

Babesiosis

North Carolina 2025 Case Definition

NOTE: A surveillance case definition is a set of uniform criteria used to define a disease for public health surveillance. Surveillance case definitions enable public health officials to classify and count cases consistently across reporting jurisdictions. Surveillance case definitions are not intended to be used by healthcare providers for making a clinical diagnosis or determining how to meet an individual patient's health needs.

CSTE Position Statement 24-ID-02

Clinical Criteria

- Objective: fever as reported by patient or healthcare provider, anemia, or thrombocytopenia
- Subjective: chills, sweats, headache, myalgia, or arthralgia

Laboratory Criteria

Confirmatory Laboratory Evidence:

- Identification of intraerythrocytic *Babesia* organisms by light microscopy in a Giemsa, Wright, or Wright-Giemsa-stained blood smear; **OR**
- Detection of *Babesia* spp. DNA in a whole blood specimen through nucleic acid testing such as polymerase chain reaction (PCR) assay, nucleic acid amplification test (NAAT), or genomic sequencing that amplifies a specific target, in a sample taken within 60 days of illness onset; **OR**
- Serological evidence of a four-fold change[^] in IgG-specific antibody titer to *B. microti* antigen by indirect immunofluorescence assay (IFA) in paired serum samples (one taken within two weeks of illness onset and a second taken two to ten weeks after acute specimen collection).^{^^}

Presumptive Laboratory Evidence:

- Serologic evidence^{**} of an elevated IgG^{***} or total antibody reactive to *B. microti* antigen by IFA at a titer $\geq 1:256$ in a sample **taken within 60 days of illness onset**.

Supportive Laboratory Evidence:

- Serologic evidence^{**} of an elevated IgG^{***} or total antibody reactive to *B. divergens* antigen by IFA at a titer $\geq 1:256$; **OR**
- Serologic evidence^{**} of an elevated IgG^{***} or total antibody reactive to *B. duncani* antigen by IFA at a titer $\geq 1:512$.

[^] A four-fold change in titer is equivalent to a change of two dilutions (e.g., 1:64 to 1:256).

^{^^} A four-fold rise in titer should not be excluded as confirmatory laboratory criteria if the acute and convalescent specimens are collected within two weeks of one another.

** Note: The categorical labels used here to stratify laboratory evidence are intended to support the standardization of case classifications for public health surveillance. The categorical labels should not be used to interpret the utility or validity of any laboratory test methodology.*

*** Antibodies can be indicative of active or previously resolved infections, so it is recommended that laboratory results be evaluated in conjunction with information on symptoms and exposure whenever possible. If symptom information is available, specimens meeting supportive laboratory criteria should be collected within 60 days of illness onset.*

**** While a single IgG serologic test is adequate for surveillance purposes, molecular testing or blood smear are recommended for clinical diagnosis, especially in cases where species other than *B. microti* are suspected.*

Case Classification

Confirmed

- Meets confirmatory laboratory evidence criteria **AND** at least one of the objective or subjective clinical criteria.

Probable

- Meets presumptive laboratory evidence **AND** meets at least one of the objective clinical criteria.

Suspect

- Meets supportive laboratory evidence
- *Confirmed or probable lab and no available clinical information.

*LHD must follow their policy for # of attempts made to obtain clinical information and document this in NCEDSS

Criteria to Distinguish a New Case from an Existing Case

A new case is one that has not been previously enumerated within the same calendar year (January through December).