MODIFIED SAF TRANSPORT MEDIUM

- For in vitro use only - Catalogue No. F03

Our Modified SAF (Sodium acetate-Acetic Acid-Formalin) Transport Medium is used for the fixation of stool specimens and will preserve helminth eggs and larvae, protozoan trophozites and cysts, and coccidian oocysts and microsporidian spores.

Yang and Scholten first described the use of SAF for fixation of stool specimens in 1974 and again in 1977. There are numerous advantages in using SAF in comparison to other similar fixatives such as PVA (polyvinyl alcohol) and Shaudinn's Fluid. First, SAF does not contain mercuric chloride like the others, making it a safer alternative for laboratory technicians, also SAF lends itself to multiple procedures including wet mount examination, concentration procedure, and permanent stained smears. The flexibility in specimen preparation makes it a convenient choice for lab technologists, as a permanent stained slide is mandatory for a complete parasitic examination. Also, SAF is suitable for acid-fast, safranin, and chromotrope stains, and is compatible with immunoassay kits.

If a specimen can be transferred directly to the laboratory than fixation in SAF is not necessary, but examination of liquid specimens must be carried out within 30 minutes of passage, and soft specimens should be examined within one hour of passage. Sometimes immediate processing of the specimen isn't feasible due to a backlog of work in the laboratory, or due to lengthy transport times, and in such instances fixation of the specimen becomes a necessity. Fixation with SAF will preserve protozoan morphology and prevent the further development of helminth eggs and larvae. SAF should be used with Mayer's albumin when performing stained smears to increase adherence of the sample to the slide. Typically, the organism morphology will be less sharp after staining than mercury-containing fixatives, but more than appreciable for normal diagnostic use by medical laboratories while removing the toxicological issues associated with mercury.

Formula per Litre of Medium

Sodium Acetate	12.6 g
Acetic Acid	20.0 mL
Formaldehyde	40.0 mL
Triton X100	1.0 mL

Recommended Procedure

Specimen Collection

1. Collect the stool in a dry, sterile, wide-mouthed container and ensure that the sample does not come in contact with extraneous material such as urine, water or toilet paper. (Collection of specimens should always be performed prior to use of laxatives, antacids, mineral oil, barium, bismuth, antimalarials, and antibiotics, which may interfere with parasite detection)
2. Transfer a sufficient portion of the stool sample using the spork built into the lid until the 25 mL mark is reached. This will ensure that the appropriate three to one ratio of fixative to sample is achieved.
3. Use the spork to crush solid portions of formed stool. Cap the container tightly and shake until the sample is thoroughly incorporated.
4. Transport the container to the laboratory and ensure that the specimen is allowed to fix in SAF for 1 hour prior to processing.
5. Specimen collection may need to be repeated if the first examination is negative. If possible, three specimens passed at intervals of 2 to 3 days should be examined prior to treatment

Specimen Processing

1. Place a drop of Mayer's Albumin on a clean glass slide.

2. Mix a portion of the sediment from the concentration procedure or directly from the SAF-preserved specimen with the drop of albumin on the slide.
3. Spread the mixture over the slide to form a thin film.
4. Allow the thin film to dry for 5 to 10 minutes at room temperature.
5. Immerse the slide in 70% ethanol for 20 to 25 minutes until the albumin coagulates.
6. Stain the slide preparation using an appropriate stain and following proper protocol.
7. Examine stained slide for the presence of parasitic structures.

Interpretation of Results

Pease refer to appropriate references for typical appearance of stained parasitic structures and cysts. Additional tests may be necessary to confirm the identity of the parasite.

- *Every fecal specimen represents a potential source of infectious material and should be handled accordingly*

- *Entamoeba coli cysts may not fix well in the SAF procedure, making it difficult to see them on a stained smear*

- *More than one stool specimen should be examined before reporting a patient as negative since many organisms do not appear in fecal specimens in consistent numbers on a daily basis*

Storage and Shelf Life

Our SAF Transport Medium should be stored at room temperature and protected from light. Under these conditions the medium has a shelf life of 78 weeks from the date of manufacture.

References

1. Scholten TH. An improved technique for the recovery of intestinal protozoa. J Parasitol 1972; 58:633.
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4. Garcia LS, Bruckner DA. Diagnostic Medical Parasitology. New York: Elsevier, 1988.
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6. Murray PR, Baron EJ, Pfaller MA, Tenover FC, Yolken RH. Manual of clinical microbiology. 7th ed. Washington, DC: ASM, 1999.

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