

Beaumont

Origination: 11/30/2021
Effective: 11/30/2021
Last Approved: 11/30/2021
Last Revised: 11/30/2021
Next Review: 11/30/2023
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Area: Laboratory-Hematology
Key Words:
Applicability: Royal Oak

Eosinophils in Urine Sediment Wright's Stain-RO

Document Type: Procedure

I. PURPOSE AND OBJECTIVE:

This procedure provides instructions on preparing, staining, and reading smears for eosinophils in urine sediment.

II. PRINCIPLE:

A Wright stained cytocentrifuge preparation of urine sediment is used to demonstrate eosinophils in urine. Bilobed eosinophils may be noted in patients with tubulointerstitial disease associated with hypersensitivity to drugs such as penicillin and its analogues. In addition, many red blood cells and some renal tubular epithelial cells may be found in this allergic interstitial nephritis condition.

III. ACRONYMS:

- A. Eosinophils (EOS)
- B. Revolutions per Minute (RPM)

IV. SPECIMEN COLLECTION AND HANDLING:

Type	Random urine
Amount	A. Minimum sample size is 10 mL. B. Optimum sample size is 50 mL.
Special Handling	Specimen must be well mixed before initial centrifugation. Specimen must be handled promptly as approximately 50% of leukocytes lyse rapidly in hypotonic or alkaline urine.
Timing	Specimen is stable for one hour at room temperature; three hours at 4°C.
Criteria for Unacceptable Specimens	Samples greater than 1 hour old (room temp) or 3 hours (refrigerated) may give unsatisfactory results.

V. SUPPLIES:

A. Reagents

1. 22% albumin

B. Equipment

1. 15 mL disposable conical centrifuge tube (Falcon™)
2. Centrifuge (Dynac III™)
3. Cytocentrifuge (Shandon™)
4. Cytospin chambers and absorbent blotter cards
5. Dispo transfer pipets and bulb
6. Glass slides
7. Wax pencil

VI. QUALITY CONTROL (QC):

Differential / staining QC is performed daily and documented on the appropriate log.

VII. PROCEDURE:

- A. Pour approximately 7-10 mL urine into a centrifuge tube.
- B. Spin for 5 minutes in standard centrifuge @ 1600 RPM.
- C. Decant supernatant into sink.
- D. Re-suspend sediment.
- E. Prepare two cytospin smears as follows:
 1. Add 1-2 drops of well-mixed sediment to each cytospin chamber.

NOTE: When the urine specimen is very cloudy, 1 or 2 drops of un-spun urine is used instead to avoid overly thick smears.

2. Add 1 drop of 22% albumin.
 3. Centrifuge chambers for 5 minutes at 1,000 rpm.
 4. Remove slides immediately after cytocentrifuge stops.
- F. Air dry slides.
 - G. Stain in usual manner with Wright's stain on Sysmex SP-1000i or Sysmex SP-50.
 - H. Examine smear under low power and high power.

VIII. EXPECTED VALUES:

- A. Eosinophil granules will stain a bright red color that appear shiny with fine focus adjustment.
- B. Report as:
 1. None seen (0%)

2. Rare (1-9%)
3. Few (10-40%)
4. Many (>40%)

C. To estimate eosinophils, locate an area that is well-stained and representative (50-100 cells) of the slide and count the number of eosinophils.

1. EXAMPLE: 3 eos/50 WBC = 6% eos = rare eos

IX. REFERENCES:

- A. Henry, JB. Clinical diagnosis and management by laboratory methods. 18th Ed. Philadelphia: WB Saunders Co, 1991:423.

Attachments

No Attachments

Approval Signatures

Step Description	Approver	Date
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