Technical Data

HiCombi™ XLD - MacConkey Agar Plate

HB004

Combination of XLD Agar & MacConkey Agar w/ 0.15% Bile Salts, CV and NaCl recommended for selective isolation and enumeration of *Salmonella* species as well as differentiation of enteric pathogens.

Composition**

Ingredients	Gms / Litre
Yeast extract	3.000
L-Lysine	5.000
Sucrose	7.500
Xylose	3.500
Sodium deoxycholate	2.500
Sodium thiosulphate	6.800
Ferric ammonium citrate	0.800
Phenol red	0.080
Agar	15.000
MacConkey Agar	-
Pancreatic digest of gelatin	17.000
Casein enzymic hydrolysate	1.500
Peptic digest of animal tissue	1.500
Lactose	7.500
Bile salts	1.500
Sodium chloride	5.000
Neutral red	0.030
Crystal violet	0.001
Agar	15.000

**Formula adjusted, standardized to suit performance parameters

Directions

Streak the test inoculum (50-100 CFU) aseptically on the plate.

Principle And Interpretation

Biplates has unique combination of two media.

XLD Agar is both selective and differential medium used for enteric pathogens including *Salmonella typhi* from other *Salmonella* species. The medium contains yeast extract, which provides nitrogen and vitamins required for growth. Though the sugars xylose, lactose and sucrose provide sources of fermentable carbohydrates. Lysine is included to differentiate the *Salmonella* group from the non-pathogens. Degradation of xylose, lactose and sucrose to acid causes phenol red indicator to change its colour to yellow. Bacteria that decarboxylate lysine to cadaverine can be recognized by the appearance of a red colouration around the colonies due to an increase in pH. XLD Agar has been recommended for the identification of *Enterobacteriaceae* and for the microbiological testing.

Whereas, MacConkey Agar is a differential medium for the selection and recovery of the *Enterobacteriacae* and related enteric gram-negative bacilli. This medium is prepared in accordance with USP and contain crystal violet, NaCl and Bile salts. It is very selective and suppresses growth of a number of Gram-positive bacteria including staphylococci. Coliforms and Enterobacter give pink to red colonies on this medium and *Escherichia coli* gives pink to red colonies with bile precipitate.

Quality Control

Appearance

Sterile XLD Agar and MacConkey Agar in 90mm disposable biplates.

Colour

XLD Agar - Red coloured medium MacConkey Agar - Red coloured medium with purplish tinge

Quantity of medium
10 ml of each medium in biplate

pH of XLD Agar
7.20- 7.60

pH of MacConkey Agar
6.90- 7.30

Sterility test
Passes release criteria

Cultural response
Cultural characteristics observed after incubation at 35-37°C for 18-48 hours.

Organism	Growth on XLD Agar	Colour of colony on XLD Agar	Growth on MacConkey Agar	Colour of colony on MacConkey Agar
Enterobacter aerogenes ATCC 13048	Fair	Yellow	Luxuriant	Pink-red
Escherichia coli ATCC 25922	Fair	Yellow	Luxuriant	Pink-red w/ bile precipitate
Proteus mirabilis ATCC 25933	Good-luxuriant	Yellow	-	-
Proteus vulgaris ATCC 13315	Good-luxuriant	Yellow	Luxuriant	Colourless
S. serotype paratyphi A ATCC 9150	Good-luxuriant	Red	Luxuriant	Colourless
S. serotype paratyphi B ATCC 8759	Good-luxuriant	Red w/ black centres	Luxuriant	Colourless
S. serotype typhi ATCC 6539	Good-luxuriant	Red w/ black centres	Luxuriant	Colourless
S. serotype typhimurium ATCC 14028	Good-luxuriant	Red w/ black centres	-	-
S. serotype enteritidis ATCC 13076	Good-luxuriant	Red w/ black centres	Luxuriant	Colourless
Shigella dysenteriae ATCC 13313	Good-luxuriant	Red	-	-
Shigella flexneri ATCC 12022	Good	Red	Fair-good	Colourless
Shigella sonnei ATCC 25931	Good-luxuriant	Red	-	-
Staphylococcus aureus ATCC 25923	Inhibited	-	Inhibited	-
Enterococcus faecalis ATCC 29212	-	-	None-poor	Colourless-pink

Storage and Shelf Life
Store between 20 - 30°C. Use before expiry date on the label.

Reference
Refer Technical Data of M031 Xylose, Lysine Deoxycholate agar & M081 MacConkey agar w/ 0.15% Bile Salts, CV and NaCl.

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