

RAPPAPORT SOY BROTH (VASSILIADIS) ISO 6579, ISO 19250

CAT N°: 1174

For the selective enrichment of *Salmonella*

FORMULA IN g/L

| | | | |
|---|-------|-------------------------|-------|
| *Magnesium Chloride (anhydrous) | 13.40 | Monopotassium Phosphate | 1.26 |
| Sodium Chloride | 7.20 | Dipotassium Phosphate | 0.18 |
| Soy Peptone | 4.50 | Malachite Green | 0.036 |
| * Equivalent to 28.6 g/L Magnesium Chloride Hexahydrate | | | |

Final pH 5.2 ± 0.2 at 25°C

PREPARATION

Suspend 26.6 grams of the medium in 1 L of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Dispense into appropriate containers and sterilize in autoclave at 115°C for 15 minutes. DO NOT OVERHEAT. The prepared medium should be stored at 2-8°C. The color is blue.

The dehydrated medium should be homogeneous, free-flowing and beige in color. If there are any physical changes, discard the medium.

USES

RAPPAPORT SOY BROTH (VASSILIADIS) is recommended by ISO 6579, after the preenrichment step, for the selective isolation of *Salmonella spp.*

Rappaport medium was modified by Vassiliadis by reducing Malachite green concentration and increasing incubation temperature, thus offering a better stability of the pH of the prepared medium and optimizing the concentration of Magnesium chloride, resulting in an improved recovery of *Salmonellae*.

Soy peptone provides nitrogen, vitamins, minerals and amino acids essential for growth. Potassium phosphates balance the low pH of the medium, combined with the presence of Magnesium chloride to raise the osmotic pressure, and Malachite green to inhibit other organisms. Sodium chloride supplies essential electrolytes for transport and osmotic balance.

Procedure for the sampling of foods:

- Transfer 0.1 ml of Preenrichment Broth (25 g sample in 225 ml of Buffered Peptone Water (Cat. 1402) incubated at 37±1°C for 18 ± 2 hours) to 10 ml of Rappaport Soy Broth Vassiliadis.
- Incubate for 24 ± 3 hours at 41.5 ± 1°C.
- Subculture to selective agar media, for example: XLD Agar (Cat. 1274) or Salmonella Chromogenic Agar (cat. 1122) and any other medium of your choice, and incubate at 35 ± 2°C for 18 – 24 hours.
- Confirm in suitable plates and verify the biochemical and serological characteristics of the suspect colonies.

Procedure for the sampling of water:

- Transfer 0.1 ml of Preenrichment Broth (Buffered Peptone Water (Cat. 1402) incubated at 36±2°C for 18 ± 2 hours) to 10 ml of Rappaport Soy Broth Vassiliadis.
- Incubate for 24 ± 3 hours at 41.5 ± 1°C.
- Subculture to selective agar media, for example: XLD Agar (Cat. 1274) or Salmonella Chromogenic Agar (cat. 1122) and any other medium of your choice, and incubate at 35 ± 2°C for 18 – 24 hours.
- Confirm in suitable plates and verify the biochemical and serological characteristics of the suspect colonies.

MICROBIOLOGICAL TEST

The following results were obtained in the performance of the medium from type cultures after incubation at a temperature of $41.5 \pm 1^\circ\text{C}$ and observed after 24 ± 3 hours.

| Microorganisms | Medium Concentration | Growth |
|--|----------------------|--------|
| <i>Escherichia coli</i> ATCC 25922 | 99% | < 5% |
| <i>Salmonella typhimurium</i> ATCC 14028 | 1% | > 95% |

According ISO 11133: 24 ± 3 h/41, $5 \pm 1^\circ\text{C}$

| Microorganisms | Inoculum (cfu) | Productivity Qualitative | Selectivity Qualitative | Characteristic Reaction |
|---|--|--|--|---|
| <i>Salmonella typhimurium</i> ATCC 14028 + <i>Escherichia coli</i> ATCC 8739 + <i>Pseudomonas aeruginosa</i> ATCC 27853 | ≤ 100 $\geq 10^3$ $\geq 10^3$ | > 10 colonies on XLD or other medium of choice | | Colonies with black centre and a lightly transparent zone of reddish colour due to the colour change of the medium |
| <i>Salmonella enteritidis</i> ATCC 13076 + <i>Escherichia coli</i> ATCC 8739 + <i>Pseudomonas aeruginosa</i> ATCC 27853 | ≤ 100 $\geq 10^3$ $\geq 10^3$ | > 10 colonies on XLD or other medium of choice | | Colonies with black centre and a lightly transparent zone of reddish colour due to the colour change of the medium |
| <i>Escherichia coli</i> ATCC 8739 | $10^4 / 10^6$ | | Partial inhibition \leq 100 colonies on TSA | |
| <i>Enterococcus faecalis</i> ATCC 29212 | $10^4 / 10^6$ | | < 10 colonies on TSA | |

BIBLIOGRAPHY

Rappaport F., Konforti N. and Navon B. (1956) J. Clin Pathol., 9,261.

Peterz M. Wiberg C. and Norberg P. (1989) J. Appl. Bact. 66: 523-528.

UNE-EN-ISO 6579. Food Microbiology for human consumption and Animal Feed. Horizontal Method for the detection of *Salmonella* spp.

ISO19250 Water quality-Detection of *Salmonella* spp



STORAGE

Once opened keep powdered medium closed to avoid hydration.

