

CM 20564 – DEXTROSE MANNITOL AGAR (GILLIES AGAR NO. 1)

INTENDED USE

For primary isolation of Salmonella and Shigella and for detection of urease production, dextrose and mannitol fermentation.

PRODUCT SUMMARY AND EXPLANATION

Enterobacteriaceae genera consist of gram-negative bacilli and are widely distributed in nature. It includes pathogens such as Salmonella, Shigella, Yersinia, diarrheagenic E.coli and others. These bacteria cause multitude of diseases in humans and are frequently isolated from clinical specimens. Detection and identification of the bacteria are of importance both from clinical and epidemiological point of view. The other enterobacteria are essentially commensals or saprophytes. Gillies Agar No. 1, a modification of Kohns Medium is recommended for detection of urease production and dextrose and mannitol fermentation. This medium is a reliable substitute for the conventional method of determining the biochemical identity of non-lactose fermenting colonies prior to confirmation by serological typing.

Fermentation of dextrose is indicated by the butt changing colour from deep green to yellow and that of mannitol by the development of a yellow slant. Gas production during fermentation, appears in varying degrees from a slight splitting along the wire track to disruption of the medium. Urease production produces a deep blue colour throughout the medium.

COMPOSITION

Ingredients	Gms / Ltr
Proteose peptone	15.000
Beef extract	2.000
Yeast extract	2.000
Dextrose (Glucose)	1.000
Mannitol	10.000
Bromothymol blue	0.025
Cresol red	0.008
Thymol blue	0.020
Agar	16.000

PRINCIPLE

The medium consists of Beef extract, proteose peptone and yeast extract serve as sources of essential nutrients for bacterial growth. Yeast extract additionally serves as a source of B complex vitamins. Dextrose and mannitol are the fermentable carbohydrates, with bromothymol blue, cresol red and thymol blue forming the indicator mixture.

INSTRUCTION FOR USE

- Dissolve 46.05 grams in 1000 ml purified/distilled water.
- Heat to boiling to dissolve the medium completely.
- Sterilize by autoclaving at 10 psi pressure (115°C) for 15 minutes.
- Cool to 45-50°C and aseptically add 25 ml of sterile 40% urea solution.
- Mix well and dispense in tubes. Cool in a slanted position to form slants with generous butts.

QUALITY CONTROL SPECIFICATIONS



Appearance of Powder : Light yellow to greenish yellow homogeneous free flowing powder.
 Appearance of prepared medium : Green coloured, clear to slightly opalescent gel forms in tubes as slants.
 pH (at 25°C) : 7.2 ± 0.2

INTERPRETATION

Cultural characteristics observed after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Dextrose/ Mannitol	Urea	Incubation Temperature	Incubation Period
Klebsiella aerogenes	13048	50-100	Luxuriant	Positive reaction, yellow butt/slant	Negative reaction	35-37°C	18-24 Hours
Escherichia coli	25922	50-100	Luxuriant	Positive reaction, yellow butt/slant	Negative reaction	35-37°C	18-24 Hours
Klebsiella pneumoniae	13883	50-100	Luxuriant	Positive reaction, yellow butt/slant	Positive reaction, deep blue colour	35-37°C	18-24 Hours
Salmonella Typhi	6539	50-100	Luxuriant	Positive reaction, yellow butt/slant	Negative reaction	35-37°C	18-24 Hours

PACKAGING:

In pack size of 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.




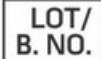








DISPOSAL

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

REFERENCES

1. Cruickshank R., Duguid J. P., Marmion B. P., Swain R. H. A., (Eds.), 1975, Medical Microbiology, 12th Edition, Vol. II, Churchill Livingstone
2. Gillies R. R., 1956, J. Clin. Pathol., 9, 368.
3. Kohn J., 1953, J. Clin. Pathol., 6, 249. Revision :02 / 2019
4. Salfinger Y., and Tortorello M.L., 2015, Compendium of Methods for the Microbiological Examination of Foods, 5th Ed., American Public Health Association, Washington, D.C.
5. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.
6. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.



 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 48163 Münster, 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 LabUse Only

