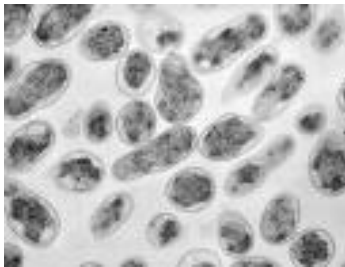




Brucella



The genus *Brucella* includes four medically relevant species (see tab.) which cause brucellosis (also called undulant fever or Malta fever), a classic zoonosis that primarily affects domestic animals (cattle, goats, dogs, pigs etc.).

Brucellae are slight, coccoid, Gram-negative rods with no flagella (see fig. *Brucella abortus*).

Human brucellosis infections result from direct contact with diseased animals (dogs, pigs, camels and ruminants, sheep, goats, cattle, bison) or indirectly by way of contaminated foods, in particular unpasteurized milk and milk products (soft cheese etc.). The bacteria invade the body either through the mucosa of the upper intestinal and respiratory tracts or through lesions in the skin, then enter the subserosa or subcutis. From there they are transported by microphages or macrophages, in which they can survive, to the lymph nodes, where a lymphadenitis develops. The pathogens disseminate from the affected lymph nodes, at first lymphogenously and the hematogenously, finally reaching the liver, spleen, bone, marrow, and other RES tissues, in the cells of which they can survive and even multiply. The granulomas typical of intracellular bacteria develop. From these inflammatory foci, the brucellae can enter the bloodstream intermittently, each time causing one of the typical febrile episodes, which usually occur in the evening and are accompanied by chills. The incubation period is 2-3 weeks.

Brucellosis induces inconstant fever, sweating, weakness, anorexia, headaches, depression and muscular and bodily pain.

Brucellosis is a zoonosis that affects animals all over the world. Infections *B. melitensis* occur most frequently in Mediterranean countries, in Latin America, and in Asia. The *melitensis* brucellosis seen in Europe are either caused by milk products imported from these countries or occur in travellers. *B. abortus* infections used to be frequent in central Europe.

Species	Mechanism of infection	Symptoms	Complications
<i>B. abortus</i> (cattle)	<u>oral</u> (indirectly by unpasteurized milk and milk products (soft cheese)) <u>percutaneous</u> (directly from diseased animals or feces) Infection is not communicable between humans.	Febrile episodes (undulant fever) lymphadenitis hepatosplenomegalie	osteomyelitis, meningoencephalitis nephritis endocarditis pneumonia granulomatous hepatitis
<i>B. melitensis</i> (goat, sheep)			
<i>B. suis</i> (pig)			
<i>B. canis</i> (dog)			

Infections may be diagnosed by:

- Microscopy: Isolating the pathogen from blood or biopsies in cultures
- Serology: Determination of specific antibodies based on the ELISA-technique

NovaLisa™ Brucella IgG/ IgM ELISA:

The NovaLisa™ Brucella IgG/IgM ELISA is intended for the qualitative determination of IgG-/IgM- class antibodies against Brucellae in human serum or plasma (citrate).

Antigens:

Purified Brucella abortus (W 99) antigens

Specific performance characteristics:

	Intraassay			Interassay			Sensitivity %	Specificity %
	n	Mean	CV %	N	Mean	CV %		
IgG	23	1,49	5,3	12	57	3,6	>95	>95
	24	2,53	4,2	12	76	4,8		
IgM	24	1,64	5,7	12	42	3,2	>95	>95
	24	1,81	3,9	12	61	2,2		

Order information:

ELISA	Number of determinations	Product number
Brucella IgG	96	BRUG0050
Brucella IgM	96	BRUM0050