

## Technical Information

### CAL MiVeg Broth (Cellobiose Arginine Lysine MiVeg Broth)

#### Product Code :VM1894

**Application:-** CAL (Cellobiose Arginine Lysine) MiVeg Broth is a selective media used for isolation and biochemical differentiation of *Yersinia enterocolitica*.

#### Composition

Ingredients	Gms / Litre
Yeast extract	3.00
Sodium chloride	5.00
Cellobiose	3.50
L-Arginine	6.50
L-Lysine hydrochloride	6.50
Synthetic detergent No. III	1.50
Neutral red	0.03
Final pH ( at 25°C)	7.1±0.2

\*\* Formula adjusted, standardized to suit performance parameters.

#### Principle & Interpretation

CAL MiVeg Broth is prepared by using Syntheticdetergent No. III instead of sodium deoxycholate which makes the media free from BSE/TSE risks.

This media is the modifications of CAL Broth which is prepared according to the formula described by Dudley and Shotts (1) for selective isolation and biochemical differentiation of *Yersinia enterocolitica*.

It contains cellobiose which serve as fermentable carbohydrate. Amino acids L-Arginine and L-Lysine are also incorporated in the medium. CAL Broth is a differential medium as it differentiates *Yersinia* on the basis of cellobiose fermentation and arginine or lysine decarboxylation (2). This media serves the same above mentioned purpose. Neutral red is the pH indicator which turns red under acidic condition. Yeast extract supplies the necessary nutrients to the organisms while sodium chloride maintains the osmotic equilibrium. Gram-positive bacteria are inhibited by Synthetic detergent No. III & which avoid contamination during cultivation.

#### Methodology

Suspend 26 grams of powder media in 1000 ml distilled water. Mix thoroughly. Heat to boiling to dissolve the medium completely. DO NOT OVERHEAT OR AUTOCLAVE. Dispense as desired.

#### Quality Control

##### Physical Appearance

Pinkish beige coloured, homogeneous, free flowing powder.

##### Colour and Clarity of prepared medium

Red coloured, clear solution in tubes.

##### Reaction

Reaction of 2.6 % w/v aqueous solution pH: 7.1 ±0.2 at 25°C

##### pH range

6.9-7.3

##### Cultural Response/Characteristics

Cultural characteristics observed after an incubation at 35-37°C for 18-48hours

Organisms (ATCC)	Inoculum (CFU)	Growth	Recovery	Cellobiose	Arginine	Lysine
<i>Yersinia enterocolitica</i> (27729)	10 <sup>2</sup> -10 <sup>3</sup>	good-luxuriant	>50%	+	-	-



Dehydrated Culture Media  
Bases / Media Supplements

<i>Escherichia coli</i> (25922)	10 <sup>2</sup> -10 <sup>3</sup>	good	>30%	-	v	v
<i>Pseudomonas aeruginosa</i> (27853)	10 <sup>2</sup> -10 <sup>3</sup>	good	>30%	-	-	+
<i>Proteus mirabilis</i> (25933)	10 <sup>2</sup> -10 <sup>3</sup>	good	>30%	-	-	-

Key : + = positive reaction  
— = negative reaction  
v = variable

## 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. Dudley M.V. and Shotts E.B., 1979, J. Clin. Microbiol., 10(2):180.
2. MacFaddin J.F., 2000(ed), Biochemical Tests for Identification of Medical Bacteria, 3<sup>rd</sup> edition, Lippincott Williams and Wilkins, New York.

## Disclaimer :

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