

## KF Streptococcus Agar (NCM0074)

### 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.

### Description

KF Streptococcus Agar was developed by Kenner, Clark, and Kabler 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.

### Typical Formulation

|                                   |           |
|-----------------------------------|-----------|
| Enzymatic Digest of Animal Tissue | 10.0 g/L  |
| Yeast Extract                     | 10.0 g/L  |
| Sodium Chloride                   | 5.0 g/L   |
| Sodium Glycerophosphate           | 10.0 g/L  |
| Maltose                           | 20.0 g/L  |
| Lactose                           | 1.0 g/L   |
| Sodium Azide                      | 0.4 g/L   |
| Bromocresol Purple                | 0.015 g/L |
| Agar                              | 20.0 g/L  |

### Supplement

1% Triphenyltetrazolium Chloride (TTC)

Final pH: 7.2 ± 0.2 at 25°C

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

### Precaution

Refer to SDS

### Preparation

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                   | Completely 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.

### 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.

### 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.

### 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. 2015. *Compendium of methods for the microbiological examination of foods*, 4<sup>th</sup> 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.