

VIASURE MULTIPLEX

Zika, Dengue & Chikungunya Real Time PCR Detection Kit

*Available with extraction control

Pathogen and product description

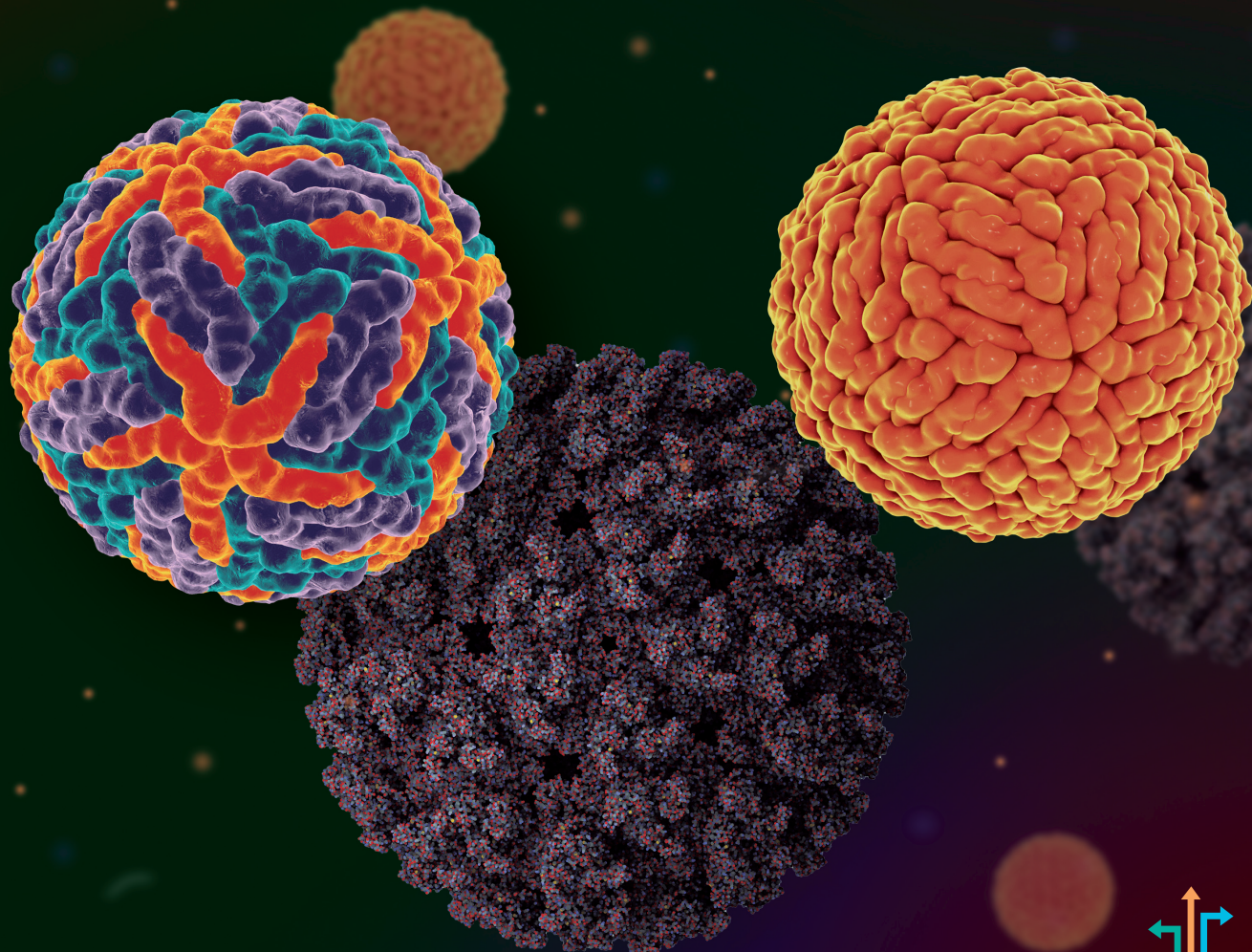
Zika (ZIKV), Dengue (DENV) and Chikungunya (CHIKV) are arthropod-borne viruses (arboviruses) that share mosquitos of the *Aedes* genus as common vector, specifically *A. aegypti* and *A. albopictus*. Environmental changes, urbanization and the globalization of travel have enhanced the spread of ZIKV, DENV and CHIKV resulting in epidemics and the co-circulation in overlapping geographic areas as well as the possibility of viral co-infection within a single host. Currently the major endemic regions include Africa, Southeast Asia, the Pacific Islands and the Americas.

Besides, these arboviruses cause similar clinical presentations, especially in the initial stages of infection (fever, headache, skin rash, muscle and joint pain, and gastrointestinal symptoms). In fact, due to neither virus possesses any specific distinguishing clinical features and the outcomes and management strategies for these three viruses are vastly different, an early and accurate diagnosis is imperative.

Therefore, ZIKV, DENV and CHIKV must be initially

included in the differential diagnosis for a patient with suspicious clinical symptoms who is living in or returning from travel to an endemic area. Laboratory diagnostic tests are based on the detection of the virus, viral components (antigens or nucleic acid), or the host immunologic response to the virus. However, due to the cross-reactivity of the antibodies of these arboviruses limits the use of serology, Real Time RT-PCR is a detection method commonly used during the acute phase of the infection. In order to do that, clinical specimens that can be tested including blood, serum, plasma, urine and others.

VIASURE Zika, Dengue & Chikungunya Real Time PCR Detection Kit is designed for the diagnosis of the Zika, Dengue and/or Chikungunya viruses in clinical samples. The isolated RNA target is transcribed generating complementary DNA by reverse transcriptase which is followed by the amplification of a conserved region of the *envelope* gene (ZIKV), 3'Non coding region (DENV) and *NSP1* gene (CHIKV), using specific primers and a fluorescent-labelled probe.



Analytical sensitivity

VIASURE Zika, Dengue & Chikungunya Real Time PCR Detection Kit has a detection limit of ≥ 10 RNA copies per reaction for ZIKV, DENV and CHIKV (figures 1, 2 and 3).

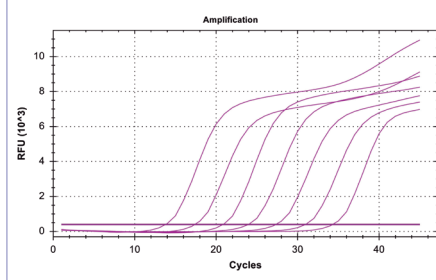


Figure 1. Dilution series of Zika Virus (10^7 - 10^1 copies/rxn) template run on the Bio-Rad CFX96™ Real-Time PCR Detection System (channel Cy5).

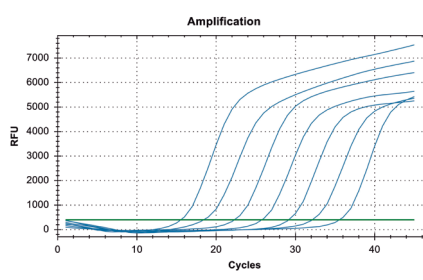


Figure 2. Dilution series of Dengue Virus (10^7 - 10^1 copies/rxn) template run on the Bio-Rad CFX96™ Real-Time PCR Detection System (channel FAM).

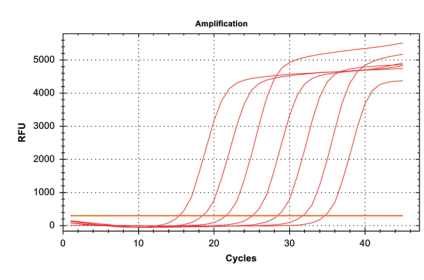


Figure 3. Dilution series of Chikungunya Virus (10^7 - 10^1 copies/rxn) template run on the Bio-Rad CFX96™ Real-Time PCR Detection System (channel ROX).

Components

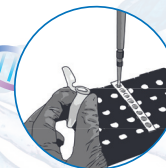
Reagent/Material	Description	Colour	Quantity
Zika, Dengue & Chikungunya 8-well strips	A mix of enzymes, primers-probes, buffer, dNTPs, stabilizers and Internal control in stabilized format	White	6/12 x 8-well strip
Rehydration Buffer	Solution to reconstitute the stabilized product	Blue	1 vial x 1,8 mL
Zika, Dengue & Chikungunya Positive Control	Non-infectious synthetic lyophilized cDNA	Red	1 vial
Extraction Control	Non-infectious nucleic acid lyophilized	Green	1 vial
Negative Control	Non template control	Violet	1 vial x 1 mL
Water RNase/DNase free	RNase/DNase free water	White	1 vial x 1 mL
Tear-off 8-cap strips	Optical caps for sealing wells during thermal cycling	Transparent	6/12 x 8-cap strip

Work Flow

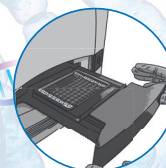
One-step rehydration of wells and add your extracted DNA



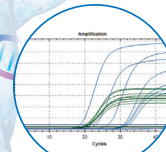
STEP 1
Add 15 μ l of rehydration buffer into each well



STEP 2
Add 5 μ l of DNA sample / positive control / negative control



STEP 3
Load the strips into the thermocycler and run the specified protocol



STEP 4
Interpretate results

Kit References

Reference	Description
VS-ZDC106LE	Viasure Zika, Dengue & Chikungunya Real Time PCR Detection Kit 6 x 8-well strips, low profile
VS-ZDC106HE	Viasure Zika, Dengue & Chikungunya Real Time PCR Detection Kit 6 x 8-well strips, high profile
VS-ZDC112LE	Viasure Zika, Dengue & Chikungunya Real Time PCR Detection Kit 12 x 8-well strips, low profile
VS-ZDC112HE	Viasure Zika, Dengue & Chikungunya Real Time PCR Detection Kit 12 x 8-well strips, high profile
VS-ZDC113LE	Viasure Zika, Dengue & Chikungunya Real Time PCR Detection Kit 96-well plate, low profile
VS-ZDC113HE	Viasure Zika, Dengue & Chikungunya Real Time PCR Detection Kit 96-well plate, high profile
VS-ZDC136E	Viasure Zika, Dengue & Chikungunya Real Time PCR Detection Kit 9 x 4-well strips, Rotor-Gene®
VS-ZDC172E	Viasure Zika, Dengue & Chikungunya Real Time PCR Detection Kit 18 x 4-well strips, Rotor-Gene®



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