AOAC
ISO

MSRV Medium Base, modified

Modified Semi-solid Rappaport-Vassiliadis (MSRV) Medium

MSRV Medium is a semi-solid medium used for the isolation of Salmonella from food-stuffs and other materials.

Mode of Action

De SMEDT et al. (1986) made a semi-solid RV-medium by adding agar (MSRV). In comparison to traditional methods this formulation gave more Salmonella-positive results.

The detection principle is based on the motility of Salmonellae to migrate into the semi-solid medium thus forming opaque halos of growth.

The motility of other microorganisms is largely inhibited by selective agents (Magnesium chloride, Malachite green and Novobiocin) and the enhanced incubation temperature of 42 °C.

Typical Composition (g/litre)

Tryptose 4.59; casein hydrolysate 4.59; sodium chloride 7.34; potassium dihydrogen phosphate 1.47; magnesium chloride anhydrous 10.93; malachite green 0.037; agar-agar 2.7.

Preparation

Suspend 15.8 g in 500 ml demin. water by heating in a boiling water bath or in a flowing steam until the medium is completely dissolved.

■ **Do not autoclave / do not overheat!**

Dissolve the lyophilisate of 1 vial MSRV Selective Supplement by adding 1 ml sterile distilled water and add the solution to the medium cooled to 45-50 °C. Mix gently and pour plates.

pH: 5.2 ± 0.2 at 25 °C.

The prepared medium is clear and bright-blue.

The plates must be well dried before use.

Drying of plates:

1. in a clean bench with air flow. Remove lids and let dry for 15-20 minutes (do not overdry!)
2. without air flow 1 hour (lids removed) at room temperature.

Storage

The medium can be stored in the refrigerator at +2 °C to +8 °C for up to 2 weeks.

Experimental Procedure

1. Enrich the sample material in Buffered Peptone Water (Incubation: 16-20 h at 37°C).
2. Incubate 3 drops (0.1 ml) of the pre-enrichment culture in three different spots on the surface of the MSRV medium plates.
3. Inoculate the plates aerobically in an upright position for no longer than 24 h at 42 °C.

Evaluation

Motile microorganisms show a halo of growth originating from the inoculation spot. For the confirmation of Salmonella further biochemical and serological tests are recommended.

Literature

De SMEDT et al.: Rapid Salmonella Detection in Foods by Motility Enrichment on a Modified Semi-Solid Rappaport-Vassiliadis Medium. – **J. Food Protect. Vol. 49**, 7; 510-514 (1986).

De SMEDT, a. BOLDERDIJK, R.F.: Dynamics of Salmonella Isolation with Modified Semi-Solid Rappaport-Vassiliadis Medium. – **J. Food Protect. Vol. 50, 8**; 658-661 (1987).

Ordering Information

Product	Ordering No.	Pack size
MSRV Medium Base, modified	1.09878.0500	500 g
MSRV Selective Supplement	1.09874.0001	1 x 16 vials
Peptone Water (buffered)	1.07228.0500	500 g
Peptone Water (buffered)	1.07228.5000	5 kg

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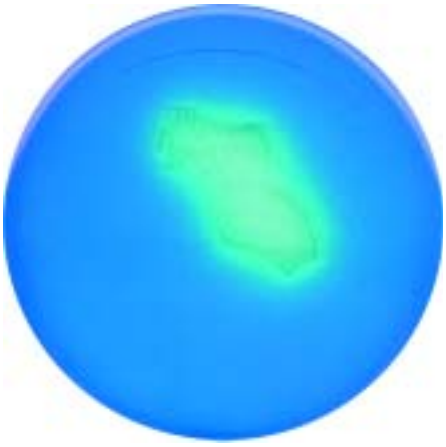
Quality control

Test strains	Growth	Motility zone
Salmonella typhimurium ATCC 14028	good	≥ 20 mm
Salmonella enteritidis ATCC 13076	good	≥ 20 mm
Citrobacter freundii ATCC 8090	none	-
Pseudomonas aeruginosa ATCC 27853	none	-

Citrobacter freundii ATCC 8090



Salmonella enteritidis ATCC 13076