Dehydrated Culture Media
Bases / Media Supplements

Technical Information

Rappaport Vassiliadis Soya Broth (RVS Broth)

Product Code : DM 2491

Application: Rappaport Vassiliadis Soya Broth (RVS Broth) is recommended as a selective enrichment medium for the Salmonellae species from the food and animal feeding stuffs.

Composition**

Ingredients	Gms / Litre
Papaic digest of soyabean meal	4.500
Sodium chloride	8.000
Potassium dihydrogen phosphate	0.600
Dipotassium phosphate	0.400
Magnesium chloride. hexahydrate	29.000
Malachite green	0.036
Final pH (at 25°C)	5.2±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Rappaport Vassiliadis Soya Broth is designed according to the revised formulation by Van Schothorst et al (1) and is recommended for the selective enrichment of Salmonella from pharmaceutical and food products. This medium can also be used as enrichment of samples containing low inoculum. Present medium is a modification of the Rappaport Vassiliadis Enrichment Broth described by Van Schothorst and Renauld (2). Addition of magnesium chloride to the medium was reported by Peterz et al (3). *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* . Magnesium chloride present in the medium raises the osmotic pressure. Natural sugars of Papaic digest of soyabean meal provide essential growth nutrients and enhance the growth of *Salmonella* (4). Phosphate buffers the medium to maintain constant pH. Sodium chloride maintains the osmotic balance. Malachite green inhibits many gram-positive bacteria, while selectively enrich *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 Salmonella in milk samples. The enriched culture of Rappaport Vasiliadis Soya Broth (DM2491) can be further subcultured and isolated on Brilliant Green Agar (DM1016) or Deoxycholate Citrate Agar (DM1065), Xylose Lysine Deoxycholate Agar (DM1031).

Methodology

Suspend 42.53 grams of dehydrated medium in 1000 ml distilled water. Heat if necessary to dissolve the medium completely. Dispense as desired into tubes and sterilize by autoclaving at 115°C for 15 mins.

Quality Control

Appearance

Light yellow to light blue homogeneous free flowing powder

Colour and Clarity of prepared medium
Greenish blue clear to slightly opalescent with a slight precipitate.

Reaction
Reaction of 4.25% w/v aqueous solution at 25°C. pH : 5.2±0.2

pH
5.00-5.40

Cultural Response
Cultural response was observed after an incubation at 35-37°C for 18-24 hours Recovery is carried out using Xylose Lysine Deoxycholate Agar (DM1031) after enrichment.

Cultural Response

Organism	Inoculum (CFU)	Growth	Lot value (CFU)	Recovery	Colour of colony
Cultural Response					
Salmonella Typhimurium ATCC 14028	50 -100	luxuriant	>=35	>=70 %	red with black centers
Salmonella Abony NCTC 6017	50 -100	luxuriant	>=35	>=70 %	red with black centers
Staphylococcus aureus ATCC 6538	>=10^3	inhibited	0	0%	
Escherichia coli ATCC 25922	50 -100	none-poor	0 -10	0 -10 %	yellow
Escherichia coli ATCC 8739	50 -100	none-poor	0 -10	0 -10 %	yellow
Salmonella Enteritidis ATCC 13076	50 -100	luxuriant	>=35	>=70 %	red with black centre
Salmonella Paratyphi B ATCC 8759	50 -100	luxuriant	>=35	>=70 %	red with black centre
Staphylococcus aureus ATCC 25923	>=10^3	inhibited	0	0%	
Enterococcus faecalis ATCC 29212	>=10^3	inhibited	0	0%	
E.coli +S.Typhimurium (mixed culture)					
Salmonella Typhimurium ATCC 14028	50 -100	luxuriant	>=35	>=70 %	red with black centre

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: 2-8^0 in sealable plastic bags for 2-5 days.

Further Reading

1. Van Schothorst M., Renauld A. and VanBeek C., 1987, Food Microbiol., 4:11.
2. Van Schothorst M. and Renauld A., 1983, J. Appl. Bact., 54:209.
3. Peterz M., Wiberg C. and Norberg P., 1989, J. Appl. Bact., 66:523 4.McGibbon L., Quail E. and Fricker C.R. 1984, Inter.
4. J. Food Microbiol. 1:171

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