



TECHNICAL NOTICE

SOUTH BEND MEDICAL FOUNDATION

June 2009

Lactoferrin in Feces

Effective Date: July 1, 2009

Performing Department: Hematology

Method: • Immunochromatography (Leuko EZ Vue™)

Use: Detection of elevated levels of lactoferrin in feces as an indicator of an inflammatory process

Note: This test replaces #25026 Polymorphonuclear Leukocytes, Feces, a microscopic examination.

The Leuko EZ Vue™ test, a rapid, immunochromatography technology, overcomes non-standardized, time-sensitive and subjective issues associated with microscopy techniques.

Clinical Significance:

Diarrheal diseases represent one of the major causes of morbidity throughout the world. Acute diarrheal illness is second only to acute upper respiratory illness in frequency. In developed countries, people experience one to three illnesses per year on average due to gastrointestinal pathogens. Diarrheal diseases are caused by different pathogens ranging from viruses to bacteria to parasites. Many of these pathogens have only been recognized in the last two decades and the diagnosis is very complicated and expensive.

Diarrheal diseases can be classified into inflammatory and non-inflammatory diarrhea. Non-inflammatory diarrheas include those caused by viruses and most parasites and are, for the most part, effectively treated with simple oral rehydration therapy. Inflammatory diarrheas, on the other hand, tend to be more serious and need to be followed up by more extensive testing. This type of diarrhea is caused by pathogens such as *Shigella*, *Salmonella*, *Campylobacter jejuni* and *Clostridium difficile*.

In inflammatory diarrheas, leukocytes are found in feces in large numbers. The determination of fecal leukocytes by microscopy has been a procedure used by many clinical laboratories to identify inflammatory diarrheas. However, this method has disadvantages. Microscopy is not standardized and specimens must be examined within minutes of collection to be accurate. The test can be difficult to interpret and storage of specimens overnight before examination may result in lower sensitivity due to cell lysis. Some enteric pathogens, such as *Clostridium difficile*, produce toxins that lyse leukocytes and other cells. As a result, leukocytes may not be visible late in the infection even though there is severe inflammation.

The Leuko EZ Vue™ assay detects elevated levels of lactoferrin, an indicator of an inflammatory process, in feces. Lactoferrin is very stable and is not degraded during infections by the toxins of pathogens such as *C. difficile*.

Reference Range: Negative

Specimen Requirements and Collection:

Preferred Specimen: • Liquid feces (preferred) or semi-solid feces in clean plastic container with tightly fitting lid

Note: Do not submit samples in preservatives or fixatives

Requested Volume: • 0.5 mL liquid feces –or– 0.5 g semi-solid feces

Minimum Volume: • 0.2 mL liquid feces –or– 0.2 g semi-solid feces

Stability: • 2 weeks refrigerated (2-8°C) • Greater than 2 weeks, freeze (-20°C)

Storage/Transport: • Refrigerated

Rejection Criteria:

- Sample collected in transport media
- Samples in 10% formalin, merthiolate formalin, sodium acetate formalin, polyvinyl alcohol or other fixatives

Testing Schedule: • Sunday–Saturday (daily)

Order: • Lactoferrin, Feces Test #: 28247 CPT: • 83630

Please direct questions or comments regarding this notice to William J. Kaliney, M.D., Deborah H. Sun, Ph.D., or Julie Sommers, South Bend Medical Foundation, (574) 234-4176 or (800) 544-0925.

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