MAYO CLINIC LABORATORIES

Test Definition: MALCT

Plasmodium Percent Parasitemia Reflex, Varies

Overview

Useful For

Calculating percent parasitemia, which can be used to predict prognosis and monitor response to treatment for patients with malaria

Testing Algorithm

Slides submitted for malaria parasitemia reflex are used for percent parasitemia analysis.

This test may be added to positive LCMAL / Malaria, Molecular Detection, PCR, Varies by physician request only.

Method Name

Only orderable as a reflex. For more information see LMALP / Malaria PCR with Parasitemia Reflex, Varies.

Giemsa Stain

NY State Available

No

Specimen

Specimen Type

Varies

Specimen Required

Only orderable as a reflex. For more information see LMALP / Malaria PCR with Parasitemia Reflex, Varies.

Reject Due To

All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

Specimen Stability Information

Specimen Type	Temperature	Time	Special Container
Varies	Refrigerated (preferred)	7 days	
	Ambient	7 days	

Clinical & Interpretive

Clinical Information

Malaria is a potentially life-threatening disease caused by *Plasmodium* species. Diagnosis is traditionally performed by

microscopic examination of Giemsa-stained thick and thin blood films. However, polymerase chain reaction (PCR) testing can also be used for sensitive and specific detection. When positive, PCR results should be followed by calculation of percent parasitemia from blood film examination. The degree of parasitemia is used to predict prognosis as well as monitor response to treatment for patients with malaria.

Reference Values

Only orderable as a reflex. For more information see LMALP / Malaria PCR with Parasitemia Reflex, Varies.

A percent parasitemia is provided following a positive result for LMALP / Malaria PCR with Parasitemia Reflex, Varies.

Interpretation

The percentage of parasitemia represents the percentage of infected red blood cells. This is calculated from representative microscopic fields on the thin blood film. *Plasmodium* gametocytes are not included in the calculation since they are not infectious to humans and are not killed by most antimalarial drugs.

Cautions

Since the degree of parasitemia may change rapidly due to natural parasite replication and administration of anti-malarial therapies, it is most useful to calculate the percentage of infected cells immediately after the blood is drawn and parasites are detected. A percent parasitemia calculated more than 8 hours after the blood is drawn will not accurately reflect the patient's current state of parasitemia.

Calculation of the percent parasitemia may not be possible if the parasites are degraded or have altered morphology due to age of the specimen or suboptimal transportation conditions.

In some cases of very low parasite burden, a specimen may be polymerase chain reaction positive, but no organisms are present on the thin film, and therefore it will not be possible to determine the percentage of infected red blood cells.

Clinical Reference

1. Centers for Disease Prevention and Control (CDC). Malaria. CDC. Updated August 19, 2022. Accessed November 17, 2022. Available at www.cdc.gov/malaria/
2. Swan H, Sloan L, Muyombwe A, et al: Evaluation of a real-time polymerase chain reaction assay for the diagnosis of malaria in patients from Thailand. Am J Trop Med Hyg. 2005 Nov;73(5):850-854
3. World Health Organization (WHO). Malaria. WHO. Updated July 26, 2022. Accessed November 17, 2022. Available at www.who.int/news-room/fact-sheets/detail/malaria

Performance

Method Description

The percentage of infected cells (percent parasitemia) is calculated by counting the number of infected red blood cells among 3000 to 100,000 red blood cells on the thin blood film. The result is expressed as a percentage (% parasitemia = number of infected red blood cells/total number of red blood cells counted x 100).(Unpublished Mayo method)

PDF Report

No

Day(s) Performed
Monday through Friday

Report Available
Same day/1 to 4 days

Performing Laboratory Location
Rochester

Fees & Codes

Fees
- Authorized users can sign in to Test Prices for detailed fee information.
- Clients without access to Test Prices can contact Customer Service 24 hours a day, seven days a week.
- Prospective clients should contact their Regional Manager. For assistance, contact Customer Service.

Test Classification
This test has been cleared, approved, or is exempt by the US Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information
87207

LOINC® Information

Test ID	Test Order Name	Order LOINC® Value
MALCT	Plasmodium Percent Parasitemia Rflx	53556-7

Result ID	Test Result Name	Result LOINC® Value
MALCT	Plasmodium Percent Parasitemia Rflx	53556-7