

KF STREPTOCOCCUS AGAR (7610)

Intended Use

KF Streptococcus Agar is used with triphenyltetrazolium chloride for the selective isolation and enumeration of fecal streptococci in a laboratory setting. KF Streptococcus Agar is not intended for use in the diagnosis of disease or other conditions in humans.

Product Summary and Explanation

KF Streptococcus Agar was developed by Kenner, Clark, and Kabler¹ for the detection of fecal streptococci in surface waters. KF Streptococcus Agar is currently used in detecting fecal streptococci in water, foods, and other materials through the membrane filtration technique or pour plate method. Fecal streptococci are normal inhabitants in the intestines, and the presence of fecal streptococci can be used as an indication of fecal contamination. The presence of fecal streptococci is of value in determining pollution sources because certain fecal streptococci are host-specific.

KF Streptococcus Agar is recommended in standard methods for food and water testing.^{2,3}

Principles of the Procedure

Enzymatic Digest of Animal Tissue is the nitrogen and carbon source in KF Streptococcus Agar. Yeast Extract provides vitamins and trace elements in the medium. Sodium Chloride is used to maintain the osmotic balance, and Sodium Glycerophosphate is a buffering agent. Maltose and Lactose are the fermentable carbohydrates and metabolized by most fecal streptococci. Sodium Azide is the selective agent, suppressing Gram-negative organisms. Acid formation is detected by Bromcresol Purple, and indicated by a color change from purple to yellow.

The supplement, 1% Triphenyltetrazolium Chloride (TTC), is a stain that is absorbed by actively metabolizing bacterial cells, resulting in the development of pink to red colonies.

Formula / Liter

Enzymatic Digest of Animal Tissue.....	10 g
Yeast Extract.....	10 g
Sodium Chloride	5 g
Sodium Glycerophosphate.....	10 g
Maltose	20 g
Lactose	1 g
Sodium Azide.....	0.4 g
Bromcresol Purple	0.015 g
Agar	20 g

Final pH: 7.2 ± 0.2 at 25°C

Formula may be adjusted and/or supplemented as required to meet performance specifications.

Supplement

1% Triphenyltetrazolium Chloride
(TTC)

Precautions

1. For Laboratory Use Only.
2. HARMFUL. Harmful if swallowed. Irritating to eyes, respiratory system, and skin.

Directions

1. Suspend 76.4 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Cool to 45 to 50°C.
4. Aseptically add 10 mL of a filter sterilized solution of 1% Triphenyltetrazolium Chloride. Mix well.

Quality Control Specifications

Dehydrated Appearance: Powder is homogeneous, free flowing, and light gray green to light beige to tan.

Prepared Appearance: Prepared medium is trace to slightly hazy and purple.

Expected Cultural Response: Cultural response on KF Streptococcus Agar incubated aerobically at 35 ± 2°C and examined for growth after 46 - 48 hours.

Microorganism	Approx. Inoculum (CFU)	Expected Results	
		Growth	Reactions
<i>Enterococcus faecalis</i> ATCC® 19433	10 - 300	Good	Red centered colonies
<i>Enterococcus faecalis</i> ATCC® 29212	10 - 300	Good	Red centered colonies
<i>Escherichia coli</i> ATCC® 25922	1000	Inhibited	----

The organisms listed are the minimum that should be used for quality control testing.

Test Procedure

Refer to appropriate references for instructions on specific material being tested for fecal streptococci.

Results

Fecal streptococci will appear as red centered colonies.

Storage

Store sealed bottle containing the dehydrated medium at 2 - 30°C. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light by keeping container tightly closed.

Expiration

Refer to expiration date stamped on the container. The dehydrated medium should be discarded if not free flowing, or if appearance has changed from the original color. Expiry applies to medium in its intact container when stored as directed.

Limitations of the Procedure

1. Due to varying nutritional requirements, some strains may be encountered that grow poorly or fail to grow on this medium.
2. Many strains of *S. bovis* and *S. equinus* are inhibited by azide.

Packaging

KF Streptococcus Agar	Code No.	7610A	500 g
		7610B	2 kg
		7610C	10 kg

References

1. Kenner, B. A., H. F. Clark, and P. W. Kabler. 1961. Fecal streptococci. Cultivation and enumeration of streptococci in surface waters. *Appl. Microbiol.* 9:15.
2. Donnelly, C. W., R. E. Bracket, D. Doores, W. H. Lee, and J. Lovett. 1992. Compendium of methods for the microbiological examination of foods, 3rd ed. American Public Health Association, Washington, D.C.
3. Bordner, R., and J. Winter. 1978. Microbiological methods for monitoring the environment, water, and wastes. EPA, Cincinnati, OH.

Technical Information

Contact Acumedia Manufacturers, Inc. for Technical Service or questions involving dehydrated culture media preparation or performance at (517)372-9200 or fax us at (517)372-2006.