

# VIASURE MULTIPLEX

*Flu Typing II (H1N1, H3N2, H5N1 & H7N9) Real Time PCR Detection Kit*

## Pathogen and product description

Influenza virus causes the majority of viral lower respiratory tract infections. People feel some or all of these symptoms: fever or feeling feverish/chills, cough, sore throat, nasal stuffiness and discharge, myalgia, headaches and anorexia. The influenza viruses can be spread from person to person in two different ways: through the air (large droplets and aerosols from sneezing and coughing), and by direct or indirect contact.

Influenza A viruses has been classified into subtypes based on the combinations of the envelope proteins hemagglutinin (HA) and neuraminidase (NA). Currently, influenza A(H1N1) and A(H3N2) are the circulating seasonal influenza A virus subtypes. This seasonal A(H1N1) virus is the same virus that caused the 2009 influenza pandemic. Influenza A(H3N2) infection is associated with prolonged exposure to pigs at agricultural fairs. Besides, humans can also be infected with avian influenza

virus subtypes A(H5N1) and A(H7N9) since their emergence in China in 2003 and 2013, respectively. Avian Influenza A(H7N9) virus spreads faster than H5N1 and commonly resulted in severe respiratory illness, although its mortality rate (20%) is lower than that attributed to H5N1 virus.

**VIASURE Flu Typing II Real Time Detection Kit is designed for the diagnosis of Influenza A (H1N1) pdm09, H3N2, H5N1 and/or H7N9 subtypes 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 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 the *hemagglutinin* gene for subtyping of Influenza A((H1N1)pdm09, H3N2, H5N1 and/or H7N9), using specific primers and a fluorescent-labelled probes.



Same thermal protocol for all our kits.  
**Create your own panel**



**Lyophilised product.**  
Forget about the cold chain



"Ready & Easy-to-use" kits



Long term stability.  
**Transport and storage at room temperature**



**Shelf-life: 24 months**  
(for all our qPCR products)



From 1 **up to 96 samples** per assay



High sensibility, specificity and reproducibility



Validated according to **ISO 13485**  
and **CE marked**



## Analytical sensitivity

VIASURE Flu Typing II Real Time PCR Detection Kit has a detection limit of  $\geq 10$  RNA copies per reaction for Influenza A (H1N1)pdm09, H3N2, H5N1 and H7N9 (figures 1 to 4).

Figure 1. Dilution series of Influenza A (H1N1) pdm09 ( $10^7$ – $10^1$  copies/rxn) template run on the Bio-Rad CFX96 Touch™ Real-Time PCR Detection System (FAM channel).

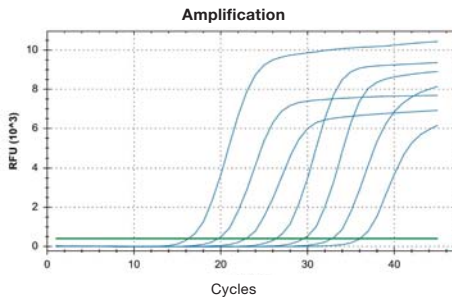


Figure 2. Dilution series of Influenza A(H5N1) ( $10^7$ – $10^1$  copies/rxn) template run on the Bio-Rad CFX96 Touch™ Real-Time PCR Detection System (HEX channel).

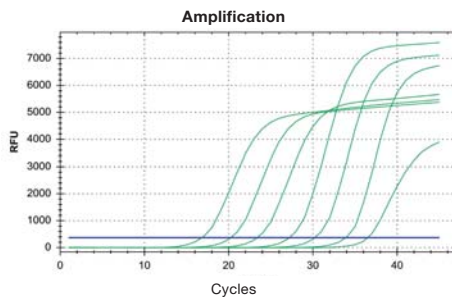


Figure 3. Dilution series of Influenza A(H3N2) ( $10^7$ – $10^1$  copies/rxn) template run on the Bio-Rad CFX96 Touch™ Real-Time PCR Detection System (ROX channel).

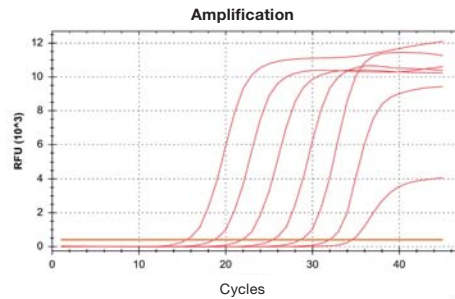
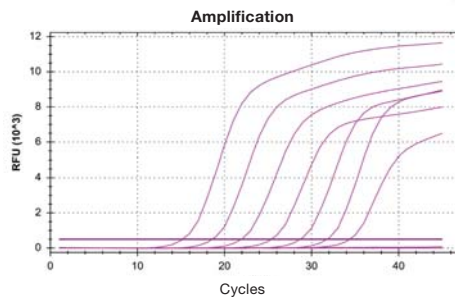


Figure 4. Dilution series of Influenza A(H7N9) ( $10^7$ – $10^1$  copies/rxn) template run on the Bio-Rad CFX96 Touch™ Real-Time PCR Detection System (Cy5 channel).



## Components

Reference	Reagent/Material	Description	Colour	Quantity
VS-HXN1SL/ VS-HXN1SH	Flu Typing II 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
VS-RB02	Rehydration Buffer	Solution to reconstitute the stabilized product	Blue	1 vial x 1,8 mL
VS-HXN1C	Flu Typing II Positive Control	Non-infectious synthetic lyophilized cDNA	Red	1 vial
VS-NC1	Negative Control	Non template control	Violet	1 vial x 1 mL
VS-H20	Water RNase/DNase free	Water RNase/DNase free	White	1 vial x 1 mL
VS-OCS	Tear-off 8-cap strips	Optical caps for sealing wells during thermal cycling	Transparent	6/12 x 8-cap strip

## Work Flow

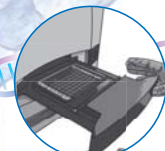
One-step rehydration of wells and add your extracted RNA



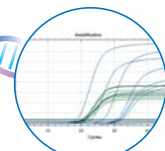
**STEP 1**  
Add 15  $\mu$ l of rehydration buffer into each well



**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

## Kit References

Reference	Description
VS-HXN106L	VIASURE Flu Typing II Real Time PCR Detection Kit 6 x 8-well strips, low profile
VS-HXN106H	VIASURE Flu Typing II Real Time PCR Detection Kit 6 x 8-well strips, high profile
VS-HXN112L	VIASURE Flu Typing II Real Time PCR Detection Kit 12 x 8-well strips, low profile
VS-HXN112H	VIASURE Flu Typing II Real Time PCR Detection Kit 12 x 8-well strips, high profile
VS-HXN113L	VIASURE Flu Typing II Real Time PCR Detection Kit 96-well plate, low profile
VS-HXN113H	VIASURE Flu Typing II Real Time PCR Detection Kit 96-well plate, high profile