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 are estimated to cause over 300 million infections per year resulting in more than 600,000 deaths.[1,2,3,4]

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.[5]

Diagnosis of Tropical Fever Infections is Complicated

- There is a lack of testing standardization for specimen type and preparation, test media, and methods.[6]
- Rapid Diagnostic Tests (RDTs) can lack the sensitivity and specificity of a molecular test leading to false negatives and negatively impacting patient outcomes.[7]
- In non-endemic areas, low familiarity with tropical fever infections can lead to slower diagnosis.[8]

The Right Test, The First Time

BIOFIRE's syndromic testing allows clinicians to quickly identify infectious vagents 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.[6] Blood cultures and microscopy are resource intensive with a turnaround time of over 48 hours to the ordering physician.[9] In addition, leptospirosis cannot be easily cultured and might require early administration of an antimicrobial that is not part of the usual empirical treatment.[10]

The BIOFIRE FILMARRAY TF Panel identifies target pathogens in about 50 minutes using a single test and is bioMérieux's 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:[1,6]

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. 28 (4.3%) of 657 positive specimens had multiple analytes detected.[11]

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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 | CE 2797

Sample Requirements

0.2mL of human whole blood collected in EDTA tubes

Overall Performance

- 95.1% Sensitivity[12]
- 99.8% Specificity[12]

Guidelines

- Centers for Disease Control and Prevention (CDC). (2023). CDC Yellow Book 2024:
- Health Information for International Travel. Oxford University Press.
- Singhi S, Chaudhary D, Varghese G, Bhalla A, Karthi N, Kalantri S, et al. Tropical fevers: Management guidelines. Indian J Crit Care Med. 2014;18(2): 62–69.

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3. Costa M, *et al.* (2015) PLoS Negl Trop Dis. 9(9):e0003898.
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5. Liao H, *et al.* (2024) Emerg Microbes Infect. 13(1): 2356143.
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9. Maze M, *et al.* (2018) Clin Microbiol Infect. 24:808–14.
10. Pinto G, *et al.* (2022) J Microbiol Methods. 195:106438.
11. Manabe Y, *et al.* (2022) Lancet Infect Dis. 22(9):1356–1364.
12. 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 range of commercially-available panels for syndromic infectious disease diagnostics.

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