

MACCONKEY AGAR / CLED AGAR

INTENDED USE:

MacConkey Agar a selective medium giving excellent differentiation between coliforms and non-lactose fermenters with inhibition of Gram-positive micrococci.

Cled Agar a recommended for diagnostic urinary bacteriology. The medium supports the growth of all urinary potential pathogens giving good colonial differentiation and clear diagnostic characteristics.

PRINCIPLE AND INTERPRETATION:

MacConkey agar is a selective and differential culture medium for bacteria designed to selectively isolate Gram-negative and enteric (normally found in the intestinal tract) bacilli and differentiate them based on lactose fermentation. The crystal violet and bile salts inhibit the growth of gram-positive organisms which allows for the selection and isolation of gram-negative bacteria. Enteric bacteria that have the ability to ferment lactose can be detected using the carbohydrate lactose, and the pH indicator neutral red.

CLED agar (cystine lactose electrolyte deficient medium) is a valuable non-inhibitory growth medium used in the isolation and differentiation of urinary organisms. Being electrolyte deficient, it prevents the swarming of Proteus species. Cystine promotes the formation of cystine-dependent dwarf colonies. Bromothymol blue is the indicator used in the agar, it changes to yellow in case of acid production during fermentation of lactose or changes to deep blue in case of alkalization. Lactose-positive bacteria build yellow colonies. Bacteria which decarboxylate L-Cystine cause an alkaline reaction and build deep blue colonies

COMPOSITION:

MACCONKEY AGAR	
Ingredients	Gr/Liter
Peptone	20 gr
Lactose	10 gr
Bile salts No.3	1,5 gr
Sodium chloride	5 gr
Neutral red	0,03 gr
Crystal violet	0,001 gr
Agar	15 gr

***Formula adjusted, standardized to suit performance parameters
pH 7,2 ± 0.2

CLED AGAR	
Ingredients	Gr/Liter
Peptone	4 gr
Meat extract	3 gr
Tryptone	4 gr
Lactose	10 gr
L-cystine	0,128 gr
Bromothymol blue	0,02 gr
Agar	15 gr

***Formula adjusted, standardized to suit performance parameters
pH 7,3 ± 0.2

PRECAUTIONS:

For professional use only. Do not use plates if they show evidence of microbial contamination, discoloration, drying, cracking or other signs of deterioration.

TEST PROCEDURE:

Incubate plates at 35 ± 2°C in an aerobic atmosphere supplemented with carbon dioxide. Read plates after 18 to 24 and after 42 to 48 hours of incubation.

QUALITY CONTROL:**1.Sterility Control:**

Incubation 48 hours at 30-35°C and 72 hours at 20-25°C: NO GROWTH

2.Physical/Chemical Control

pH (MacConkey Agar): 7,2 ± 0,2 / pH (Cled Agar) : 7,3 ± 0,2

Apperance(MacConkey Agar): Reddish purple

Apperance(Cled Agar): Blue/green coloured gel

3.Microbiological Control: Incubate plates at $35 \pm 2^{\circ}\text{C}$ in an aerobic atmosphere supplemented with carbon dioxide. Read plates after 24-48 hours of incubation.

Microorganism	Inoculum (CFU)	Results	
		MacConkey Agar	Cled Agar
Escherichia coli ATCC 25922	10-100	Pink colonies w/bile ppt	colonies yellow, medium yellow
Staphylococcus aureus ATCC 25923	10-100	Inhibition	Good growth; yellow colonies
Salmonella typhimurium ATCC 14028	10-100	Colourless colonies	—
Pseudomonas aeruginosa ATCC 9027	10-100	Inhibition	—
Proteus vulgaris ATCC 8427	10-100	—	blue green translucent colonies
Proteus mirabilis ATCC 12453	10-100	—	blue colonies; no swarming

STORAGE CONDITIONS AND SHELF LIFE:

Store the prepared medium at $2-12^{\circ}\text{C}$. Use before expiry date on the label. Do not use beyond stated expiry date.

DISPOSAL:

Incubated prepared medium may contain active bacteria and micro-organisms. Do not open infected medium. Infected plate should be autoclaved, incinerated or opened and soaked in a chlorine-based disinfectant (liquid bleach) for 20 minutes prior to disposal.

PACKAGING:

Katalog Number: 03017

Packaging: Single wrap

Content: 10 plates/each package

REFERENCES:

MacConkey Agar

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3. American Public Health Association (1978) Standard Methods for the Examination of Dairy Products. 14th Edn. APHA Inc. Washington DC.
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5. Medrek T. F. and Barnes Ella M. (1962) J. Appl Bact. 25(2). 159-168.
6. Barnes Ella M. and Shrimpton D. H. (1957) J. Appl. Bact. 20(2). 273-285.
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11. Maddocks J. L. and Greenan M. J. (1975) J. Clin. Pathol. 28. 686-687

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1. Mackey J. P. and Sandys G. H. (1966) B.M.J. 1. 1173.
2. Sandys G. H. (1960) J. Med. Lab. Techn. 17. 224.
3. Mackey J. P. and Sandys G. H. (1965) B.M.J. 2. 1286-1288.
4. Guttman D. and Naylor G. R. E. (1967) B.M.J. 2. 343-345.



Aseptic Sterile



Batch Code



Catalogue Number



Negative Controls



Positive Controls



Use by



Temperature Limitation



Do not reuse



Contains sufficient for <n> tests



Look at user manual



Manufacturer