

# VIASURE MULTIPLEX

*Zika, Dengue & Chikungunya Virus Real Time PCR Detection Kit*

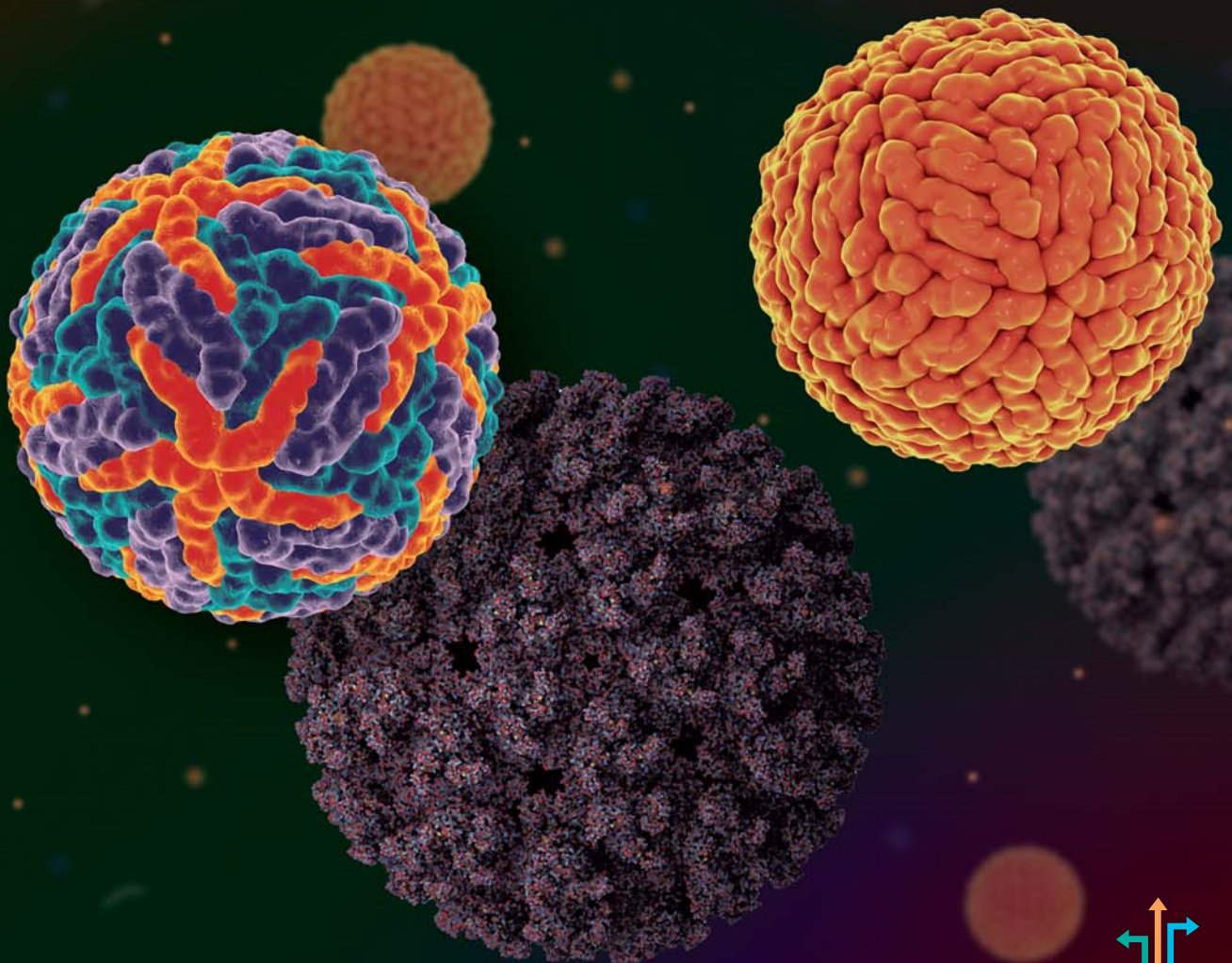
## Pathogen and product description

**Z**ika (ZIKV), Dengue (DENV) and Chikungunya (CHIKV) are arthropod-borne viruses (arboviruses) that share mosquitos of the *Aedes* genus as common vector, specifically *Ae. aegypti* and *Ae. 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.

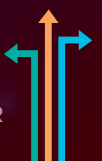
Besides, these arboviruses cause similar clinical presentations, especially in the initial stages of infection (fever, headache, skin rash, muscle and joint pain, and gastrointestinal symptoms). In fact, due to neither virus possesses any specific distinguishing clinical features and the outcomes and 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. 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 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 *envelope* gene (ZIKV), 3'Non coding region (DENV) and *NSP1* gen (CHIKV), using specific primers and a fluorescent-labelled probe.



THE REAL ONE STEP qPCR



## Analytical sensitivity

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

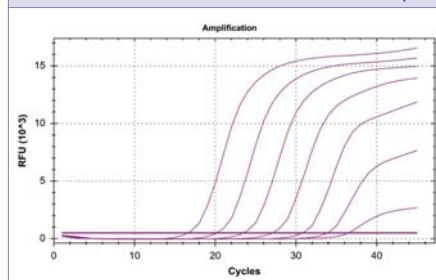


Figure 1. Dilution series of Zika Virus ( $10^7$ – $10^1$  copies/rxn) template run on the Bio-Rad CFX96 Touch™ Real-Time PCR Detection System (Cy5 channel).

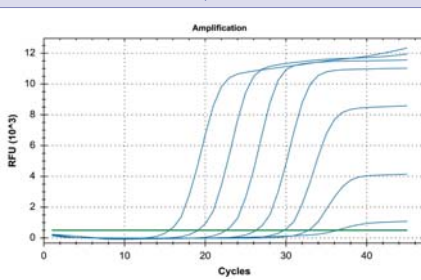


Figure 2. Dilution series of Dengue Virus ( $10^7$ – $10^1$  copies/rxn) template run on the Bio-Rad CFX96 Touch™ Real-Time PCR Detection System (FAM channel).

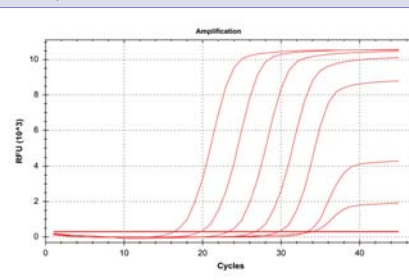


Figure 3. Dilution series of Chikungunya Virus ( $10^7$ – $10^1$  copies/rxn) template run on the Bio-Rad CFX96 Touch™ Real-Time PCR Detection System (ROX channel).

## Components

Reagent/Material	Description	Quantity
Zika, Dengue & Chikungunya Virus 8-well strips	A mix of enzymes, primers-probes, buffer, dNTPs, stabilizers and Internal control in stabilized format	6/12 x 8-well strip
Zika, Dengue & Chikungunya Virus 96-well plate	A mix of enzymes, primers-probes, buffer, dNTPs, stabilizers and Internal control in stabilized format	1 plate
Rehydration Buffer	Solution to reconstitute the stabilized product	1 vial x 1,8 mL
Zika, Dengue & Chikungunya Virus Positive Control	Non-infectious synthetic lyophilized cDNA	1 vial
Negative Control	Non template control	1 vial x 1 mL
Water RNase/DNase free	Water RNase/DNase free	1 vial x 1 mL
Tear-off 8-cap strips	Optical caps for sealing wells during thermal cycling	6/12 x 8-cap strip
Shell Frame Grid	Shell Frame Grid	1 or 2

## Kit References

Reference	Description
VS-ZDC106L	Viasure Zika, Dengue & Chikungunya Virus Real Time PCR Detection Kit 6 x 8-well strips, low profile
VS-ZDC106H	Viasure Zika, Dengue & Chikungunya Virus Real Time PCR Detection Kit 6 x 8-well strips, high profile
VS-ZDC112L	Viasure Zika, Dengue & Chikungunya Virus Real Time PCR Detection Kit 12 x 8-well strips, low profile
VS-ZDC112H	Viasure Zika, Dengue & Chikungunya Virus Real Time PCR Detection Kit 12 x 8-well strips, high profile
VS-ZDC113L	Viasure Zika, Dengue & Chikungunya Virus Real Time PCR Detection Kit 96-well plate, low profile
VS-ZDC113H	Viasure Zika, Dengue & Chikungunya Virus Real Time PCR Detection Kit 96-well plate, high profile

## Work Flow

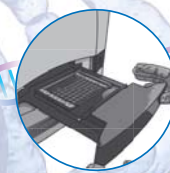
One-step rehydration of wells and add your extracted RNA



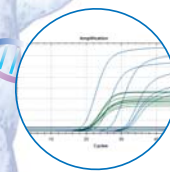
**STEP 1**  
Add 15  $\mu$ l of rehydration buffer into each well



**STEP 2**  
Add 5  $\mu$ l of RNA sample / positive control / negative control



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



**STEP 4**  
Interpretate results