BIOMÉRIEUX

# Clinical Impact of the BIOFIRE® FILMARRAY® Tropical Fever (TF) Panel

6
TARGETS
~50 min

PIONEERING DIAGNOSTICS

## What's the Problem?

Together malaria, chikungunya, dengue and leptospirosis affect over 100 countries and cause over 316 million infections per year resulting in more than 600,000 unnecessary deaths.[1]

The clinical presentation of malaria, dengue, chikungunya and leptospirosis are often non-specific and overlapping, complicating efforts to distinguish mild-self-limiting illness from more severe diseases needing prompt and targeted treatment.

Tropical fever infections are expected to increase around the world as the impact of global climate change allows for more areas that are favorable to the spread of these diseases.[2,3]

## Diagnosis of Tropical Fever Infections is Complicated

- There is a lack of testing standardization for specimen type and preparation, test media, and methods.[4]
- Rapid Diagnostic Tests (RDTs) can lack the sensitivity and specificity of a molecular test leading to false negatives and negatively impacting patient outcomes.[4]
- In non-endemic areas, low familiarity with tropical fever infections can lead to slower diagnosis.[5]

# The Right Test, The First Time

BIOFIRE's syndromic testing allows clinicians to quickly identify infectious agents that produce similar symptoms in patients. BIOFIRE's innovative PCR technology provides answers in a clinically actionable timeframe.

**Syndromic Testing**

**0.2 mL whole blood collected in EDTA tubes** › **One test** › **Results in about 50 minutes** › **Multiple results in one report** › **May shorten patient length of stay**

# Faster Than Traditional Methods

Current testing for tropical fever pathogens often requires multiple samples, a variety of different methods and can take several days to diagnose. Blood cultures and microscopy are resource intensive with a turnaround time of over 48 hours to the ordering physician. In addition, leptospirosis cannot be easily cultured and might require early administration of an antimicrobial that is not part of the usual empirical treatment.[5]

The BIOFIRE FILMARRAY TF Panel identifies target pathogens in about 50 minutes using a single test and is the first syndromic tropical fever diagnostic test.

## Who Should Get Tested?

Tropical fever infections can affect anyone and can become severe quickly. Those at higher risk include:[1,3,4]

Those living in endemic countries

Infants and children

Travelers returning from endemic areas

Pregnant women

Military personnel

## Pathogen Guided Patient Management

Pathogen identification is important for tropical fever infections because these pathogens have different diagnostic pathways and treatment regimens. The BIOFIRE FILMARRAY TF Panel may lead to faster time to effective therapy and reduction in unnecessary treatment.

## Polymicrobial Detections

The clinical trial data used for the BIOFIRE FILMARRAY TF Panel demonstrated improved polymicrobial detections over traditional methods. Overall 28 (4.3%) of 657 positive specimens had multiple analytes detected.[6]

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# BIOFIRE® FILMARRAY® TROPICAL FEVER PANEL

**VIRUSES**
Chikungunya
Dengue (serotypes 1,2,3 and 4)

**BACTERIA**
*Leptospira* spp.

**PARASITES**
*Plasmodium* spp.
*Plasmodium falciparum*
*Plasmodium vivax/ovale*

6 TARGETS

~50 min

FDA-cleared

## Sample Requirements

0.2mL of human whole blood collected in EDTA tubes

## Overall Performance

- 95.1% Sensitivity[7]
- 99.8% Specificity[7]

## Guidelines


- The Practice of Travel Medicine: Guidelines by the Infectious Diseases Society of America, Clinical Infectious Diseases, Volume 43, Issue 12, 15 December 2006, Pages 1499–1539, https://doi.org/10.1086/508782
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# References


1. World Health Organization (2023, December 4) *Fact sheet about Malaria*. World Health Organization.
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4. Singhi S, et al. (2014). Tropical fevers: Management guidelines. *Indian Journal of Critical Care Medicine*, 18(2), 62–69. https://doi.org/10.4103/0972-5229.126074.
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6. Manabe YC, et al. (2022). Clinical evaluation of the BioFire Global Fever Panel for the identification of malaria, leptospirosis, chikungunya, and dengue from whole blood: a prospective, multicentre, cross-sectional diagnostic accuracy study. *The Lancet. Infectious diseases*, 22(9), 1356–1364. https://doi.org/10.1016/S1473-3099(22)00290-0 https://doi.org/10.1016/S1473-3099(22)00290-0.
7. Performance claims are based on DEN200043 (De Novo) Global Fever Panel Clinical Studies (on file at bioMérieux).


**Product availability varies by country. Consult your bioMérieux representative.**


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Learn more about the BIOFIRE FILMARRAY range of commercially-available panels for syndromic infectious disease diagnostics.

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