Fastidious Anaerobe Agar (NCM0014)

Intended Use
Fastidious Anaerobe Agar is used for the cultivation of anaerobic microorganisms and is not intended for use in the diagnosis of disease or other conditions in humans.

Description
A primary isolation medium capable of growing most clinically significant anaerobes. Developed by Lab M (Neogen Corporation), comparisons have shown this medium to be superior to other formulations as a primary isolation medium for fastidious organisms. The peptones included have been chosen for maximum growth stimulation. Starch and sodium bicarbonate act as de-toxification agents while hemin encourages pigment production in *Porphyromonas melaninogenicus.* Specific growth promoting agents are Cysteine for *Fusobacterium necrophorum, Propionibacterium acne* and *Bacteriodes fragilis,* arginine for *Eubacterium* spp. soluble pyrophosphate for *Porph. gingivalis* and *Porph. asaccharolyticus.* Pyruvate helps neutralize hydrogen peroxide and is also utilized by *Veillionella* spp. as an energy source. Vitamin K and sodium succinate provide essential growth factors for some anaerobes as does the 0.1% glucose. The low level of glucose prevents the production of high levels of acids and alcohols which would inhibit colonial development.

Typical Formulation

Peptone Mix	23.0 g/L
Sodium Chloride	5.0 g/L
Soluble Starch	1.0 g/L
Agar	12.0 g/L
Sodium Bicarbonate	0.4 g/L
Glucose	1.0 g/L
Sodium Pyruvate	1.0 g/L
Cysteine HCl Monohydrate	0.5 g/L
Hemin	0.01 g/L
Vitamin K	0.001 g/L
L-Arginine	1.0 g/L
Soluble Pyrophosphate	0.25 g/L
Sodium Succinate	0.5 g/L

Final pH: 7.2 ± 0.2 at 25°C
Formula may be adjusted and/or supplemented as required to meet performance specifications.

Precaution
1. Refer to SDS

Preparation
1. Suspend 46 grams of the medium and add to 1 liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.
4. Prepare 7% blood agar by aseptically adding the appropriate volume of sterile defibrinated blood to melted sterile agar medium, cooled to 45-50°C.

Test Procedure
Consult appropriate references for the isolation and identification of anaerobic bacteria.

Quality Control Specifications
Dehydrated Appearance: Powder is homogeneous, free flowing, and pale yellow

Effective Date: 8/1/2018
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Prepared Appearance: Prepared medium supplemented with 7% defibrinated blood is opaque, no precipitate and dark blood red.

Expected Cultural Response: Cultural response on Fastidious Anaerobe Agar supplemented with blood and incubated at 37 ± 1ºC under anaerobic atmosphere and examined for growth after 2-5 days.

MICROORGANISM	ATCC	APPROX. INOCULUM (CFU)	EXPECTED RESULTS
Bacteroides fragilis	25285	80-120	>70%
Clostridium perfringens	13124	4 Quad Streak	Growth
Peptostreptococcus anaerobius	27337	80-120	>70%
Fusobacterium necrophorum	25286	4 Quad Streak	Growth
Prevotella loescheii	15930	4 Quad Streak	Growth
Veillonella parvula	10790	4 Quad Streak	Growth
Porphyromonas asaccharolytica	25260	4 Quad Streak	Growth
Clostridium sporogenes	19404	4 Quad Streak	Growth

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

Results
Refer to appropriate references for results.

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

Limitations of the Procedures
Due to nutritional variation, some strains may be encountered that grow poorly or fail to grow on this medium.

Storage
Store dehydrated culture media at 2-30°C away from direct sunlight. 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

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5. Wade W. Griffiths, M. (1987). Comparison of Media for cultivation of subgingival bacteria. J. Dent. Res. 66: no. 4 abstract 334. Higginbotham., Fitzgerald T.C., Andrade. (1990). Comparison of solid media for the culture of anaerobes. J. Clin. Path. 43: 253-256.

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