

TM 1153 – CAL BROTH (CELLOBIOSE ARGININE LYSINE BROTH)

INTENDED USE

For isolation and biochemical identification of *Yersinia enterocolitica*.

PRODUCT SUMMARY AND EXPLANATION

Yersinia enterocolitica is a significant invasive enteric pathogen belonging to the family Enterobacteriaceae, which causes several well-recognized diseases especially in younger persons and several uncommon post-infection syndrome. Enterocolitis caused by *Y. enterocolitica* is characterized by diarrhea, low fever and abdominal pain. CAL Broth used for selective isolation of *Y. enterocolitica* was originally formulated by Dudley and Shotts. CAL Broth is a differential medium as it differentiates *Yersinia* on the basis of cellobiose fermentation and lysine or arginine decarboxylation. As the organism is biochemically similar to other Enterobacteriaceae. CAL Broth is used for the enumeration of *Y. enterocolitica* from water and other liquid specimens.

COMPOSITION

Ingredients	Gms / Ltr
Yeast extract	3.000
Sodium chloride	5.000
Cellobiose	3.500
L-Arginine	6.500
L-Lysine hydrochloride	6.500
Sodium deoxycholate	1.500
Neutral red	0.030

PRINCIPLE

Yeast extract provides essential nutrients to the organisms. Cellobiose is the fermentable carbohydrate. Sodium chloride maintains the osmotic equilibrium. Sodium deoxycholate makes the medium selective by inhibiting the accompanying gram-positive bacteria, which may cause contamination during cultivation. Larginine and L-lysine are the amino acids, decarboxylation of which makes the medium differential. Neutral red is the indicator, which turns red under acidic conditions.

INSTRUCTION FOR USE

- Dissolve 26.03 grams in 1000 ml purified / distilled water.
- Heat if necessary to dissolve the medium completely.
- DO NOT OVERHEAT OR AUTOCLAVE. Cool to 45-50°C.
- Mix well and dispense into sterile test tubes.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder	: Light yellow to pink homogeneous free flowing powder.
Appearance of prepared medium	: Red coloured, clear solution in tubes.
pH (at 25°C)	: 7.1±0.2

INTERPRETATION

Cultural characteristics observed after incubation.



Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Cellobiose	Arginine Decarboxylation	Lysine Decarboxylation	Incubation Temperature	Incubation Period
<i>Escherichia coli</i>	25922	50-100	Good	40-50%	Negative reaction	Variable reaction	Variable reaction	35-37°C	18-48 Hours
<i>Proteus mirabilis</i>	25933	50-100	Good	40-50%	Negative reaction	Negative reaction	Negative reaction	35-37°C	18-48 Hours
<i>Pseudomonas aeruginosa</i>	27853	50-100	Good	40-50%	Negative reaction	Negative reaction	Positive reaction	35-37°C	18-48 Hours
<i>Yersinia enterocolitica</i>	27729	50-100	Good-luxuriant	>=50%	Positive reaction	Negative reaction	Negative reaction	35-37°C	18-48 Hours

PACKAGING:

In pack size of 100 gm bottles.

STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.













Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

REFERENCES

1. Cover T.L., and Aber R.C., 1989 *Yersinia Enterocolitica*, N. Engl. J. Med., 32:16-24
2. Dudley M.V. and Shotts E.B., 1979, J. Clin. Microbiol., 10(2):180.
3. MacFaddin J.F., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. 1, Williams and Wilkins, Baltimore.

 Good Manufacturing Practices Certified	 For In Vitro Diagnostic Use	 Quantity	 Lot / Batch Number	 Catalogue Number	 Manufacturer
 Temperature Unit	 Authorized Representative MedNet GmbH Barkstrasse 10, 48163 Münster, Germany	 European Conformity	 QR Code	 Consults Instructions for Use	 Best Before



NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**
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