Babesia

General:

Babesia is a protozoan parasite of which *Babesia microti* and *Babesia divergens* are the two species to most frequently infect humans. Infections from other species of Babesia have been documented in humans but are not habitually seen. Babesiosis is also known as Piroplasmosis. Due to historical misclassifications, this protozoan was labeled with many names that are no longer used. Common names of the disease include Texas Cattle Fever, Redwater Fever, Tick Fever, and Nantucket Fever.

Transmission: Babesia is spread through the saliva of a tick when it bites. At its nymphal stage, a tick will bite into the skin for a blood meal. The tick, if not removed, will stay attached for 3 to 6 days with longer periods of feeding associated with a higher probability of acquiring the parasite. The parasite can survive in the tick as it molts through its various developmental stages resulting in all stages being potentially infectious. Some species of Babesia can be transmitted from a female tick to its offspring before migrating to salivary glands for feeding. *B. microti*, the most common variety of Babesia in humans however, has not been shown to transmit transovarially.

Symptoms of Babesiosis: An incubation period of one week to eight weeks elapses between the tick bite and the onset of Babesia symptoms: flu-like symptoms of fever and chills. Nonspecific symptoms include: generalized weakness, intermittent fever fatigue, often with inability to sleep gastrointestinal symptoms like nausea, vomiting, diarrhea, and belly pain, headaches, muscle pain, joint pain.

Specific symptoms of babesiosis include: jaundice, shortness of breath, night sweats and hot flashes chills, arm and leg pain, swollen spleen, dark urine (rare)

Diagnosis: anemia, low red blood cell (RBC) count, peripheral blood smear with typical intraerythrocyte babesia parasites. Note: Babesia's substantial similarity to the malarial parasite Plasmodium falciparum results in misdiagnosis of many patients suffering from Babesiosis.
However, antibody detection tests are useful for detecting infected individuals with very low levels of parasitemia (such as asymptomatic blood donors in transfusion-associated cases), for diagnosis after infection is cleared by therapy, and for discrimination between Plasmodium falciparum and Babesia infection in patients whose blood smear examinations are inconclusive and whose travel histories cannot exclude either parasite. Patients' titers generally rise to >1:1024 during the first weeks of illness and decline gradually over 6 months to titers of 1:16 to 1:256 but may remain detectable at low levels for a year or more.

The following tests are available:

- **Babesia IgG Abs.**

Material: 1 ml serum
TAT: 7-10 days*
Method: IFT
Units: titer
Ref.- range: <1: 20

- **Babesia IgM Abs.**

Material: 1 ml serum
TAT: 7-10 days*
Method: IFT
Units: titer
Ref.- range: <1: 16

- **Babesia DNA in Tick**

Material: Tick
TAT: 10-14 days*
Method: PCR
Ref. range: see report

- **Babesia DNA in Blood**

Material: 3 ml EDTA Blood
TAT: 7-10 days*
Method: PCR
Ref. range: see report

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