Pathogen and product description

Yellow fever virus is an RNA virus that belongs to the Flaviviridae family. The "yellow" in the name refers to the jaundice caused by liver involvement that affects some patients. Yellow fever is an acute viral haemorrhagic zoonotic disease transmitted between humans and from monkeys to humans by mosquitoes, primarily by *Aedes* (aegypti) and Haemogogus. Yellow fever has 3 transmission cycles: urban yellow fever, jungle (sylvatic) yellow fever and intermediate (savannah) yellow fever. More than 900 million inhabitants and travellers are at risk in the 44 endemic countries of Latin America and Africa.

The incubation period is generally 3–6 days from infection until illness. Many people do not experience symptoms, but when these do occur, the most common are an acute febrile phase occurs with myalgia, headache, back pain, anorexia, nausea, and sometimes vomiting; symptoms typically resolve within 1 week. Small proportions of patients enter a second, more toxic phase within 24 hours of recovering from initial symptoms, and develop severe symptoms (with high fever, jaundice, bleeding, and kidney damage). Half of the patients who enter this toxic phase die due to there is currently no specific anti-viral drug. Although, specific care to treat dehydration, liver and kidney failure, and fever improves outcomes. Therefore, vaccination and mosquito control are the most important means of preventing yellow fever which is difficult to diagnose, especially during the early stages.

**VIASURE Yellow Fever Real Time PCR Detection Kit** is designed for the diagnosis of Yellow fever in clinical samples. The detection is done in one step real time RT format where the reverse transcription and the subsequent amplification of specific target sequence occur in the same reaction well. The isolated RNA target is transcribed generating complementary DNA by reverse transcriptase which is followed by the amplification of a conserved region of the *ribonucleoprotein* gene using specific primers and a fluorescent-labelled probe.
**Analytical sensitivity**

**VIASURE Yellow Fever Real Time PCR Detection Kit** has a detection limit of ≥ 10 RNA copies per reaction.

![Amplification graph]

Dilution series of Yellow Fever (10^7-10^1 copies/rxn) template run on the Bio-Rad CFX96 Touch™ Real-Time PCR Detection System.

**Components**

<table>
<thead>
<tr>
<th>Reagent/Material</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yellow Fever 8-well strips</td>
<td>A mix of enzymes, primers-probes, buffer, dNTPs, stabilizers and internal control in stabilized format</td>
<td>6/12 x 8-well strip</td>
</tr>
<tr>
<td>Rehydration Buffer</td>
<td>Solution to reconstitute the stabilized product</td>
<td>1 vial x 1,8 mL</td>
</tr>
<tr>
<td>Yellow Fever Positive Control</td>
<td>Non-infectious synthetic lyophilized cDNA</td>
<td>1 vial</td>
</tr>
<tr>
<td>Negative Control</td>
<td>Non template control</td>
<td>1 vial x 1 mL</td>
</tr>
<tr>
<td>Water RNAse/DNase free</td>
<td>Water RNAse/DNase free</td>
<td>1 vial x 1 mL</td>
</tr>
<tr>
<td>Tear-off 8-cap strips</td>
<td>Optical caps for sealing Wells during thermal cycling</td>
<td>6/12 x 8-cap strip</td>
</tr>
</tbody>
</table>

**Kit References**

<table>
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<tbody>
<tr>
<td>VS-FEV106L</td>
<td>Viasure Yellow Fever Real Time PCR Detection Kit 6 x 8-well strips, low profile</td>
</tr>
<tr>
<td>VS-FEV106H</td>
<td>Viasure Yellow Fever Real Time PCR Detection Kit 6 x 8-well strips, high profile</td>
</tr>
<tr>
<td>VS-FEV112L</td>
<td>Viasure Yellow Fever Real Time PCR Detection Kit 12 x 8-well strips, low profile</td>
</tr>
<tr>
<td>VS-FEV112H</td>
<td>Viasure Yellow Fever Real Time PCR Detection Kit 12 x 8-well strips, high profile</td>
</tr>
<tr>
<td>VS-FEV113L</td>
<td>Viasure Yellow Fever Real Time PCR Detection Kit 96-well plate, low profile</td>
</tr>
<tr>
<td>VS-FEV113H</td>
<td>Viasure Yellow Fever Real Time PCR Detection Kit 96-well plate, high profile</td>
</tr>
</tbody>
</table>

**Work Flow**

One-step rehydration of wells and add your extracted RNA

1. **STEP 1** Add 15 μl of rehydration buffer into each well
2. **STEP 2** Add 5 μl of RNA sample / positive control / negative control
3. **STEP 3** Load the strips into the thermocycler and run the specified protocol
4. **STEP 4** Interpretate results

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