Antibodies against Bartonella henselae cause a fluorescence pattern (positive reaction IgM):

- Bartonella henselae infections are too rarely identified or frequently only diagnosed late in the clinical course. Therefore, antibodies against Bartonella henselae should be investigated using IIFT, ELISA or Westernblot in all process stages. IIFT has so far yielded the most reliable results.

- Low titers, however, are also found in patients without clinical symptoms. The prevalence (IgG) in healthy blood donors is between 9% and 28% (patients with CSD: 81%). Sudden titer increases within a few weeks are particularly significant in the diagnosis.

- Infections with Bartonella henselae type II are predominant, whereas co-infections occur very rarely.

- As the causative agent of the worldwide spread cat-scratch disease (CDS), synonyms: cat scratch fever; cat scratch lymphadenitis; benign inoculation lymphoreticulosis; maladie des griffes de chat) Bartonella henselae is of great importance. Cats only transmit the disease and do not become infected with Bartonella henselae. The agent can be found in 10% to 70% of cats in Germany and is presumably carried from cat to cat by cat fleas.

- The generally self-limiting infection is mainly characterised by local lymphadenitis. Transmission occurs through scratches or bite wounds from mostly young cats. Following inoculation, half of patients (mostly children) develop papulopustular primary lesions within a week, which heal quickly. After an additional week, there is a painful lymph node swelling. This can reach a considerable size and can develop into a chronic abscessed granulomatous inflammation. Patients also suffer from general symptoms such as fever, headache, loss of appetite and vomiting.

- In cases of reduced immunity, Bartonella henselae causes disseminated forms of cat-scratch disease, which are characterised by painful, vessel-rich lesions on the skin (bacillary angiomas), manifestations in the liver (peliosis hepatis) or in any other visceral organ and in the central or peripheral nervous system.

- Application of the Anti-Bartonella henselae IIFT: Cat scratch disease is not only found in pediatrics. It must also be taken into account in differential diagnosis of lymphadenitis in adults. In HIV patients, every fever of unknown origin should be investigated for a Bartonella infection. Bartonella henselae infections are too rarely identified or frequently only diagnosed late in the clinical course. Therefore, antibodies against Bartonella henselae should be investigated using IIFT, ELISA or Westernblot in all process stages. IIFT has so far yielded the most reliable results. IgG and/or IgM antibodies are mostly detectable at the time of lymph node swelling. Low titers, however, are also found in patients without clinical symptoms. The prevalence (IgG) in healthy blood donors is between 9% and 28% (patients with CSD: 81%). Sudden titer increases within a few weeks are particularly significant in the diagnosis.

- Fluorescence pattern (positive reaction IgG): Antibodies against Bartonella henselae result in a coarse granular fluorescence in the cytoplasm. The specific fluorescence appears in single to numerous cells depending on the level of infection.

- Fluorescence pattern (positive reaction IgM): Antibodies against Bartonella henselae cause a coarse granular fluorescence of the cytoplasm; the granula are in part perinuclear and form clusters. Individual coarse granula should be evaluated as unspécific.
**Test Characteristics**

**Anti-Bartonella henselae IIFT**

**Test principle:** The indirect immunofluorescence test is a standardized in vitro assay for the determination of specific antibodies against Bartonella henselae. BIOCHIPs are coated with Bartonella henselae infected cells and fixed onto the reaction fields of a microscope slide. With EUROIMMUN BIOCHIP Mosaics™, different substrates can be positioned next to each other in one reaction field and incubated with one serum sample, allowing a detailed patient antibody profile to be established with a single test.

**Test procedure:** EUROIMMUN BIOCHIP slides are incubated using the proprietary TITERPLANE™ Technique, which enables multiple samples to be incubated next to each other and simultaneously under identical conditions. Results are evaluated by fluorescence microscopy. Incubation of the substrate with the positive and negative control sera provided in each kit verifies correct performance of the test and aids evaluation.

**Inter-lot reproducibility:** Inter-lot reproducibility was tested with more than 10 different lots. In quantitative evaluation of results, the deviation amounted to no more than ±1 fluorescence intensity level.

**Reference range:** Sera from healthy blood donors were investigated for anti-Bartonella henselae antibodies using the EUROIMMUN IIFT. For IgG, 26.5% of the blood donors (n=200) were positive with a cut-off titer of 1:320 or higher. For IgM, 1.0% of the blood donors (n=200) were positive with a cut-off titer of 1:100 or higher.

**Specificity:** The specificity of this test system for antibodies of the class IgG is 84%. Reference: Anti-Bartonella henselae IIFT (n=215), origin of samples: Germany. The specificity for antibodies of the class IgM is 88%. Reference: Anti-Bartonella henselae IIFT (n=37), origin of samples: Europe.

**Sensitivity:** The sensitivity of this test system for antibodies of the class IgG is 80%. Reference: Anti-Bartonella-henselae-IIFT (n=215), origin of samples: Germany. The sensitivity for antibodies of the class IgM is 100%. Reference: Anti-Bartonella-henselae-IIFT (n=37), origin of samples: Europe.

**Technical Data:**

**Antigen substrate**

- Bartonella henselae infected cells (species EU 70).

**Sample dilution**

- Serum or plasma.
- Cut-off: 1:320 (for IgG), 1:100 (for IgM)
- Qualitative evaluation: 1:100 (for IgG and IgM)
- Quantitative evaluation: 1:1000/10000, etc. (for IgG and IgM)

**Test procedure**

- IgG: 30 min (sample) / 30 min (conjugate), room temperature.
- IgM: 60 min (sample) / 30 min (conjugate), 37°C

**Microscopy**

- Objective 40x
- Excitation filter: 488 nm, colour separator: 510 nm, blocking filter: 520 nm
- Light source: EUROIMMUN LED or mercury vapour lamp, 100 W

**Reagents**

- Ready for use, with the exception of the PBS-Tween buffer (for dilution and washing).

**Stability**

- All kit components are stable for up to 18 months from the date of manufacture.

**Standard kit formats**

- 10 or 20 slides, each containing 3, 5 or 10 test fields.
- Kits include all necessary reagents (except EUROSORB for the RF-absorption, order no.: ZF1270-0145).

**Order no.**

- FI 219b-1005 G or M

**Related products**

- FI 219b-1005-1 G or M (IIFT Mosaic: B. henselae and B. quintana)