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**Lab Dept:** Hematology

**Test Name:** MALARIA PREP

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***General Information***

**Lab Order Codes:** MALP  
Note: MALAR orders both the rapid test and smear. [See Malaria, Rapid Test](#) for specific information on the rapid test.

**Synonyms:** Blood Parasite Smears; Microfilariae Smears; Malaria Smears; Babesia Smears; Leishmania Smears; Ehrlichia Smears

**CPT Codes:** 87207 – Smear; special stain for inclusion bodies or intracellular parasites  
87015 – Concentration (any type), for infectious agents  
85023 – Hemogram and platelet count, automated, and manual differential WBC count (CBC), if appropriate  
85025 – Hemogram and platelet count, automated, and automated complete differential WBC count (CBC), if appropriate  
85045 – Reticulocyte count, flow cytometry, if appropriate  
85044 – Reticulocyte count, manual, if appropriate

**Test Includes:** CBC, with automated or manual differential, reticulocyte count and preparation and review of thin and thick smears.

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***Logistics***

**Test Indications:** Useful for diagnosis of malaria, Ehrlichia, trypanosomiasis or microfilariasis, parasitic infestation of blood or evaluation of febrile disease of unknown origin.

**Lab Testing Sections:** Hematology

**Phone Numbers:** MIN Lab: 612-813-6280  
STP Lab: 651-220-6550

**Test Availability:** Daily, 24 hours

**Turnaround Time:** 2 - 4 days

**Special Instructions:** If patient's fever course is predictable, smears should be collected immediately before time of expected fever.

If fever is unpredictable, collect at the beginning of temperature rise.

NOTE: If the patient has traveled to a malaria endemic area, the date and destination of travel should be noted on the request form.

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## ***Specimen***

<b>Specimen Type:</b>	Whole blood or Smears
<b>Container:</b>	Lavender top tube (EDTA), Lavender Microtainer®, Slides
<b>Draw Volume:</b>	2 mL blood in a 2 mL Lavender top tube <b>OR</b> 0.5 mL in a EDTA Microtainer® <b>AND</b> Thin/Thick Smears
<b>Processed Volume:</b>	Same as Draw Volume
<b>Collection:</b>	Fill to mark on tube or Microtainer®. Mix thoroughly by gentle inversion.
<b>Special Processing:</b>	Lab Staff: Four thin peripheral blood smears (routine) and four thick blood preparations prepared by Hematology.  The thick preps are made by placing one drop of blood on a glass slide and then spreading the blood over the slide in a circle to the size of a nickel, then air drying well (12 hours).
<b>Patient Preparation:</b>	None
<b>Sample Rejection:</b>	Improper tube; clotted sample; underfilled tube; mislabeled or unlabeled specimens

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## ***Interpretive***

<b>Reference Range:</b>	No parasites present
<b>Critical Values:</b>	Presence of parasites
<b>Limitations:</b>	One negative result does not rule out the possibility of parasitic infestation. If parasitic infection is strongly suspected, test should be performed at least three times with samples collected at different times in the fever cycle.
<b>Methodology:</b>	Light Microscopy of Wright-Giemsa Stained Smears
<b>References:</b>	Brenan, JG, MS Alilio and A Mills (2004). Conquering the Intolerable Burden of Malaria: What's New, What's Needed: A Summary, American Journal of Tropical Medicine and Hygiene, 2004;71 (Suppl 2); 1-5

Centers for Disease Control (CDC) (2004). Treatment of Malaria (Guidelines for Physicians), 2004, June 28

Manual of Clinical Microbiology (2003), 8<sup>th</sup> edition. Plasmodium and Babesia, pp 1944-59

Titjtra, Emiliana, S Suprianto, J McBoon, BJ Currie and NM Antsey (2001). Persistent ICT Malaria P.f/P. v. Panmalarial and HRP2 Antigen Reactivity after treatment of Plasmodium falciparum. Malaria is Associated with Gametocytemia and Results in False-Positive Diagnoses of Plasmodium vivax in Convalescence, J of Clinical Microbiology, March 2001; 39: 1025-1031

Moody, Anthony (2002). Rapid Diagnostic Tests for Malaria Parasites, Clinical Microbiology Reviews, January 2002;15:66-78

Iqbal, J, A Sher and A Rab (2000). Plasmodium falciparum Histidine-Rich Protein 2- Based Immunocapture Diagnostic Assay for Malaria: Cross Reactivity with Rheumatoid Factors, J of Clinical Microbiology, March 2000: 38:1184-1186

Various [CDC Web Pages for Other Blood Parasites](#)

**Updates:**

9/18/2013: A CBC and Reticulocyte count will now be done with Malaria screens. MALAR will order both the Rapid Test and the Malaria Prep. Added additional references.

8/26/2014: Updated lab order code.