



Occult Blood

Liquid Stable Reagent
Kastel - Meyer method
Store at 2-8°C

PRINCIPLE OF THE METHOD

The reduced phenolphthalein by zinc is colorless in alkaline solution, in the presences of hydrogen peroxide and the peroxidase of the red cell oxidize the phenolphthalein to give pink color.

CLINICAL SIGNIFICATION

The kastel-Meyer test is inexpensive, easy and reliable forensic method, it detects the presence of microscopic or invisible blood in the stool, or feces fecal.

Occult blood can be a sign of a problem in the digestive system, such as a growth, or polyp, or cancer in the colon or rectum. If microscopic blood is detected, it is important to determine the source of bleeding to properly diagnose and treat the problem.

Blood may appear in the Benign (noncancerous) or malignant (cancerous) growths or polyps of the colon, Hemorrhoids (swollen blood vessels near the anus and lower rectum that can rupture causing bleeding), Anal fissures (splits or cracks in the lining of the anal opening), Intestinal infections that cause inflammation, Ulcers, Ulcerative colitis, Crohn's disease, Diverticular disease, caused by outpouchings of the colon wall, Abnormalities of the blood vessels in the large intestine, Meckel's diverticulum, usually seen in children and young adults

Gastrointestinal bleeding may be microscopic (occult blood), or may be easily seen as red blood, or black tar-like bowel movements, called Melena.

SAMPLES

- ❖ **Fresh Stool**
- ❖ The samples are collected in a clean container and evaluated by detecting color change on a test.
- ❖ The fecal occult blood test results are largely affected by how you prepare the test, so it is important to follow the instruction carefully.
- ❖ Do not perform the test if you have: Diarrhea, Colitis, Constipation, Diverticulitis, Ulcers, Hemorrhoid flare-ups, Your period
- ❖ Special diet is often recommended before the test. Certain foods can alter this test result, The following foods should not be eaten 48 to

Broccoli , Cantaloupe, Carrots, Cauliflower, Cucumbers, Grapefruit, Horseradish, Mushrooms, Radishes, Red meat (Especially meat that is cooked rare), Turnips, Vitamin C.

- ❖ The fecal occult blood test requires the collection of three stool samples. The stool samples should be taken one day apart, because colon cancers may bleed from time to time, rather than consistently.

REAGENT

R1:

KOH	200g/L
Phenolphthalein	20g/L

R2:

H ₂ O ₂	30 Volume
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The reagents are ready to use and stable up to the date of expiration.

PROCEDURE

1. Dilute the stool 1/4 by distilled water and mix well..
2. Centrifuge the mixture at 5000 rpm for 5minutes.
3. Take 2ml for the clear supernatant and add 1ml of R1.
4. Mix well and wait 30 seconds
5. Add 2 drops of R2 and wait for 10 seconds.

RESULT

Dark Pink	+++
Pink	++
Slightly Pink	+
Slightly Rose	+/-
No Color	-

OBSERVATION

1. The color is stable for 3min.
2. The water in the first step help to expose hemoglobin in blood and increase the sensitivity of the test.
3. The Kastle Meyer blood test is an extremely sensitive test, capable of detect blood dilution as low as 1.10⁻⁷
4. The test will give a false positive result in the presence of an oxidizing agent in the test.
5. The test does not differentiate between blood

