

Legionella

General:

Legionella pneumophila causes legionellosis/legionnaires' disease. This gram-negative bacterium, with over 40 different species, is found worldwide in water as an environmental germ. The transmission occurs through aerosole infected water plants (e.g. cooling towers, humidification plants, shower heads, and others; 1% of the population in Germany is infected every year, in only 10% a clinical manifestation of acute pneumonia, renal insufficiency, relative bradycardia and heavy cerebral disturbances is observed after an incubation period of 2-10 days. There is high lethality in immune deficient patients or in patients with pre-existing heart or lung diseases. Legionnaires' disease is a multisystem disorder with pneumonia. Uncharacteristic are neurological and psychiatric symptoms. Unspecific laboratory values like abnormal liver function test or amylase values are found.

A bacteriological detection can be performed in the acute stage of the disorder; however, it often shows negative results. The direct detection using PCR is more reliable. Antibodies can be detected with KBR or Elisa test as of the 2nd week after the infection.

- **Legionella pneumophila IgG antibodies (serotypes 1-7)**

Indication: Suspicion of legionellosis, atypical pneumonia

Material: 1 ml serum

TAT: 7-10 days*

Method: EIA

Units: U/ml

Ref.- range: see report

Note: If there is an infection with other subtypes, the above-mentioned tests might cross-react. An acute legionellosis should be tested from pharyngeal smear, urine or sputum (see below) using PCR.

- **Legionella pneumophila IgM antibodies (serotypes 1-7)**

Indication: Suspicion of legionellosis, atypical pneumonia

Material: 1 ml serum

TAT: 7-10 days*

Method: EIA

Units: U/ml

Ref.- range: index

Note: If there is an infection with other subtypes, the above-mentioned tests might cross-react. An acute legionellosis should be tested from pharyngeal smear, urine or sputum (see below) using PCR.

- **Legionella DNA**

Indication: Suspicion of legionellosis, atypical pneumonia

Material: swab, sputum, BAL, urine, etc.

Preanalytics: pharyngeal smear in sterile vial (no gel addition); sputum, BAL, approx. 510 ml of tracheal secretion

TAT: 7-10 days*

Method: PCR

For complete list of laboratory test offered at Freiburg Medical Laboratory, please visit <http://www.fml-dubai.com/parameter-listings/>