CFT). For differentiation of acute and chronic brucellosis, sensitive and specific ELISAs with separate detection of IgG, IgM and IgA antibodies is recommended.

Validation of

SERION ELISA *classic* Brucella

For the validation of the SERION ELISA *classic* Brucella IgA, IgG and IgM 240 serum samples from blood donors and 27 samples from patients with a suspected brucellosis were analysed in comparison to another commercially available ELISA. Sera classified as borderline were not included in the calculation.

SERION ELISA <i>classic</i>	Sensitivity	Specificity
Brucella IgA	> 99 %	> 99 %
Brucella IgG	> 99 %	99,2%
Brucella IgM	91,3%	> 99 %

Precision

The intra- and interserial precisions were determined by the analysis of serum samples of different reactivities.

SERION ELISA *classic* Brucella IgA

Sample	Mean value OD	Intraassay CV (%) (n=20)	Mean value OD	Interassay CV (%) (n=10)
weak positive	0,600	11,1	0,760	9,3
positive	1,790	7,5	2,270	7,6
strong positive	-	-	3,420	1,2

SERION ELISA *classic* Brucella IgG

Sample	Mean value OD	Intraassay CV (%) (n=20)	Mean value OD	Interassay CV (%) (n=10)
weak positive	0,590	5,5	0,560	11,3
positive	1,240	7,2	1,350	13,3
strong positive	-	-	1,940	5,7

SERION ELISA *classic* Brucella IgM

Sample	Mean value OD	Intraassay CV (%) (n=20)	Mean value OD	Interassay CV (%) (n=10)
weak positive	0,992	1,9	1,092	5,3
positive	1,781	2,6	1,842	3,4
strong positive	2,269	1,1	2,394	2,7

Order Information

SERION ELISA *classic* Brucella IgA
SERION ELISA *classic* Brucella IgG
SERION ELISA *classic* Brucella IgM
Reference serum Brucella IgA
Reference serum Brucella IgG
Reference serum Brucella IgM

Order Nr.: ESR 116 A
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Please visit our website www.virion-serion.com for more information on our SERION ELISA *classic* products.

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