



VIRAL MENINGITIS PANEL

Department of Molecular Biology

Viral meningitis is an inflammation of the meninges (the covering of the brain and spinal cord) caused by infection with a virus. Nearly 90 percent of viral meningitis cases are caused by viruses like Enterovirus, HSV 1 & 2, VZV, mumps virus, etc. In general, meningitis caused by a virus is less serious than meningitis caused by bacteria.

This test is a qualitative test to detect Herpes Simplex Virus 1 & 2, varicella-zoster virus (VZV), mumps virus, enterovirus, parechovirus simultaneously in a single test run.

HERPES SIMPLEX VIRUS 1 AND 2 (HSV1 AND HSV2):

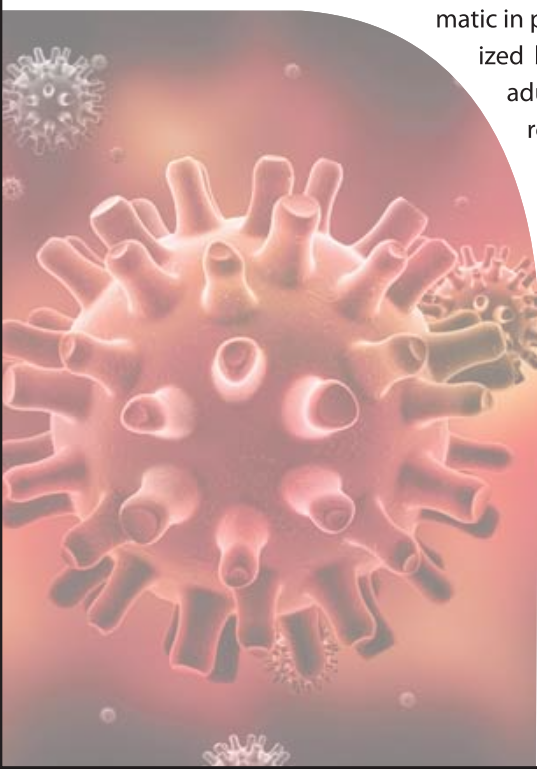
HSV 1 & 2 are two members of the herpesviridae family and having large double-stranded DNA (dsDNA). Primary Herpes simplex infection is usually acquired in childhood and is most often asymptomatic; after the primary infection, the virus becomes latent in neurons of cranial nerve ganglia (HSV1) or sacral ganglia (HSV2). Reactivation from ganglia produces cold sores or fever blisters in the mouth or on the lip, less often infections of the eye (herpes keratitis), and rarely encephalitis. Symptomatic HSV1 infections are usually manifested as recurrent orolabial and facial lesions. HSV2 is the cause of most genital herpes and is one of the most prevalent sexually transmitted infections worldwide. Herpes can be spread, regardless of symptoms, between sexual partners and from mother to newborn, and is known to increase a person's risk of contracting HIV. Herpes viruses establish lifelong infections, and the virus cannot be eradicated from the body.

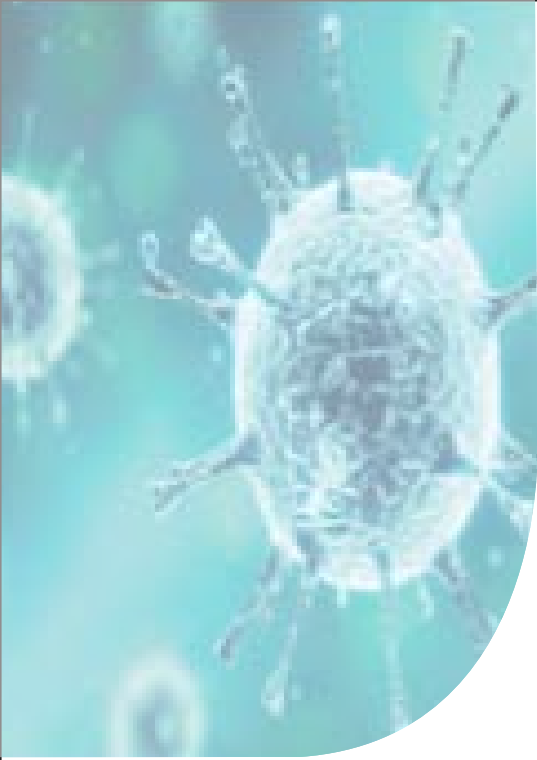
VARICELLA-ZOSTER VIRUS (VZV):

It is an alphaherpesvirus, contains a large doublestranded DNA (dsDNA). Unlike HSV1, it is often asymptomatic in primary infections. Primary VZV infection can result in chickenpox (varicella) characterized by malaise, fever and an extensive vesicular rash which can lead to pneumonia in adults, particularly in pregnant woman. Even after clinical symptoms of varicella have resolved, VZV remains dormant in the nervous system of the host in the trigeminal and dorsal root ganglia. In about 10-20% of cases, VZV reactivates later in life producing a disease known as herpes zoster or shingles. Serious complications of shingles include post-herpetic neuralgia, myelitis, eye infections or zoster sine herpette.

ENTERO VIRUSES (EV):

(EV) are a genus of positive-sense single-stranded RNA viruses including polioviruses, coxsackieviruses, echoviruses, and other enteroviruses. Non polio enteroviruses are very common. They are second only to the "common cold" viruses, rhinoviruses, as the most common viral infectious agents in humans. EV is most likely to occur during the summer and fall. EV affects millions of people worldwide each year, and is often found in the respiratory secretions (e.g., saliva, sputum, or nasal mucus) and stool of an infected person. No vaccine is currently available for the non-polio entero viruses.





HUMAN PARECHO VIRUSES (PV):

(PV) are positive ssRNA viruses and are prevalent in young children. They have been associated with respiratory disease, including upper and lower respiratory tract disease. It has also been claimed that they commonly cause mild gastroenteritis and, less frequently, meningitis and neonatal sepsis.

MUMPS VIRUS (MV):

It is a member of the paramyxovirus family, is a negative-strand RNA virus. The incubation period of mumps is 14 to 18 days. Mumps infection results in an acute illness with symptoms including fever, headache, and myalgia, followed by swelling of the salivary glands. As many as 20% of mumps infections are asymptomatic. Complications of mumps can include meningitis, deafness, pancreatitis, orchitis, and first-trimester abortion. A vaccine for mumps is available in combination with measles and rubella vaccines, or in combination with measles, rubella and varicella.

SPECIMEN REQUIREMENT:

This test is for use DNA from CSF, blood, throat swabs and stool. For HSV and VZV, the ideal specimen is CSF. For enterovirus and parechovirus CSF is often submitted; however stool should be positive and is the most sensitive specimen. In the majority of meningitis cases, a blood specimen will also be positive. For mumps CSF is ideal- a throat swab is acceptable.

TAT AND ORDERING INFORMATION:

TEST NAME	METHOD	REPORTING TIME
PCR VIRAL MENINGITIS – QUALITATIVE TEST	MULTIPLEX REAL TIME PCR	3Days

RESULTS:

Each test report includes a detailed interpretation of the infection findings, the clinical significance of the result, and specific recommendations for clinical management and additional testing, if warranted. Results will be reported to the referring physician or health care provider as specified on the test requisition form.



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