

Real-time PCR Testing for Malaria

Malaria is an infectious disease caused by *Plasmodium* parasites and transmitted by mosquitoes. Patients with malaria often experience flu-like symptoms, including fever, headache, and chills. Malaria can be fatal, but serious illness can be avoided with prompt diagnosis and subsequent treatment. Four types of malaria parasites can infect humans, including 2 types that can lie dormant and cause malaria months or even years after the infecting mosquito bite.

While most cases occur in the tropical regions of Africa, Asia, and South America, about 1300 cases of malaria are reported in the United States each year.¹ These cases occur in travelers and immigrants returning from areas with ongoing transmission.¹

Rapid, accurate detection of malaria parasites allows for appropriate therapy. LabCorp's ViroMed Laboratories offers a real-time polymerase chain reaction (PCR) assay to detect all 4 species of the malaria parasite. Real-time PCR is the most accurate method of malaria detection, allowing for identification of low levels of infection and differentiation of species.²

Clinical Application

- Real-time PCR provides superior accuracy and can identify low levels of infection not detectable by other methods.²
- Real-time PCR can identify mixed infections and also allows for precise differentiation of species via melting curve analysis.³ Differentiation between species is crucial, as *Plasmodium falciparum* is significantly more fatal than the others and may require more aggressive treatment.³
- Rapid and accurate detection allows for appropriate diagnosis and treatment.

Scientific Leadership

- ViroMed offers leading-edge methods in real-time PCR, including a comprehensive menu of real-time PCR assays for infectious diseases, such as (but not limited to) herpes simplex virus, Epstein-Barr virus, *Bordetella*, and respiratory viruses (influenza detection and typing).
- ViroMed offers timely development of assays for emerging pathogens.
- ViroMed provides physicians with a comprehensive menu of the latest in test technologies to assist in diagnosing and monitoring disease.

Customer Support

- ViroMed's support services include PhD-level scientists available for clinical consultation.
- ViroMed's customer-focused client services team is available by calling 800-582-0077.
- As a LabCorp Center of Excellence, ViroMed provides dedicated courier and logistics services for reliable, timely delivery of results and case reports.



Most malaria infections in the United States occur among people who have traveled to areas with ongoing transmission.¹



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Plasmodium Species, Real-time DNA PCR.....138852

CPT Code 87798

Specimen Whole blood

Volume 5 mL

Minimum Volume 0.5 mL

Container Lavender-top (EDTA) tube or yellow-top (ACD) tube

Storage Instructions **Stable** at room temperature or refrigerated for up to 7 days.

Causes for Rejection Frozen blood; heparin tube; improper labeling; gross specimen contamination; improper storage or transport; specimen too old; leaking or broken tube

Use This test is intended to be used as an aid in identifying species to human pathogenic *Plasmodium* sp (ie, *P falciparum*, *P malariae*, *P ovale*, and *P vivax*).

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

Methodology Real-time polymerase chain reaction

References

1. Centers for Disease Control and Prevention. Latest United States Malaria Disease Surveillance Report – An Argument for Continuing Vigilance. June 9, 2005. Available at: <http://www.cdc.gov/malaria/features/surveillance.htm>. Accessed April 10, 2006.
2. Centers for Disease Control and Prevention. Laboratory Diagnosis of Malaria in the United States. Available at: http://www.cdc.gov/malaria/features/malaria_lab_diagnosis.htm. Accessed April 10, 2006.
3. Mangold KA, Manson RU, Koay ESC, et al. Real-time PCR for detection and identification of *Plasmodium* spp. *J Clin Microbiol*. 2005;43(5):2435-2440.

For more information, please contact ViroMed Client Services at 800-582-0077.



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