



Lactose Peptone Water

M1527

Lactose Peptone Water is used for lactose fermentation studies.

Composition**

| Ingredients | Gms / Litre |
|--------------------------------|-------------|
| Peptic digest of animal tissue | 10.000 |
| Yeast extract | 5.000 |
| Lactose | 10.000 |
| Phenol red | 0.040 |

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 25.04 grams in 1000 ml distilled water. Heat if necessary to dissolve the medium completely. Dispense in tubes containing inverted Durham's tube and sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Principle And Interpretation

The fermentation of Lactose is important for differentiating microbial species, specially for members of the *Enterobacteriaceae* (1). Lactose peptone water is recommended for Lactose fermentation studies.

This medium is rich in additional growth factors and nitrogen source provided by peptic digest of animal tissue and yeast extract. Lactose acts as carbohydrate and energy source for growth of organism. Lactose fermenting species will utilize lactose to produce acid which can be detected by change in pH of the medium, which is indicated by phenol red indicator to yellow colour. Durham's tubes enables the detection of gas production.

Quality Control

Appearance

Light yellow to pink coloured homogeneous free flowing powder

Colour and Clarity of prepared medium

Pink coloured clear solution without any precipitate

Cultural Response

M1527: Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours.

| Organism | Inoculum (CFU) | Growth | Acid | Gas |
|---|----------------|-----------|-------------------------------------|-------------------|
| Cultural Response <i>Citrobacter freundii</i> ATCC 8090 | 50-100 | luxuriant | Positive reaction, yellow colour | Positive reaction |
| <i>Enterobacter aerogenes</i> ATCC 13048 | 50-100 | luxuriant | Positive reaction, yellow colour | Positive reaction |
| <i>Escherichia coli</i> ATCC 25922 | 50-100 | luxuriant | Positive reaction, yellow colour | Positive reaction |
| <i>Klebsiella pneumoniae</i> ATCC 13883 | 50-100 | luxuriant | Positive reaction, yellow colour | Positive reaction |
| <i>Proteus vulgaris</i> ATCC 13315 | 50-100 | luxuriant | Negative reaction, no colour change | Negative reaction |

| | | | | |
|--|--------|-----------|-------------------------------------|-------------------|
| <i>Serratia marcescens</i> ATCC 8100 | 50-100 | luxuriant | Negative reaction, no colour change | Negative reaction |
| <i>Salmonella Typhi</i> ATCC 6539 | 50-100 | luxuriant | Negative reaction, no colour change | Negative reaction |
| <i>Salmonella Typhimurium</i> ATCC 14028 | 50-100 | luxuriant | Negative reaction, no colour change | Negative reaction |
| <i>Shigella flexneri</i> ATCC 12022 | 50-100 | luxuriant | Negative reaction, no colour change | Negative reaction |

Storage and Shelf Life

Store below 30°C in tightly closed container and the prepared medium at 2 - 8°C. Use before expiry date on the label.

Reference

1.Ewing, 1986, Edwards and Ewing's identification of Enterobacteriaceae, 4th Ed. Elsevier Science Publishing Co., Inc., New York.

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