

## Technical Information

### RS MiVeg Medium Base

#### Product Code : VM1576

**Application:-** RS (Rimler-Shotts) MiVeg Medium is used for the selective isolation, cultivation and presumptive identification of *Aeromonas hydrophila*.

#### Composition

| Ingredients                 | Gms / Litre |
|-----------------------------|-------------|
| Yeast extract               | 3.0         |
| Maltose                     | 3.5         |
| L-Cysteine hydrochloride    | 0.3         |
| L-Lysine hydrochloride      | 5.0         |
| L-Ornithine hydrochloride   | 6.5         |
| Sodium thiosulphate         | 6.8         |
| Ferric ammonium citrate     | 0.8         |
| Synthetic detergent No. III | 1.0         |
| Sodium chloride             | 5.0         |
| Bromo thymol blue           | 0.03        |
| Agar                        | 13.5        |
| Final pH (at 25°C)          | 7.0 ± 0.2   |

\*\* Formula adjusted, standardized to suit performance parameters.

#### Principle & Interpretation

RS (Rimler-Shotts) MiVeg Medium Base is prepared by adding synthetic detergent No. III instead of sodium deoxycholate which makes the medium free of BSE/TSE risks. RS (Rimler-Shotts) MiVeg Medium Base is the modification of RS Medium which was developed by Rimler and Shotts used for the rapid isolation and identification of *Aeromonas hydrophila* (1). RS medium shows differentiation of characteristics based upon the biochemical reactions. Maltose fermenting organisms produces yellow colonies and organisms that gives H<sub>2</sub>S production along with Maltose fermentation give rise to black centered yellow colonies on plates. The third colonial type give greenish-yellow to green colonies indicating lysine or ornithine decarboxylation or both. The colonies which are greenish-yellow to green with black center indicate the decarboxylation of both amino acids plus H<sub>2</sub>S production.

The balance of ingredients provide a nutrient base and chemophysical stability to the medium. Synthetic detergent No. III and Novobiocin inhibits gram-positive organisms and *Vibrio* species. Bromo thymol blue is the indicator system for maltose fermentation. Incubation should be done at 37°C and the results should be seen after 20 hours but not after 24 hours, as plates observed after 26 hours demonstrate a slow reversion of the fermentation reaction toward a basic reaction.

#### Methodology

Suspend 45.43 grams of powder media in 990 ml distilled water. Mix thoroughly and heat to boiling to dissolve the medium completely. DO NOT AUTOCLAVE. Cool to 45°-50°C and aseptically add Novobiocin Supplement (MS2096). Mix well before pouring into sterile petriplates.

#### Quality Control

##### Physical Appearance

Light green coloured, homogeneous, free flowing powder.

## Gelling

Firm, comparable with 1.35% Agar gel.

## Colour and Clarity of prepared medium

Dark green coloured, clear gel forms in petri plates.

## Reaction

Reaction of 4.54% w/v aqueous solution is pH 7.0  $\pm$  0.2 at 25°C.

## pH Range

6.8 - 7.2

## Cultural Response/Characteristics

Cultural characteristics observed after an incubation at 35-37°C for 24 hours on addition of Novobiocin supplement (MS2096).

| Organisms (ATCC)                        | Inoculum (CFU)                   | Recovery | Maltose fermentation | Lysine/<br>Ornithine* | H <sub>2</sub> S |
|-----------------------------------------|----------------------------------|----------|----------------------|-----------------------|------------------|
| <i>Aeromonas hydrophila</i> (7966)      | 10 <sup>2</sup> -10 <sup>3</sup> | >50%     | +                    | —                     | —                |
| <i>Citrobacter freundii</i> (8090)      | 10 <sup>2</sup> -10 <sup>3</sup> | >50%     | —                    | V                     | +                |
| <i>Escherichia coli</i> (25922)         | 10 <sup>2</sup> -10 <sup>3</sup> | >50%     | —                    | V                     | —                |
| <i>Proteus vulgaris</i> (13315)         | 10 <sup>2</sup> -10 <sup>3</sup> | >50%     | +                    | —                     | +                |
| <i>Salmonella</i> serotype Typhi (6539) | 10 <sup>2</sup> -10 <sup>3</sup> | >50%     | +                    | —                     | —                |

**Key :** Maltose fermentation : + = yellow coloured colonies  
 Lysine and/or Ornithine : + = shades of greenish yellow to  
 \*decarboxylation yellow coloured colonies  
 Hydrogen Sulphide (H<sub>2</sub>S) production : + = black centered colonies  
 - = Negative reaction  
 V = Variable

## Storage and Shelf Life

**Dried Media:** Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.

**Prepared Media:** 2-8° in sealable plastic bags for 2-5 day.

## Further Reading

1. Shotts E. B. Jr. and Rimler R., 1973, Appl, Microbiol. , 26(4):550.

## Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
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