

TECHNICAL DATA SHEET

MacConkey Broth w/Neutral Red (Double Strength)

Principle

MacConkey broth is composed of peptone, proteose peptone, lactose, bile salt, sodium chloride and neutral red. Peptone and proteose peptone provide nitrogen and other nutrients necessary for the growth of microorganisms. Lactose is a carbon source and plays an important role in the selection of lactosefermenting microbes. Bile salt is a selective agent that inhibits the growth of gram-positive organisms. Neutral red is a pH indicator dye. When lactose is fermented, acid is produced, which changes the medium color from red to yellow.

Use: For the primary isolation of coliforms from large samples such as water or waste water.

Contents*

Ingredients	Gram/Liter
Peptone	40.000
Lactose	20.000
Bile Salt	10.000
Sodium Chloride	10.000
Neutral Red	0.140
pH at 25°C	7.5 ±0.2

* Formula adjusted for optimum performance and parameters

Directions: Dissolve 80.00 grams in 1000 ml distilled water. Boil to dissolve the medium completely and distribute in test tubes containing inverted Durham's tube. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 min, cool it to 42-45 °C and inoculate test sample aseptically.

Specimens' types analyzed

Pharmaceutical samples, clinical and non-clinical samples. food, dairy and water samples etc.

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Precautions to be taken

These microbial media are intended for the in-vitro use only. All the handling, experiments, storage, and discarding should be performed with the help of skilled and knowledgeable technicians and as per the established guidelines. The material should be disposed only after proper sterilization by autoclaving. Please go through the MSDS of the media to avoid any accidents or in emergency.

Performance and Evaluation

The expected performance of the medium is liable to use as per the direction on the label when stored at optimum conditions and within expiry date.

Quality Control

Appearance	Light pink colored free flowing, homogeneous powder
Reaction of 8.00% solution	7.5 ±0.2 at 25 °C
pH	7.30- 7.70
Color and clarity of ready medium	Red colored, clear solution
Growth Promotion properties	Best at ≤ 100 CFU at 32-37 °C for 18-72 h
Indicative properties	Optimum at ≤ 100 CFU at 32-37 °C for 18-48 h
Negative control	Performed using sterile distilled water

Different Microbial Response: Cultural characteristics observed after incubation at 33-37°C for 18-24 hours. Inoculum 50-100 CFU.

Organism	ATCC	Growth	Acid production	Gas production
<i>Escherichia coli</i>	8739	Luxuriant	Positive	Positive
<i>Escherichia coli</i>	25922	Luxuriant	Positive	Positive
<i>Klebsiella aerogenes</i>	13048	Luxuriant	Positive	Positive
<i>Proteus mirabilis</i>	12453	Luxuriant	Negative	Negative
<i>Salmonella typhimurium</i>	14028	Poor to Good	Negative	Negative
<i>Enterococcus faecalis</i>	14506	Poor to Good	Positive	Negative
<i>Staphylococcus aureus</i>	25923	Inhibited	--	--

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Storage and Shelf Life: The product is highly hygroscopic; keep the container tightly closed at all times and store it properly as per the conditions mentioned on the label. The declared expiry is valid only when stored as per the conditions mentioned on the label. Note: Sterilize media immediately after reconstitution.

Disposal: To avoid the contamination or propagation of any hazardous microbes the used, unusable or modified preparation of this product must be disposed after autoclaving after completion of task.

Reference

1. Atlas, R. M. (2005). Handbook of media for environmental microbiology. CRC press.
2. Difco Manual (1998). 11th Edition. Difco Laboratories., Division of Becton Dickinson and Company, Sparks, Maryland, USA.
3. Rand, M. C., Arnold E. Greenberg, and Michael J. Taras, (1976), Standard methods for the examination of water and wastewater. Prepared and published jointly by American Public Health Association, American Water Works Association, and Water Pollution Control Federation.

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