Fastidious Anaerobe Agar (F.A.A.)

LAB 90

Description
A primary isolation medium capable of growing most clinically significant anaerobes. Developed by Lab M, 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 whilst haemin 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 neutralise hydrogen peroxide and is also utilised 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.

Formula	g/litre
Peptone mix	23.0
Sodium chloride	5.0
Soluble starch	1.0
Agar No. 2	12.0
Sodium bicarbonate	0.4
Glucose	1.0
Sodium pyruvate	1.0
Cysteine HCl monohydrate	0.5
Haemin	0.01
Vitamin K	0.001
L-Arginine	1.0
Soluble pyrophosphate	0.25
Sodium succinate	0.5

Method for reconstitution
Weigh 46 grams of powder and add to 1 litre of deionised water. Allow to soak for 10 minutes, swirl to mix then sterilise by autoclaving at 121°C for 15 minutes. Cool to 47°C then aseptically add 5-10% of sterile defibrinated horse blood, mix well and pour into Petri dishes. This medium can be made selective for various species of anaerobes by the addition of appropriate selective cocktails e.g.

Gram negative anaerobes X090, X290

Non-sporing anaerobes X091, X291

Actinomyces spp. X092

Clostridium difficile X093

Appearance: Red due to addition of blood. The blood will darken (reduce) because of the presence of reducing agents.

pH: 7.2 ± 0.2

Minimum Q.C. organisms: *B. fragilis*
P. anaerobious

Storage of Prepared Medium: Plates – up to 7 days at 2-8°C in the dark.

Inoculation: Surface plating, streaking out to single colonies.

Incubation: 37°C anaerobically with 10% CO_2 for 48 hours to 5 days.

Growth Characteristics				
organism	**colony size (mm)**	**shape & surface**	**colour**	**other**
B. fragilis	1.0-2.0	CV.E.G.	Grey	
C. perfringens	1.0-2.0	CV.E.G.	Grey	'Target' haemolysis (non haemolytic)
F. necrophorum	1.0-2.0	CV.E.G.(D)	trans- parent	(grey) (haemolytic)
Porphyromonas asaccharolyticus	1.0-2.0	CV.E.G.	Grey/Brown	(clearing)
B. ureolyticus	0.5	F.E.D.	translucent	pitting
Prop. acne	0.5	CV.E.G.	White	
Pept. anaerobius	0.5-2.0	CV.E.G.	White/Grey	
A. israeli	0.5-1.0	CV.E.G.	White	('molar tooth')(smooth)

References

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