CompuNet Clinical Laboratories

Test Bulletin
PCR Testing for Herpes Simplex Virus

Important Benefits of PCR Testing Versus Rapid HSV Culture:

- **HIGH SENSITIVITY**
- **HIGH SPECIFICITY**
- **FASTER TURNAROUND TIME FOR RESULTS**

Test Ordering Information

Test Code: 73562

CPT Codes*: 87529

**The CPT codes provided are based on AMA guidelines and are for informational purposes only. CPT coding is the sole responsibility of 0the billing party. Please direct any questions regarding coding to the payor being billed.*

Specimen requirements: 1 ml CSF in sterile tube. All other sources send in viral transport media. Store refrigerated after collection. Must specify source.

Testing Frequency: 7 days a week. Specimens received by the lab prior to 3:00 pm will have results available that same afternoon/early evening. Those received after 3:00 pm will be tested the following morning.

For more information regarding any molecular-based test, contact Dr. Ted E. Schutzbank at (937) 290-7326

Clinical Summary

Herpes simplex virus (HSV) is a member of the Herpesviridae family of enveloped, DNA viruses. There are two HSV types, 1 and 2, which are closely related, but differ in some of their epidemiological and clinical characteristics. Since HSV types 1 and 2 are latent viruses, HSV infections are life-long. HSV-1 is commonly associated with oral "cold sores" and is easily transmitted by direct contact with infected secretions. HSV-1 prevalence is 20-40% in children, and 50-90% in adults. HSV types 1 and 2 are common sexually transmitted pathogens, with prevalence rates approaching 25% in sexually active populations. Either type can cause a variety of other infections, including kerato-conjunctivitis, meningitis, encephalitis, pneumonia, hepatitis, and dermal ulceration, in both healthy persons and those with underlying conditions. HSV-1 is the most common cause of sporadic adult encephalitis. Untreated, this disease has a high mortality rate. Survivors often have permanent neurological sequelae. HSV-2 is a cause of meningitis, often in teens and young adults. Unlike encephalitis, meningitis has a more benign clinical course. HSV (both types) is also a cause of neonatal disease, acquired during exposure of the infant to HSV-infected secretions during birth. Neonatal disease can be neurological, disseminated or cutaneous. Both neurological and disseminated HSV infections are associated with high morbidity and mortality in newborn infants.

Rapid diagnosis of serious HSV infections is critical, as effective treatment is available. In addition, it is important to rapidly distinguish viral from bacterial causes, to guide appropriate therapy. Prior to the advent of molecular diagnostic methods, the only sensitive laboratory test for HSV infections was isolation by culture. Isolation of HSV from CSF is extremely insensitive, with a recovery rate of approximately five percent. As a result, virus culture is virtually useless for the diagnosis of HSV encephalitis. Testing of CSF using amplified DNA-based detection methods, such as real-time polymerase chain reaction (PCR_{RT}), has been shown to be both highly sensitive and specific for the diagnosis of HSV encephalitis and meningitis. PCR_{RT} has also been demonstrated by our laboratory, as well as others, to be the method of choice for detection of HSV from all specimen types, when compared to culture methods. **In a recent study performed at CompuNet, 153 viral transport medium specimens submitted for rapid HSV culture were also tested using HSV PCR_{RT}. Of these, 57 were culture positive and 96 were negative. All 57 specimens positive by culture were also PCR_{RT} positive. However, 12 of the 96 culture negative specimens (12.5%) were found to be POSITIVE by PCR_{RT}. All 12 PCR_{RT} positive results were confirmed by an independent second PCR method.** Our results mirror those reported in the literature comparing PCR to culture for a variety of specimen types other than CSF.

HSV-PCR_{RT} testing on CSF specimens has been available at CompuNet since 2003. As a result of the above study, CompuNet is now offering HSV PCR_{RT} testing on clinical samples submitted in viral transport medium. This assay is performed twice daily. **Test results on patient specimens received by the laboratory prior to 3:00 PM will be available that same afternoon/early evening. Those received after 3:00 PM will be tested the following morning.**

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CompuNet CLINICAL LABORATORIES