

# VIASURE MULTIPLEX

## Human Herpes Virus 6, 7 & 8 Real Time PCR Detection Kit

### Pathogen and product description

**H**erpesviridae is a large family of DNA viruses that cause diseases in humans. The members of this family are also known as herpesviruses.

Human herpesviruses 6 (HHV-6) A and B are two distinct lymphotropic  $\beta$ -herpesviruses that infect the majority of humans. By age 5, the majority of humans have acquired HHV-6 infection as indicated by seropositivity. The classic presentation of primary HHV-6 infection is Roseola Infantum. In immunocompetent individuals, primary HHV-6 infection is often asymptomatic or it could be manifested clinically as a febrile illness associated with an exanthema, diarrhea, respiratory symptoms, seizures or encephalitis.

Human herpesvirus (HHV-7) is also a lymphotropic  $\beta$ -herpesvirus that infects humans during the first 5 years of life. Like HHV-6, it may be asymptomatic or it could manifest clinically as fever, upper respiratory symptoms, vomiting, diarrhea, seizures, encephalitis and a Roseola-like illness. Even though, the most common clinical presentations in HHV-7 viremic children are seizures and fever.

Human herpesvirus 8 (HHV-8) is a  $\gamma$ -herpesvirus Kaposi's sarcoma-associated herpesvirus. It is transmitted during intimate contact, likely through transfer of body secretions such as saliva and genital secretions. HHV-8 can also be transmitted through blood transfusion and organ transplantation. In immunocompetent children, primary HHV-8 infection is associated with mild nonspecific symptoms of fever and rash. In adults, primary HHV-8 infection has been implicated in clinical illness characterized by diarrhea, fatigue and lymphadenopathy. Following

resolution of primary infection, HHV-8 enters a state of latency in cells of lymphoid origin. Biopsies of lesion (oral and cutaneous), saliva, blood, plasma, and PBMC are the clinical specimens more frequently used for viral detection and monitoring of treatment of HHV-8.

Infections due to HHV-6 and HHV-7 are common in transplant recipients (i.e. solid organ transplant (SOT)), but clinical diseases due to these viruses are uncommon. Fever, rash and bone marrow suppression are the most common manifestations, but symptoms of tissue invasive disease may be observed. Infections due to HHV-8 may lead to Kaposi's sarcoma and less commonly Castleman's disease, primary effusion lymphomas, bone marrow suppression and multiorgan failure. HHV-8 disease is most common among transplant recipients from endemic regions, although certain populations in nonendemic regions are also at high risk.

The amplification of the viral DNA by the polymerase chain reaction is used extensively throughout the world for its sensitivity and specificity. qPCR is an ideal technique to monitor current infections.

VIASURE Human Herpes Virus 6, 7 & 8 Real Time PCR Detection Kit is designed for the diagnosis of HHV-6, HHV-7 and HHV-8 in clinical samples. After DNA isolation, the identification of Human Herpesvirus 6, Human Herpesvirus 7 and Human Herpesvirus 8 is performed by the amplification of a conserved region of the U65-U66 genes for Human Herpesvirus 6, ORF73 gene for Human Herpesvirus 8, and U57 gene for Human Herpesvirus 7, using specific primers and a fluorescent-labelled probe.



## Analytical sensitivity

**VIASURE** Human Herpes Virus 6, 7 & 8 Real Time PCR Detection Kit has a detection limit of  $\geq 10$  DNA copies per reaction for Human Herpesvirus 6, Human Herpesvirus 7 and Human Herpesvirus 8 (Figure 1, 2 and 3).

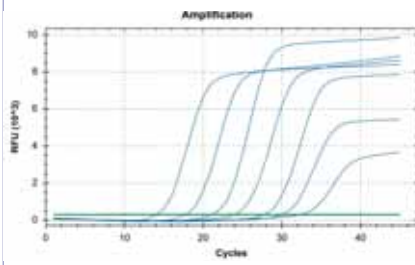


Figure 1. Dilution series of Human Herpes Virus 6 ( $10^7$ – $10^1$  copies/rxn) template run on the Bio-Rad CFX96™ Real-Time PCR Detection System (channel FAM).

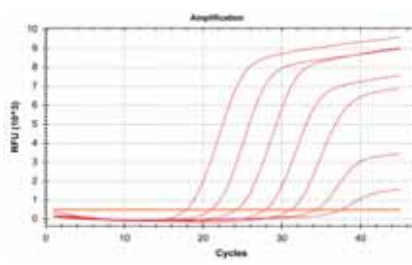


Figure 2. Dilution series of Human Herpes Virus 7 ( $10^7$ – $10^1$  copies/rxn) template run on the Bio-Rad CFX96™ Real-Time PCR Detection System (channel Cy5).

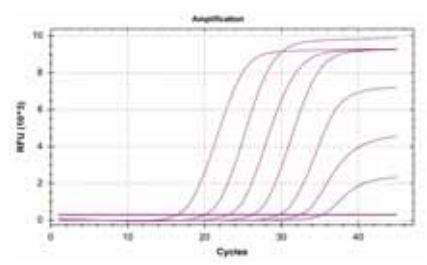
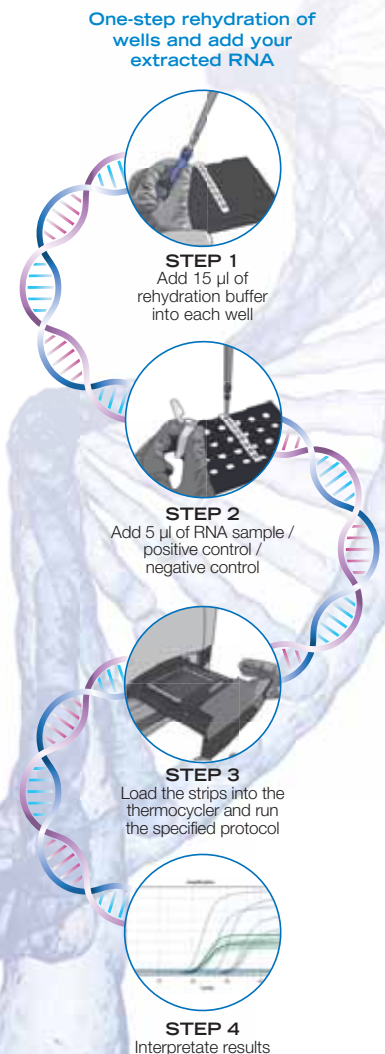


Figure 3. Dilution series of Human Herpes Virus 8 ( $10^7$ – $10^1$  copies/rxn) template run on the Bio-Rad CFX96™ Real-Time PCR Detection System (channel ROX).

## Components

Reagent/Material	Description	Colour	Quantity
Human Herpes Virus 6, 7 & 8 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
Human Herpes Virus 6, 7 & 8 Positive Control	Non-infectious synthetic lyophilized cDNA	Red	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



## Kit References

Reference	Description
VS-HHV106L	VIASURE Human Herpes Virus 6, 7 & 8 Real Time PCR Detection Kit 6 x 8-well strips, low profile
VS-HHV106H	VIASURE Human Herpes Virus 6, 7 & 8 Real Time PCR Detection Kit 6 x 8-well strips, high profile
VS-HHV112L	VIASURE Human Herpes Virus 6, 7 & 8 Real Time PCR Detection Kit 12 x 8-well strips, low profile
VS-HHV112H	VIASURE Human Herpes Virus 6, 7 & 8 Real Time PCR Detection Kit 12 x 8-well strips, high profile
VS-HHV113L	VIASURE Human Herpes Virus 6, 7 & 8 Real Time PCR Detection Kit 96-well plate, low profile
VS-HHV113H	VIASURE Human Herpes Virus 6, 7 & 8 Real Time PCR Detection Kit 96-well plate, high profile



CERTEST BIOTEC, S.L.  
Pol. Industrial Río Gállego II, Calle J, Nº 1,  
50840, San Mateo de Gállego, Zaragoza (SPAIN)  
www.cerTEST.es

