

# VZV Real Time PCR

The Varicella Zoster Virus (VZV) real time PCR assay available at CPAL is a sensitive and specific assay used for the detection of VZV in swabs specimens, CSF and bronchial wash specimens.

**NOTE: Please contact the laboratory if you would like us to provide collection kits to you (swab specimens).**

[See Technical Bulletin-Varicella Zoster Virus VZV Real Time PCR](#)

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Varicella Zoster Virus (VZV) is one of eight Herpes viruses known to infect humans. It is also known as Human herpes virus type 3 or HHV-3 and is closely related to the herpes simplex virus (HSV), sharing much genome homology. There are known envelope glycoproteins (gB, gC, gE, gH, gI, gK, gL) that correspond with those in HSV. The capsid of VZV is surrounded by a number of loosely associated proteins known as the tegument. Many of these proteins play critical roles in initiating the process of virus reproduction in the infected cell. VZV fails to produce LAT (latency-associated transcript) that play an important role in establishing HSV latency.

VZV is the cause of chicken pox (Varicella) in children and adults and herpes zoster (shingles) in adults. Chicken pox is a blister-like rash with symptoms including itching, fatigue, and fever. It can spread in the air by coughing or sneezing and can also be spread by touching or breathing in the virus particles that come from the blisters. The incubation period for the virus is 10-21 days and is contagious 1 to 2 days prior to seeing the rash and about 5 days after the rash appears when all lesions are crusted. Complications of chicken pox include encephalitis, pneumonia, dehydration, sepsis and death. The approval of a vaccine in 1995 has limited some of the morbidity associated with chicken pox but there are still approximately 200 deaths per year in the US.

When clinical symptoms of chicken pox resolve, VZV remains dormant in the nervous system in the trigeminal and dorsal root ganglia. In about 10-20% of cases, VZV will reactivate later in life due to stress, aging or a weakened immune system and produce shingles. Shingles is a painful rash with blisters that scab over in 7 to 10 days and clears up within 2 to 4 weeks. Anyone recovered from chicken pox can get shingles whose symptoms include pain, itching or tingling (1-5 days prior to the appearance of a rash), fever, headache and chills. Shingles cannot be passed from person to person, but the VZV virus can spread from someone with shingles to someone who never had chicken pox by coming in direct contact with the fluid from the rash blisters. The main complication from shingles is postherpetic neuralgia (PHN), which is severe pain where the rash appeared even after the rash clears up. Rarer complications include pneumonia, hearing problems, encephalitis, eye problems or death. There is currently a vaccine available for persons over 60 to help prevent shingles.

*Information compiled by Jeffrey Wisotzkey, Ph.D*