CM 20,038 – AGAR MEDIUM J (DEOXYCHOLATE CITRATE AGAR) (as per BP/EP/IP)

INTENDED USE

Forselectiveisolation of enteric pathogens.

PRODUCT SUMMARY AND EXPLANATION

DeoxycholateCitrate Agar Medium isprepared as per the modified formula of Leifson and is also recommended as per British Pharmacopoeia and is also designated as Agar medium J. This medium is used for the isolation and maximum recoveryofintestinal pathogens belonging to Salmonella and Shigella groups from foods and pharmaceutical products. However,itisrecommended to use less inhibitory medium when Shigella have to be isolated. Salmonella major causativeagentof enteric disease especially food borne toxic infection and typhoid was first observed by Eberth in 1880. Thismedium is routinely used to check the presence of Salmonella contamination in food and pharmaceutical productsasperBP. Sodium deoxycholate at pH 7.3 to 7.5 is inhibitory for gram-positive bacteria. Proteus and other Gram positiveorganisms are also inhibited due to higher concentration of both citrate and deoxycholate salts in this medium.Thereduction of ferric citrate to iron sulphide by H2S gives the indicative appearance of colonies with black center. Citratesalt, in the concentration included in the formulation, are inhibitory to gram-positive bacteria and most other normalintestinal organisms.

COMPOSITION

Ingredients	Gms / Ltr
Sodium citrate	20.000
Agar	13.500
Meat peptone	10.000
Beef extract	10.000
Lactose monohydrate	10.000
Sodium Deoxycholate	5.000
Ferric citrate	1.000
Neutral red	0.020

PRINCIPLE

Combination of Meat peptone and Beef extract supplies nitrogen, mineral, vitamin factors required for enhanced growth. Lactose monohydrate supplies fermentable carbohydrate source in this medium. Neutral red acts as indicators, in presence of which lactose fermenters like coliform bacteria give pink colonies while lactose non-fermenters give colourless colonies. Salmonella gives well-developed colourless colonies. Precipitation of Deoxycholate by acid produced by lactose fermenters may give a zone of precipitation around the colony. This medium provides essential growth factors for growth of several auxotrophic strains of Paratyphi and Typhi. The selectivity of this medium permits the use of fairly heavy inocula without danger of overgrowth of Shigella and Salmonella by other microflora.

INSTRUCTION FORUSE

Dissolve 69.02 grams of dehydrated powder in 1000 ml of distilled water.
Heat gently to boiling to dissolve the medium completely.
DO NOT AUTOCLAVE.
Avoid excessive heating as it is detrimental to the medium.
Cool to 45-50℃. Mix well before pouring into sterile petri plate.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Light Yellow to pinkish beige homogeneous free flowing powder.
Appearance of prepared medium : Reddish orange coloured clear to slightly opalescent gel forms in petri plate.
pH (at 25°C) : 7.3 ± 0.2

INTERPRETATION

Cultural responsewas observed after incubation at 35-37°C for 18-72 hours. Recovery rate is considered as 100% for bacteria growth on Soyabean Casein Digest Agar.

Microorganism	ATCC	Growth	Colour of colony	Incubation temperature	Incubation time
Salmonella typhimurium	14028	Luxuriant	Colourless	35-37°C	18-72 hours
Salmonella abony	6017	Luxuriant	Colourless	35-37°C	18-72 hours
Salmonella enteritidis	13076	Luxuriant	Colourless	35-37°C	18-72 hours
Escherichia coli	8739	Poor	Pink with bile precipitate	35-37°C	18-72 hours
Enterococcus faecalis	29212	Inhibited	-	35-37°C	18-72 hours

PACKAGING:

Inpacksizeof500 gm bottles.

STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 10-25°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.

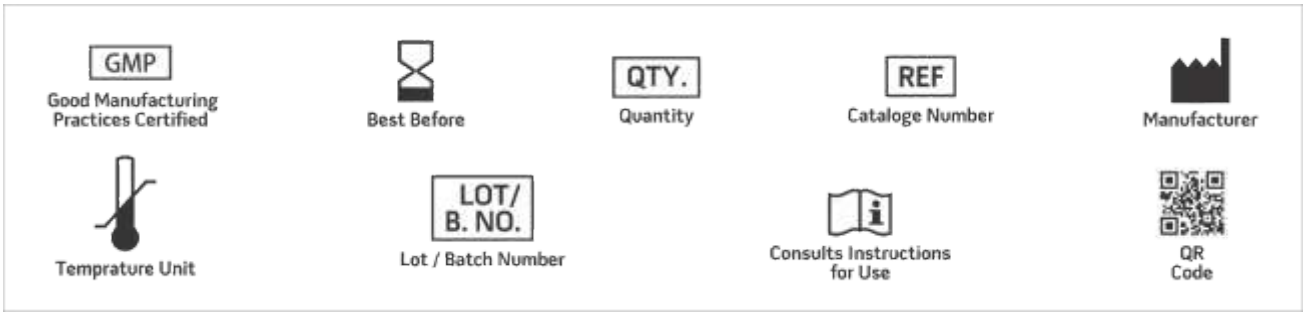
DISPOSAL

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

REFERENCES

1. 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.
2. Speck M. (Eds.), 1984, Compendium of Methods for the Microbiological Examination of Foods, 2nd ed., APHA, Washington, D.C.
3. British Pharmacopoeia, 2009, The Stationery office British Pharmacopoeia
4. Leifson, 1935, J. Path. Bact., 40:581.

5. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
6. Frieker C.R., 1987, J. Appl. Bact., 63:99.



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

*For LabUse Only