

## CM 21489 – RAPPAPORT VASSILIADIS SALMONELLA ENRICHMENT BROTH

### INTENDED USE

For selective enrichment of Salmonella species under high osmotic conditions and low pH.

### PRODUCT SUMMARY AND EXPLANATION

Rappaport Vassiliadis Salmonella Enrichment Broth is designed according to the revised formulation by Van Schothorst et al and is recommended for the selective enrichment of Salmonellae from pharmaceutical products. This medium can also be used in direct enrichment of samples containing low inoculum. Present medium is a modification of the Rappaport Vassiliadis Enrichment Broth described by Van Schothorst and Renault. Addition of magnesium chloride to the medium was reported by Peterz et al.

Salmonella species can be isolated from human faeces without pre-enrichment by using this medium. Salmonella generally survive at little high osmotic pressure, grow at slightly low pH and are resistant to malachite green compared to other bacteria. These characteristics are exploited in this medium for selective enrichment of Salmonella.

The relatively lower concentration of nutrition, also aids selective enrichment of Salmonella. This medium was reported to be superior to Salmonella selective medium like Tetrathionate Broth and Selenite enrichment broth and to Tetrathionate Brilliant Green Broth for the detection of Salmonellae in milk samples. The enriched culture of Rappaport Vassiliadis Salmonella Enrichment Broth can be further subcultured and isolated on Xylose Lysine Deoxycholate Agar.

### COMPOSITION

| Ingredients                    | Gms / Ltr |
|--------------------------------|-----------|
| Soya peptone                   | 4.500     |
| Sodium chloride                | 8.000     |
| Dipotassium hydrogen phosphate | 0.400     |
| Potassium dihydrogen phosphate | 0.600     |
| Magnesium chloride hexahydrate | 29.000    |
| Malachite green                | 0.036     |

### PRINCIPLE

The medium consists of Magnesium chloride present in the medium which raises the osmotic pressure. Natural sugars of soya peptone provide essential growth nutrients and enhance the growth of Salmonella. Phosphate buffers the medium to maintain constant pH. Sodium chloride maintains the osmotic balance. Malachite green inhibits many gram-positive bacteria, while selectively enriches Salmonella.

### INSTRUCTION FOR USE

Dissolve 27.11grams in 1000 ml purified/distilled water.

Heat if necessary to dissolve the medium completely.

Dispense as desired into tubes and sterilize by autoclaving at 10 psi pressure (115°C).

### QUALITY CONTROL SPECIFICATIONS



|                               |                                                                                                    |
|-------------------------------|----------------------------------------------------------------------------------------------------|
| Appearance of Powder          | : Light yellow to light blue homogeneous free flowing powder.                                      |
| Appearance of prepared medium | : Greenish blue coloured clear to slightly opalescent solution with a slight precipitate in tubes. |
| pH (at 25°C)                  | : 5.2 ± 0.2                                                                                        |

#### INTERPRETATION

Cultural characteristics observed after incubation for specified time. Recovery is carried out using Xylose Lysine Deoxycholate Agar, after enrichment in Rappaport Vassiliadis Salmonella Enrichment Broth.

| Microorganism                       | ATCC  | Inoculum (CFU/ml) | Growth    | Colour of colony       | Incubation Temperature | Incubation Period |
|-------------------------------------|-------|-------------------|-----------|------------------------|------------------------|-------------------|
| Salmonella Typhimurium              | 14028 | 50-100            | Luxuriant | Red with black centers | 30-35°C                | <=18 Hours        |
| Staphylococcus aureus subsp. aureus | 6538  | >=10 <sup>3</sup> | Inhibited | -                      | 30-35°C                | >=24 Hours        |
| Escherichia coli                    | 25922 | 50 -100           | None-poor | Yellow                 | 30-35°C                | 18 -24 Hours      |
| Escherichia coli                    | 8739  | 50 -100           | None-poor | Yellow                 | 30-35°C                | 18 -24 Hours      |
| Salmonella Enteritidis              | 13076 | 50 -100           | Luxuriant | Red with black centers | 30-35°C                | 18 -24 Hours      |
| Salmonella Paratyphi B              | 8759  | 50 -100           | Luxuriant | Red with black centers | 30-35°C                | 18 -24 Hours      |
| Staphylococcus aureus subsp. aureus | 25923 | >=10 <sup>3</sup> | Inhibited | -                      | 30-35°C                | >=24 Hours        |
| Pseudomonas aeruginosa              | 9027  | >=10 <sup>3</sup> | Inhibited | -                      | 30-35°C                | >=24 Hours        |
| Pseudomonas aeruginosa              | 27853 | >=10 <sup>3</sup> | Inhibited | -                      | 30-35°C                | >=24 Hours        |



|                       |       |             |           |   |         |                 |
|-----------------------|-------|-------------|-----------|---|---------|-----------------|
| Enterococcus faecalis | 29212 | $\geq 10^3$ | Inhibited | - | 30-35°C | $\geq 24$ Hours |
|-----------------------|-------|-------------|-----------|---|---------|-----------------|

#### PACKAGING:

In pack size of 100 gm and 500 gm bottles.

#### STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.

Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

#### DISPOSAL

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

#### REFERENCES

1. Isenberg, H.D. Clinical Microbiology Procedures Handbook. 2nd Edition.
2. Peterz M., Wiberg C. and Norberg P., 1989, J. Appl. Bact., 66:523.
3. Van Schothorst M., Renaud A. and VanBeek C., 1987, Food Microbiol., 4:1
4. Van Schothorst M. and Renaud A., 1983, J. Appl. Bact., 54:20.

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|----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| <br>Good Manufacturing<br>Practices Certified | <br>For In Vitro Diagnostic Use                                                                            | <br>Quantity            | <br>Lot / Batch Number | <br>Catalogue Number                 | <br>Manufacturer |
| <br>Temperature Unit                          | <br>Authorized Representative<br><small>MedNet GmbH<br/>Bockstrasse 10,<br/>48163 Münster, Germany</small> | <br>European Conformity | <br>QR Code            | <br>Consults Instructions<br>for Use | <br>Best Before  |

NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

\*For Lab Use Only