

## SER: Feces Examination

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**Introduction** Suspected fecal stains are evaluated using their macroscopic features, microscopic features, and a chemical test.

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**Equipment and supplies** This procedure uses the following laboratory equipment and supplies:

- compound microscope
  - pipettes
  - pipette tips
  - microscope slides
  - test tubes
  - cover slips
  - ultraviolet light
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**Quality control** The reagents must be tested on a positive control (feces) and a negative control (water) each day of use. The results of these tests are recorded in the examination documentation.

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**Macroscopic features** The macroscopic features of fecal material are a characteristic brown color and characteristic odor.

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**Microscopic features** Use the following procedure to perform a microscopic examination of possible fecal material.

Step	Action
1	Extract the stain cutting (approximately 5 mm x 5 mm) or swab (approximately one quarter) in 2 or 3 drops of deionized water.
2	Place a drop of extract on a microscope slide.
4	Add a cover slip.
4	Examine using a compound microscope.

The presence of plant cells, muscle fibers, body cells, bacteria, or yeast indicates that the sample is consistent with feces.

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## SER: Feces Examination, Continued

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### Reagents

The following procedure uses the following reagents:

- 10% alcoholic mercuric chloride
    - Dissolve 10 g of mercuric chloride in enough methanol to make 100 mL.
  - Amyl alcohol
  - 10% alcoholic zinc chloride
    - Dissolve 10 grams of zinc chloride in enough methanol to make 100 mL.
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### Urobilinogen chemical test

Urobilinogen is a chromagen formed in feces which, when oxidized and reacted with zinc chloride, fluoresces. Use the following procedure to perform the chemical test for urobilinogen.

Step	Action
1	Remove an area from the suspected stain.
2	Extract the stain in 2-3 drops of deionized water.
3	Place 2-3 drops of the aqueous stain extract in a test tube.
4	Add 2-3 drops of <i>10% alcoholic mercuric chloride</i> .
5	Add a volume of <i>Amyl alcohol</i> equal to the water and shake.
6	Transfer the supernatant to another test tube and add 2-3 drops of <i>10% alcoholic zinc chloride</i> .
7	Examine using an ultraviolet light.

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### Interpretation

An apple-green fluorescence indicates a positive (+) result for the presence of urobilinogen.

The absence of apple-green fluorescence indicates a negative (-) result for the presence of urobilinogen.

NOTE: Urobilinogen may be absent in feces from infants under 6 months of age.

The presence of feces is identified when a sample is macroscopically and microscopically consistent with feces and a positive result to the chemical test is obtained.

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