

## TM 2026 – C.L.E.D. AGAR W/BROMO THYMOL BLUE

### INTENDED USE

For isolation, enumeration and identification of urinary pathogens on the basis of lactose fermentation.

### PRODUCT SUMMARY AND EXPLANATION

On a solid medium, Sandys reported that swarming of *Proteus* species can be controlled by restricting the electrolytes. Formerly swarming of *Proteus* was controlled by adding alcohol, surface-active agent, sodium azide, boric acid etc. to the medium. Later on Sandy's medium was modified by Mackey and Sandys, by replacing mannitol by lactose and sucrose and elevating concentration of agar and bromothymol blue. This formulation was further modified by the same authors, called C.L.E.D. (Cystine-Lactose-Electrolyte-Deficient) by deleting the sucrose and by including L-cystine for promoting the growth of cystine dependent dwarf colony coliforms. This medium is recommended for use in urinary bacteriology, promoting the growth of all urinary pathogens. C.L.E.D. Medium is also recommended for dip stick procedures and as dip inoculum transport medium for urine specimens.

### COMPOSITION

Ingredients	Gms / Ltr
Peptone	4.000
Tryptone	4.000
Beef extract	3.000
Lactose	10.000
L-Cystine	0.128
Bromothymol blue	0.020
Agar	15.000

### PRINCIPLE

Peptone, Tryptone and beef extract provides nitrogenous and carbonaceous compounds, long chain amino acids, vitamins and other essential growth nutrients. Lactose is the fermentable sugar. L-cystine supports the growth of dwarf coliform colony. Bromo thymol blue is the pH indicator which turns yellow at acidic pH.

### INSTRUCTION FOR USE

- Dissolve 36.15 grams in 1000 ml purified / distilled water.
- Heat to boiling to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes. Cool to 45-50°C.
- Mix well and pour into sterile Petri plates.

### QUALITY CONTROL SPECIFICATIONS

Appearance of Powder	: Cream to yellow homogeneous free flowing powder.
Appearance of prepared medium	: Green coloured, clear to slightly opalescent gel forms in Petri plates.
pH (at 25°C)	: 7.3±0.2

### INTERPRETATION

Cultural characteristics observed after incubation.



Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Colour of colony	Incubation Temperature	Incubation Period
<i>Klebsiella pneumoniae</i>	13883	50-100	Good-luxuriant	>=50%	Yellow to whitish blue	35-37°C	18-24 Hours
<i>Escherichia coli</i>	25922	50-100	Good-luxuriant	>=50%	Bright pink with pink halo	35-37°C	18-24 Hours
<i>Enterococcus faecalis</i>	29212	50-100	Good-luxuriant	>=50%	Orange-yellow or greenish	35-37°C	18-24 Hours
<i>Proteus vulgaris</i>	13315	50-100	Good-luxuriant	>=50%	Blue	35-37°C	18-24 Hours
<i>Staphylococcus aureus subsp. aureus</i>	25923	50-100	Good-luxuriant	>=50%	Deep yellow	35-37°C	18-24 Hours
<i>Salmonella Typhi</i>	25923	50-100	Good-luxuriant	>=50%	Bluish	35-37°C	18-24 Hours

#### PACKAGING:

In pack size of 100 gm and 500 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. Dixon J. M. S. and Clark M. A., 1968, Conc. Med. Assoc. J., 99 (15)
2. Mackey and Sandys, 1965, Br. Med. J., 2:1286
3. Mackey and Sandys, 1966, Br. Med. J., 1:1173
4. Sandys, 1960, J. Med. Lab. Technol., 17:224.



 GMP Good Manufacturing Practices Certified	 IVD For In Vitro Diagnostic Use	 QTY. Quantity	 LOT/ B. NO. Lot / Batch Number	 REF Catalogue Number	 Manufacturer
 Temperature Unit	 EC REP Authorized Representative <small>MedNet GmbH Buckstrasse 10, 49163 Muenster, Germany</small>	 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**  
**Revision: 08 Nov., 2019**