

Technical Information

E E Broth, Mossel

Product Code: DM1287I

Application: - Cystine Tryptone Agar is recommended for maintenance, subculturing, detection of motility etc. With added carbohydrates, it can be also used for fermentation reactions of fastidious organisms.

Composition**

Ingredients	Gms / Litre
Peptic digest of animal tissue	10.000
Dextrose	5.000
Ox-bile, purified	20.000
Disodium phosphate	6.450
Monopotassium phosphate	2.000
Brilliant green	0.0 15
Final pH (at 25°C)	7.2±0.2

**Formula adjusted, standardized to suit performance

Principle & Interpretation

EE Broth, Mossel devised by Mossel et al ⁽¹⁾ is recommended as an enrichment medium for isolated of member of family *Enterobacteriaceae* in bacteriological examination of foods ⁽¹⁾ and animal feed stuffs ⁽²⁾. EE Broth Mossel (DM1287I) differs from EE Broth Mossel (DM1287) in the concentration of brilliant green used.

Peptic digest of animal tissue and dextrose allow the growth of most of the members of *Enterobacteriaceae*. Brilliant green and ox-bile, purified are the selective agents for gram-positive bacteria. Lactose negative, anaerogenic lactose-positive or late lactose fermenting members of family *Enterobacteriaceae* are often missed by the standard Coli-aerogenes test. To overcome this problem, lactose is replaced by dextrose in the media. Phosphates form the buffering system of the medium.

Prior to enrichment in EE Broth, Mossel. Cells damaged while drying or by low pH are resuscitated in well-aerated Tryptone Soya Broth (DM1011) for 2 hours at 25°C The resuscitation procedure is recommended for dried foods ⁽³⁾, animal feeds ⁽⁴⁾ and semi-preserved foods ⁽⁵⁾. EE Broth, Mossel is an enrichment broth and should be used in conjunction with Violet Red Bile Glucose Agar (DM1581). Subcultures must be made onto lactose differential media as MacConkey Agar (DM1081), Deoxycholate Citrate Agar (DM1065) or Brilliant Green Agar (DM1016) for the detection of lactose negative or delayed lactose fermenters. This is used to inoculate MPN tubes prepared using EE Broth. Inoculate a loopful from these tubes onto Violet Red Bile Glucose Agar (DM1581) after an initial incubation at 35-37°C for 24 hours. Typical pink colonies from DM1581 are subcultured for biochemical confirmation by oxidase and fermentation reactions. Tenfold dilutions of the food homogenate are used if the expected counts are high or else initial suspension is used.

Methodology

Suspend 43.46 grams of powder media in 1000 ml distilled water. Shake well & dispense 120 ml amounts in 250 ml flasks or 9 ml amounts in tubes. Stopper with cotton plugs or loose fitting caps. Heat in free flowing steam or boiling water for 30 minutes. Avoid overheating of the medium. DO NOT AUTOCLAVE.

Quality Control

Physical Appearance

Light yellow to greenish yellow homogeneous free flowing powder

Colour and Clarity of prepared medium

Emerald green coloured, clear solution without any precipitate

Reaction: Reaction of 4.35% w/v aqueous solution at 25°C. pH : 7.2±0.2

pH range: 7.0-7.4

Cultural Response/ characteristics

M2871: Cultural characteristics observed after an incubation at 35 - 37°C for 20 - 24 hours.

Organism	Inoculum (CFU)	Growth	Acid
Escherichia coli ATCC 25922	50-100	luxuriant	Positive reaction, yellow colour
Enterobacter aerogenes ATCC 13048	50-100	luxuriant	Positive reaction, yellow colour
Proteus mirabilis ATCC 25933	50-100	luxuriant	Positive reaction, yellow colour
Salmonella Enteritidis ATCC 13076	50-100	luxuriant	Positive reaction, yellow colour
Shigella boydii ATCC 12030	50-100	luxuriant	Negative reaction, no colour change
Staphylococcus aureus ATCC 25923	>=10 ³	inhibited	

Escherichia coli ATCC 8739

Pseudomonas aeruginosa ATCC 9027

Staphylococcus aureus ATCC 6538

Escherichia coli ATCC 25922

Escherichia coli NCTC 9002

Pseudomonas aeruginosa ATCC 27853

Enterobacter aerogenes ATCC 13048

Proteus mirabilis ATCC 25933

Salmonella Enteritidis ATCC 13076

Shigella boydii ATCC 12030

Staphylococcus aureus ATCC 25923

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.

Prepared Media: 2-8° in sealable plastic bags for 2-5 days.

Further Reading

1. Mossel D.A.A., Vissar M. and Cornellsen A.M.R., 1963, J. Appl. Bact., 26(3):444.
2. Van Schothurst M., et al, 1966, Vet Med., 13(3):273.
3. Mossel D.A.A. and Ratto M.A., 1970, Appl. Microbiol., 20:273.
4. Mossel D.A.A. and Shennan J.L. and Clare V., 1973, J. Sci. Fd. Agric., 24: 499.
5. Mossel D.A.A., Ratto M.A., 1973, J. Fd. Technol., 8: 97.

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