

# Rickettsia

## General:

The gram-negative bacterium *Coxiella burnetii* belongs to rickettsia. *Coxiella burnetii* is extremely contagious, the microorganism appears worldwide. Infection occurs, under normal circumstances, only through domestic animals. Cattle, sheep or goats which show no symptoms, eliminate the microorganisms to a large number with excrement, urine, milk or other secretions, primarily after abortions. The microorganism remains infectious in dry materials for months. Humans are infected by inhaling microorganism containing dust, a direct contact to animals is therefore not necessary (infection possible by infected wool as well). The disorder results in lifelong immunity.

**Pregnancy:** In pregnant women the risk of complications (abortion or premature birth) as a result of Q-fever mainly depends on the stage of pregnancy. In the first trimester the abortion rate is high, in the later course it decreases. As treatment, a continuous therapy with trimethoprim sulfamethoxazole during the whole pregnancy is discussed, however, in individual cases possible negative effects have to be considered against the high risk of abortion.

**Serological diagnostics:** Antiphase 2-IgM is the most important parameter for the early diagnosis of acute Q fever disorders. Strong IgM titer rises or high IgM levels, which are targeted against phase 1-antigens, point to endocarditis. In case of a chronic infection coxiella-IgG phase-1-Ab are significantly higher than phase-2-antibodies. Women with acute Q-fever infection should not breast-feed, with or without treatment.

**Symptoms:** Q-fever (Query fever, spotted fever) usually presents with symptoms of atypical pneumonia, accompanied by intense headaches and rheumatic pains without exanthema. The incubation period is, on average, 29 days, the uncomplicated disorder lasts 9-14 days. All organs can be affected, the prognosis is generally good. Endocarditis (Q fever endocarditis) or thrombophlebitis can appear as rare complications with manifestations even years after acute infections.

The following tests are available:

- **Coxiella burnetii DNA**

Material: 1 ml EDTA /1ml BAL

TAT: 7-10 days\*

Method: PCR

Ref.range: see report

- **Coxiella burnetii IgG phase 1-antibodies**

Material: 1 ml serum

TAT: 7-10 days\*

Method: EIA

Units: Index

Ref. range: <0.9

- **Coxiella burnetii IgM phase 2-antibodies**

Indication: acute coxiella infection

Material: 1 ml serum

TAT: 7-10 days\*

Method: EIA

Units: Index

Ref.- range: <0.9

- **Coxiella burnetii IgG phase 2-antibodies**

Material: 1 ml serum

TAT: 7-10 days\*

Method: EIA

Units: U/ml

Ref.- range: <20

For complete list of laboratory test offered at Freiburg Medical Laboratory, please visit

<http://www.fml-dubai.com/parameter-listings/>