

MacConkey Broth Double Strength with Neutral Red IP

Intended Use

MacConkey Broth Double Strength with Neutral Red is used for primary isolation of coliform from large sample such as water and waste water in compliance with IP.

Summary

MacConkey Broth Double Strength with Neutral Red is modification of the original bile salt broth recommended by MacConkey, which contained 0.5% sodium taurocholate and litmus as the indicator. In later publications, MacConkey suggested variations of this formula using neutral red as the indicator instead of litmus. Bile salts in the medium replaces the original sodium taurocholate to inhibit growth of Gram-positive organisms.

The above-mentioned MacConkey Broth is recommended for use in microbiological examination of clinical specimens, foodstuffs and for direct plating and inoculation of water samples for coliform counts.

This medium is also included in the Official Methods of Analysis as well as pharmaceutical preparations and industrial products.

Principle

Peptone provides amino acids and other growth factors. Lactose is a carbon and energy source. The selective action of these media is attributed to the presence of bile salts, which are inhibitory to most species of Gram-positive bacteria. Gram-negative bacteria usually grow well on these media and are differentiated by their ability to ferment lactose. Lactose fermenters changes the colour of the medium due to production of acid from lactose. Lactose non-fermenting strains, such as *Shigella* and *Salmonella* do not alter the appearance of the media. Neutral red are the pH indicators. Sodium chloride maintains the osmotic balance.

Formula*

Ingredients	g/L
Peptone	40.0
Lactose	20.0
Bile Salts	10.0
Sodium Chloride	10.0
Neutral Red	0.15
Final pH (at 25°C)	7.4 ± 0.2

*Adjusted to suit performance parameters.

Directions

1. Bring the MacConkey Broth Double Strength with Neutral Red IP vial to the room temperature 22°C-30°C.
2. Use MacConkey Broth Double Strength with Neutral Red IP as per required application.

Quality Control

Appearance: Red coloured, clear solution without any precipitate.

Growth Promotion Test: Growth promotion is carried out in accordance with the harmonized method of USP/EP/BP/JP and growth is observed after an incubation at 30°C-35°C for 18-24 hours.

Growth Promoting Properties: The test results observed are within the specified temperature and shortest period of time specified in the test, inoculating ≤ 100 cfu of appropriate microorganism at 30°C-35°C for 18 hours.

Inhibitory Properties: No growth of the test microorganism occurs for the specified temperature and not less than the longest period of the time specified, inoculating > 100 cfu of the appropriate microorganism at 30°C-35°C for 24 hours.

Organism (ATCC)	Growth	Acid	Gas
<i>Klebsiella aerogenes</i> (13048)	Good	+	+
<i>Escherichia coli</i> (25922)	Good	+	+
<i>Salmonella enterica</i> subsp. <i>enterica</i> serovar <i>Typhimurium</i> (14028)	Good	-	-

Inhibitory

<i>Staphylococcus aureus</i> (6538)	Inhibited	-	-
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Key:

For Acid (+) Positive

For Acid (-): Negative

For Gas (+): Positive reaction (Bubble formation in Durham's tube)

For Gas (-): Negative reaction (No bubble formation in Durham's tube)

Note: For inhibition no growth of test microorganism should occur.

Remarks

1. The assay of antibiotics is a highly skilled process, which requires very close attention to the details specified in the official publications, and these must be consulted.
2. Inspect the petriplates before inoculation. Keep the plates at 2°C-8°C for half an hour after placing the antibiotics discs for diffusion to take place.
3. After use media containers, sample, sample containers and other contaminated materials must be sterilized or incinerated before discarding.
4. All autoclaved biohazards should be disposed off in accordance with state and local environmental regulations.
5. Only qualified personnel who have been trained in microbiological procedures should handle all infected specimens and inoculated culture media.
6. User should ensure that any machinery or apparatus used and by chance contaminated must be safely disinfected or sterilized. The environment in which microbiological cultures are handled must also be taken into account.

Storage and Stability

1. Store the ready to use MacConkey Broth Double Strength with Neutral Red IP at 15°C-25°C in a cool, dry place away from light.
2. Stability of the kit is as per expiry date mentioned on the label.

Warranty

This product is designed to perform as described on the label and package insert. The manufacturer disclaims any implied warranty of use and sale for any other purpose.

References

1. Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.

Product Presentation:

Cat. No.	Product Description	Pack Size
203131960100	Bottle Media	100 mL

Disclaimer

Information provided is based on our inhouse technical data on file, it is recommended that user should validate at his end for suitable use of the product.