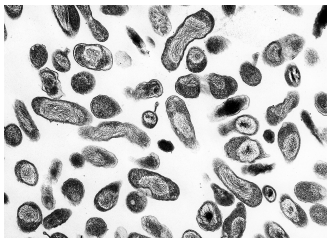


Coxiella burnetii (Q-Fever)



The pathogen *Coxiella burnetii* is a gramnegative bacterium and belongs to the family Rickettsiaceae. It is the causative agent of Q-Fever, an acute rickettsial disease.

It can be considered the most infectious disease in the world, as a human being can be infected by a single bacterium. It can be found worldwide, including tropical countries, with the exception of New Zealand. In Europe it appears as hepatitis rather than pneumonia as in the United States.

The most common manifestation is flu-like symptoms. The fever lasts approximately 7 to 14 days. The disease can progress to an atypical pneumonia, which can result in a life threatening acute respiratory distress syndrome (ARDS). Occasionally, Q fever causes hepatitis, which may be asymptomatic or becomes symptomatic with malaise, fever, liver enlargement and pain in the right upper quadrant of the abdomen.

The chronic form of Q fever is very similar to inflammation of the inner lining of the heart, which can occur months or decades following the infection. It is fatal if left untreated, however with the correct treatment the mortality rate falls under 10%.

Species	Disease	Symptoms	Mechanism of infection
Coxiella burnetii	<u>Acute Q Fever:</u> Self-limited Illness Pneumonia Hepatitis	Flu-like symptoms with abrupt onset of fever, profuse perspiration, severe headache, muscle pain, loss of appetite, chills.	It can be found in both humans and animals Results from inhalation of contaminated aerosols and from contact with urine, feces or milk from infected animal
	<u>Chronic Q Fever</u>	Q-fever endocarditis	Incubation period – 9 to 40 days

Acute & Chronic Q-fever Infections:

- Acute infection: IgM and IgG antibodies to phase 2 antigen present
 - Tests available: COX2G0600 and COX2M0600
- Chronic Infection: IgG and IgA antibodies to phase 1 antigen present
 - Tests available: COX1G0600

Infections may be diagnosed by:

PCR: Molecular detection of bacterial DNA is increasingly used.
 Serology: Determination of specific antibodies based on the ELISA-technique

NovaLisa™ Coxiella burnetii IgG/IgM ELISA:

The NovaLisa™ Coxiella burnetii IgG/IgM ELISA is intended for the qualitative determination of IgG- and IgM-class antibodies against Coxiella burnetii in human serum + plasma.

Antigens:

IgG and IgM: Coxiella burnetii antigens

Specific performance characteristics:

		Intraassay			Interassay			Sensitivity %	Specificity %
		n	Mean (OD)	CV %	n	Mean (NTU)	CV %		
Phase 1 IgG	Low +	15	0,57	5,7	5 (2)	9,62	2,4	88	>90
	High +	15	1,5	4,7	6 (2)	27,4	3,5		
Phase 2 IgG	Low +	15	0,42	3,4	5 (2)	10,1	10,8	>90	>90
	High +	16	0,78	2,6	6 (2)	19,5	1,7		
Phase 2 IgM	Low +	15	0,38	2,9	6(2)	16,8	7,7	>90	>90
	High +	15	0,72	2	6 (2)	19,2	2,4		

Order information:

ELISA	Number of determinations	Product number
Coxiella burnetii Phase 1 IgG	96	COX1G0600
Coxiella burnetii Phase 2 IgG	96	COX2G0600
Coxiella burnetii Phase 2 IgM	96	COX2M0600