DaAnGene

Diagnostic Kit for Dengue Virus RNA

(PCR-Fluorescence Probing)

WHO recommended method

CE

Intended use

The kit is used for the qualitative detection of Dengue virus (DV) RNA (including four serotypes: I, II, III, IV) in human serum specimen.

Global burden

Dengue is the most prevalent viral infection transmitted by Aedes mosquitoes.
It's estimated that more than **3.9 billion** people in over **129 countries** are at risk of dengue infection every year, of which **96 million** manifest clinically and an estimated **40,000 deaths.**

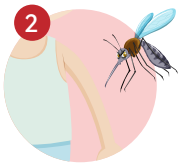
Dengue virus

Dengue virus consists of four serotypes: I, II, III, IV and is a positive-strand RNA virus. The main clinical manifestations of the patients are dengue fever (DF), dengue hemorrhagic fever (DHF) and dengue shock syndrome (DSS) with high incidence rate and mortality. Since there are four DENV serotypes and it is possible to be infected four times.

Transmission

Dengue virus is mainly transmitted by Aedes aegypti, Aedes albopictus, and other vector insects, causing asymptomatic recessive infection. These mosquitoes are also vectors of chikungunya, yellow fever and Zika viruses,etc.

- Transmission through mosquito bite



- Human-to-mosquito transmission

- Maternal transmission

- Other transmission modes(blood products, organ donation and transfusions)

Symptoms

Symptoms of dengue may be observed around 4–10 days after the bite of an infected mosquito.
Common symptoms are as follows:

- Fever
- Muscle and joint pain
- Rash
- Mild bleeding
- Mild thrombocytopenia
- Headaches
- Pain behind the eyes
- Nausea/vomiting
- Fatigue

Features

WHO recommended method

- NAAT is the preferred method of diagnosis because of high virus-specificity and capacity to confirm infection.

All serotypes

- Detection of Dengue virus, verified with DENV I/II/III/IV serotypes.

No cross-reactivity

- No cross-reactivity with Zika virus, HCV, Chikungunya virus, Yellow fever virus, etc.

Quality control

- Internal control to monitor the whole process, reduce false negative results.

Application

- Used in the early stages to detect the Dengue virus
  (Diagnosis of dengue fever is important as most early stages are asymptomatic.)
- Useful in dengue pathogenesis study, helpful in close monitoring of patient due to prolonged viraemia
- To provide epidemiologic information for surveillance of circulating Dengue virus

WHO Guideline

- **Nucleic acid amplification tests (NAAT)** is the preferred method of diagnosis within the first week following symptom onset because of high virus-specificity and capacity to confirm infection.
- **Specimens suitable for NAAT (e.g., RT-PCR) to detect viral RNA:**
  Serum or plasma collected from non-pregnant patients < 7 days of symptom onset, or ≤14 days of symptom onset for pregnant women with suspected DENV infection.
- **People who are suitable to detect viral RNA using NAAT**
- Non-pregnant persons: presenting < 7 days after symptom onset.
- Symptomatic pregnant women: presenting < 7 days after symptom onset, presenting 7-14 days after symptom onset
- Asymptomatic pregnant women.

World Health Organization

Parameters

Product name	Diagnostic Kit for Dengue Virus RNA (PCR-Fluorescence Probing)
Principle	Real-time fluorescent PCR technology
Specimen	Serum
LOD	1.5×10^{1} $TCID_{50}$ /mL
Precision	CV <10%
Storage	-20±5°C
Shelf life	12 months
Applicable Instruments	ABI 7500, Roche LightCycler480
Certificate	CE-IVD

Order information

Product name	Cat. No.	Specification
Diagnostic Kit for Dengue Virus RNA (PCR-Fluorescence Probing)	DA0310	Large package, 10 tests/kit
	DA0311	Large package, 48 tests/kit
	DA0312	Single tube, 10 tests/kit

Reference:
1.WHO: Dengue and severe dengue
2.WHO: Laboratory testing for Zika virus and dengue virus infections Interim guidance 14 July 2022

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