

# Herpes simplex virus

Genital | Neonatal | Encephalitis | and other HSV infections

	Test Name	Number	Clinical Use	Methodology
Polymerase Chain Reaction (PCR) Tests	Herpes Simplex Virus (HSV) Types I/II, DNA by PCR	138651	Detects HSV-I and HSV-II DNA in clinical specimens including cerebrospinal fluid, vesicle swab, tissue, whole blood, serum, or plasma; when performed on cerebrospinal fluid, supports a diagnosis of herpes simplex encephalitis and herpes simplex meningitis	Polymerase chain reaction real-time technology
	Herpes Simplex Virus (HSV) Types I/II, Amniotic Fluid, DNA by PCR	138594	Detects HSV-I and HSV-II DNA; supports a diagnosis of herpes simplex encephalitis and herpes simplex meningitis	Polymerase chain reaction real-time technology
Direct Antigen Detection	Herpes Simplex Virus Types I/II By Immunohistochemistry*	550001	Detection of HSV-I and/or HSV-II in tissue specimens.	Immunohistochemistry
	Virus, Direct Detection by DFA, Herpes Simplex Virus	008508	Rapid diagnosis of HSV by direct microscopic examination (nonculture) of virus-infected cells.	Direct fluorescent antibody
Serology	Herpes Simplex Virus (HSV) Types I- and II specific Antibodies, IgG	164905	Detect IgG antibodies specific to HSV-I and/or HSV-II infection; confirm or rule out possible infection with herpes simplex types I and/or II virus in prenatal patients in whom HSV infection can cause serious prenatal disease; identify those who are subclinical carriers of HSV-I and/or HSV-II. These assays are based on purified recombinant glycoprotein G-1 (HSV-I) or G-2 (HSV-II) antigens.	Enzyme immunoassay
	Herpes Simplex Virus (HSV) Type I-specific Antibodies, IgG	164897	Detect IgG antibodies specific to HSV-I infection; confirm or rule out possible infection with herpes simplex type I virus in prenatal patients in whom HSV infection can cause serious prenatal disease; identify those who are subclinical carriers of HSV-I. This assay is based on purified recombinant glycoprotein G-1 (HSV-I) and is specific for HSV-I antibodies.	Enzyme immunoassay
	Herpes Simplex Virus (HSV) Type II-specific Antibodies, IgG	163147	Detect IgG antibodies specific to HSV-II infection; confirm or rule out possible infection with HSV-II in prenatal patients in whom HSV-II infection can cause serious prenatal disease; identify those who are subclinical carriers of HSV-II. This assay is based on glycoprotein G-2, purified from HSV-II-infected cells, and is specific for HSV-II antibodies.	Enzyme immunoassay
	Herpes Simplex Virus (HSV) Types I/II, IgG	163014	Detect IgG antibodies to either HSV-I and/or HSV-II. Conventional HSV-I and HSV-II assays cannot differentiate HSV-I from HSV-II infection due to the extensive homology of viral antigens. Antibodies formed against either virus are highly cross-reactive. An HSV-II type-specific IgG assay based on glycoprotein G-2 is available for differentiating HSV-I from HSV-II infections.	Chemiluminescence
	Herpes Simplex Virus (HSV) Types I/II, IgG Evaluation With Reflex to Herpes I and II, Type-specific, IgG	164913	Detect IgG antibodies to either HSV-I and/or HSV-II. If the initial result is positive, confirmation of possible infection with HSV-I and/or HSV-II is made using individual type-specific assays. Conventional HSV-I and HSV-II assays cannot differentiate HSV-I from HSV-II due to the extensive homology of viral antigens. Antibodies formed against either virus are highly cross-reactive. These HSV type-specific IgG assays are based on purified recombinant glycoprotein G-1 (HSV-I) or G-2 (HSV-II) antigens. Moreover, each assay is highly sensitive and specific and will not detect antibodies to the other HSV type.	HSV-I/HSV-II: Chemiluminescence HSV-I-specific/HSV-II-specific: Enzyme immunoassay
	Herpes Simplex Virus (HSV), Types I/II, IgM, By EIA	164806	IgM levels can provide useful information about an acute event.	Enzyme-linked immunosorbent assay
	Herpes Simplex Virus (HSV), Type-specific Immunoblot	138487	Immunoblot format for the differentiation of HSV types I and II IgG antibodies. Intended for use on serum previously determined positive for HSV antibodies.	Immunoblot
HSV Cultures	Herpes Simplex Virus (HSV) Culture and Typing	008250	Identification and typing of herpes simplex virus.	Enzyme-linked virus-inducible system
	Herpes Simplex Virus (HSV) Culture Without Typing	186072	Identification of herpes simplex virus.	Enzyme-linked virus-inducible system
	Viral Culture, Rapid, Lesion (Herpes Simplex Virus and Varicella-Zoster Virus)	186056	Identification and typing of herpes simplex virus. Shell vials or equivalent multiwell plate culture with fluorescent antibody staining for varicella-zoster.	Enzyme-linked virus-inducible system (shell vials or equivalent multiwell plate culture with fluorescent antibody staining is utilized for the recovery of varicella-zoster)

\*This procedure may be considered by Medicare and other carriers as investigational, and therefore, may not be payable as a covered benefit for patients.



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# Protect your patients from the untreated consequences of herpes infections

Herpes simplex virus infections are common and may range from mild to severe disease. Those who are infected with HSV types I and II (HSV-I and HSV-II) often have few or no symptoms.<sup>1</sup> In addition to oral and genital herpes, HSV also causes more severe disease. Herpes infection can also increase a person's risk of becoming infected with HIV.<sup>2,3</sup>



**Approximately 22% of pregnant women are infected with HSV-II, but as many as 90% of them are undiagnosed because they have few or no symptoms.<sup>4</sup> Real-time PCR is the test of choice for neonatal herpes and HSV encephalitis.<sup>1</sup>**

## Genital Herpes

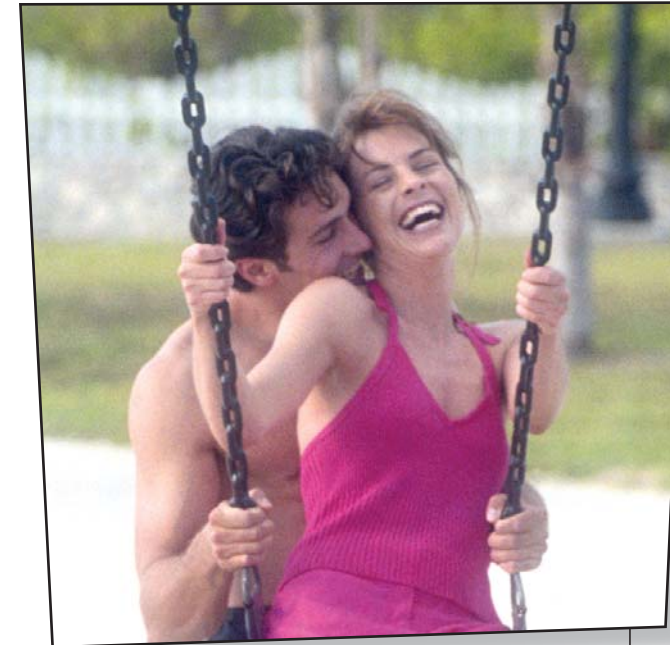
Genital herpes affects more than one in five Americans.<sup>1,2</sup> Many of those infected are asymptomatic and unaware of their seropositive status, allowing for unknowing transmission.<sup>1,3</sup> A diagnosis based on medical history and physical examination may be inaccurate and should thus be confirmed by laboratory testing.<sup>3</sup> In addition, repeat or confirmatory testing may be indicated due to false negatives.<sup>3</sup>

## Neonatal Herpes

Approximately 22% of pregnant women are infected with HSV-II, but as many as 90% of them are undiagnosed because they have few or no symptoms.<sup>4</sup> Transmission from mother-to-newborn can occur during vaginal delivery, whether the mother is experiencing primary infection or a recurrence.<sup>1</sup> The mortality rate is greater than 70% for untreated neonates with disseminated disease.<sup>1</sup> PCR technology allows for early diagnosis and intervention that can substantially reduce associated morbidity and mortality.

## Encephalitis

HSV is the most common cause of sporadic viral encephalitis in the United States and is often fatal when not treated promptly.<sup>1,5</sup> Thus, a timely, accurate diagnosis is critical. Polymerase chain reaction (PCR) amplifies the genome of HSV from cerebrospinal fluid (CSF) and is recognized as the diagnostic test of choice for rapid HSV identification.<sup>1</sup>



**Many people with HSV have few or no symptoms, allowing for unknowing transmission. Real-time PCR allows for accurate, rapid diagnosis of HSV, which can decrease the spread of disease and also allow earlier intervention for mild or severe forms of HSV.**

## Other HSV Infections

**Aseptic (viral) meningitis**—While rarely fatal, patients suffer severe headaches, neck stiffness, nausea, and fever. Unlike bacterial meningitis, a skin rash is not usually present.

**Ocular herpes**—HSV is the most common cause of corneal infection in the United States.<sup>1</sup> Most infections are superficial, but they can cause scarring and opacification of the cornea.<sup>1</sup>

## References

1. Jerome KR, Ashley RL. Herpes simplex viruses and herpes B virus. In: Murray PR, Baron EJ, Jorgensen JH, Pfaller MA, Tenover FC, White
2. Centers for Disease Control and Prevention. *Genital Herpes Fact Sheet*. Available at: <http://www.cdc.gov/STD/Herpes/STDFact-Herpes.htm>. Accessed July 27, 2006.
3. Centers for Disease Control and Prevention. *Sexually Transmitted Diseases Treatment Guidelines 2002*. Available at: <http://www.cdc.gov/STD/treatment/TOC2002TG.htm>. Accessed July 27, 2006.
4. Brown ZA, Gardella C, Wald A, Morrow RA, Corey L. Genital herpes complicating pregnancy. *Obstet Gynecol*. 2005 Oct; 106(4):845-856.
5. Tyler KL. Update on herpes simplex encephalitis. *Rev Neurol Dis*. 2004 Fall; 1(4):169-178.