Product :
RAPPAPORT VASSILIADIS MODIFIED SEMISOLID MEDIUM BASE

Also known as

MSRV

Specification

Semisolid medium used for the isolation of motile strains of *Salmonella*.

Formula * in g/L

Tryptose..... 4.6
Casein peptone..... 4.6
Sodium chloride..... 7.3
Potassium dihydrogen phosphate.....1.5
Magnessium chloride anhydrous..... 10.9
Malachite green.....0.04
Agar.....2.7

Final pH 5,2 ±0,2 at 25 ºC

* Adjusted and /or supplemented as required to meet performance criteria

Directions

Suspend 31,6 g of powder in 1 L of distilled water. Heat in a boiling water bath until completely dissolved.
Cool to 50ºC and add 10 mg/L of Novobiocin Selective Supplement (Art. 06-139LYO1). Without autoclaving or reheating, homogenize and pour plates. Keep plates in a cool place to allow the gel to settle (1 hour aprox.). Handle with care as the medium is semisolid and may spill. It is recommended keeping MSRV plates in the dark, at (2-8ºC).

Description

This Modified Semisolid Rappaport Vassiliadis Medium has corresponded to the ISO 2020 modification of the medium originally propposed by DeSmedt *and cols.*. Who demostrated its greater efficacy compared to the traditional enrichment methodology.
The rapid migration of motile strains of *Salmonella* in the semisolid medium allows early detection due to the production of a halo of growth around the inoculation zone.
Other competitive motile organisms are inhibited by novobiocin, malachite green and the high concentration of magnesium chloride.
The low concentration of agar produces a very soft and fragile gel which, at the temperature of incubation (41,5 ±1 ºC.), allows the motile strains of *Salmonella* to move easily and quickly.

Technique

1. Three drops (~ 0,1 mL) of a pre-enrichment culture are inoculated in three different spots on the dry surface of the Agar plate à room-temperature.
2. Incubate the plates aerobically in an upright position for no longer than 24±3 hours à 41,5±1ºC.
3. The formation of a turbid or opaque halo around the initial inoculation zone shows the presence of motile salmonellae.
4. To confirm the purity of the isolation and to carry out confirmative identification tests, samples from the outer border of the halo can be used.
5. To prevent false negative results due to the absence of motile strains of Salmonella in the samples it is advisable to simultaneously perform a standard enrichment procedure in liquid medium.

Necessary supplements

Novobiocin Selective Supplement
Vial contents:
Necessary amount for 1l of complete medium.
Novobiocin, sodium salt..... 10,00 mg

Distilled water (Solvent)

Product :
RAPPAPORT VASSILIADIS MODIFIED SEMISOLID MEDIUM BASE

Quality control

Incubation temperature: 41,5±1ºC **Incubation time:** 24± 3h

Inoculum: Pre-enrichment 18 h BPW and inoculate 3 drops on the surface of the plate. (according to ISO 11133:2014/Amd 1:2018)

Microorganism	Growth	Remarks
Salmonella enteritidis ATCC® 13076	Good	Medium turns yellow-white. Motility+
Salmonella typhimurium ATCC® 14028	Good	Medium turns yellow-white. Motility+
Escherichia coli ATCC® 8739	Inhibited to poor	Medium no turns color
Enterococcus faecalis ATCC® 19433	Inhibited	-

Uninoculated plate (Control)

Salmonella typhimurium ATCC 14028
Motility (+)

References

· De SMEDT, J.M., R. BOLDERDJIK, H. RAPPOLD & D. LAUTENSCHLAEGER (1986) Rapid Salmonella detection in foods by motility enrichment on a Modified Semisolid Rappaport Vassiliadis Medium. J. Food Protect. 49:510-514.

· De SMEDT, J.M. & R. BOLDERJIK (1987) Dynamics of Salmonella Isolation with Modified Semisolid Rappaport Vassiliadis Medium. J. Food Protect. 50:658-661.

· HOLBROOCK, R., J.M. ANDERSON, A.C. BAIRD-PARKER, L.M. DODDS, D. SAWHNEY, S.H. STRUCHBURY & D. SWAINE (1989) Rapid detection of Salmonella in food: A convenient two-day procedure. Lett. Appl. Microbiol. 8:139-142.

· ISO Standard 6579-1 (2017) Microbiology of food chain - Horizontal method for the detection, enumeration and serotyping of Salmonella - Part 1 : Detection of Salmonella spp.

. ISO 11133:2014/ Adm 1:2018. Microbiology of food, animal feed and water. Preparation, production, storage and performance testing of culture media.

· UNE-EN ISO Standard 6579-1:2017/A1 (2021) Microbiology of food chain - Horizontal method for the detection, enumeration and serotyping of Salmonella - Part 1 : Detection of Salmonella spp. - Modification 1: Extension of the incubation temperature range, modification of the status of Annex D and correction of the composition of the MSRV and SC media

Storage

For laboratory use only. Keep tightly closed, away from bright light, in a cool dry place (+4 ºC to 30 ºC).