Beaumont Laboratory
Clinical Pathology
Royal Oak, MI 48073

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Related Documents:
SOP#, Title

URINALYSIS PROTOCOL FOR ANALYZING BLOODY SPECIMENS

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Principle

When a moderately bloody urine sample is received in Urinalysis, the specimen needs to be manually processed, because the blood will cause color interference with the Siemens Multistix reagent strip. Addition of 3% acetic acid at the time of microscopy will cause lysis of the red cells, allowing better visualization of yeast and helping in the differentiation of white cells from renal tubular epithelial cells.

Specimen Collection and Handling

Fresh, well-mixed, uncentrifuged urine. It is recommended that testing be done within one hour after voiding. Otherwise immediately refrigerate the specimen and return to room temperature before testing.

Reagents

Bayer Multistix 10 SG (#2161)

3% Acetic Acid—
In a 100 ml volumetric flask, add 3.0 ml of 100% Glacial Acetic Acid to 50 ml of deionized H_2O. Mix well (do not shake), once mixed QS to 100 ml with deionized H_2O. Using glass dropper bottles make 2-3 aliquots. Label aliquot bottles. Dispose of remaining 3% Acetic Acid. Store aliquots at room temperature. **Stable for 10 years**

Quality Control

Kova-Trol Normal and Abnormal

Procedure

1. Centrifuge the urine specimen
   a. If the supernatant is yellow or dark yellow, then process the specimen on the Clinitek 500.
   b. If the supernatant remains red, then dip the specimen by hand using Bayer Multistix. Do not run on the Clinitek 500 or IRICELL System.
      i. Report out the color, clarity and readable Multistix reactions. Note "color interference" or @1COL in SOFT, for any non readable tests.
      ii. Perform and report the following:
   Specific Gravity by refractometer
   Confirmatory test: SSA
2. Perform a manual microscopic exam of sediment
   Place one drop of urine sediment and one drop of 3% acetic acid on slide, cover with cover slip and read.

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Reportable Range

See Respective procedures for reportable ranges.

Reference Range

Specific Gravity	1.005-1.030
Nitrite	Negative
pH	5.0-8.0
Protein	Negative
Glucose	Negative
Ketones	Negative
Urobilinogen	<2.0 EU/dl
Bilirubin	Negative
Heme	Negative
Microscopic examination of sediment WBC RBC Hyaline Casts	 0-2 cells/hpf 0-2 cells/hpf 0-2 casts/lpf
Confirmatory Tests (if dipstick is positive) Qual. Protein Ictotest	 Negative Negative
Specific Gravity	1.005-1.030

Interfering Substances

Bloody specimens will cause color interference with the Bayer Multistix reagent strip.

References

Authorized Reviewers

Section Medical or Technical Director

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Document Control

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Document History

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Approved by: Elizabeth Sykes, MD	02/12/1998			
Reviewed by: (Signature)	**Date**	**Revision #**	**Modification**	**Related Documents Reviewed/ Updated**
Elizabeth Sykes, MD	02/12/1998			
Elizabeth Sykes, MD	02/24/1999			
Elizabeth Sykes, MD	01/15/2001			
Elizabeth Sykes, MD	12/11/2001		Revised 11/2001	
Elizabeth Sykes, MD	01/06/2003			
Elizabeth Sykes, MD	01/14/2004			
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Prepared by: Myrna Harbar, MT (ASCP)	01/04/2006	r00	Prepared by: Myrna Harbar, MT (ASCP)	
Elizabeth Sykes, MD	01/07/2006		Elizabeth Sykes, MD	
Elizabeth Sykes, MD	12/18/2006			
Elizabeth Sykes, MD	12/17/2007			
Elizabeth Sykes, MD	01/09/2009			
Revised by: Sharon Bass, MT (ASCP)/ Myrna Harbar, MT (ASCP	08/20/2009			
Elizabeth Sykes, MD	08/20/2009			
Elizabeth Sykes, MD	01/08/2010			
Elizabeth Sykes, MD	01/03/2011			
Elizabeth Sykes, MD	02/16/2012			
Elizabeth Sykes, MD	07/07/2014	r02	Removed Ictotest, remove Mysis terminology, added SOFT resulting @1COL color interference	
Revised by: Myrna Harbar E. Sykes, MD	06/24/2015 07/09/2015		Changed the procedure to centrifuging the specimen before processing	
Revised by: Myrna Harbar	12/01/2015	r04	Removed references to the clinitest testing and changed Bayer to Siemens	
Elizabeth Sykes, MD	12/01/2015			

Elizabeth Sykes, MD	10/24/2017			
Peter Millward, MD	9/25/2018			
	11/19/2019	**r05**	Updated reference ranges and methodologies available	