MSRV Medium Base

Medium for detection of motile *Salmonella* spp in animal faeces and environmental samples, according to ISO 6579.

TYPICAL FORMULA	(g/l)
Enzymatic Digest of Animal and Plant Tissue	4.6
Acid Hydrolysate of Casein	4.6
Sodium Chloride	7.3
Potassium Dihydrogenphosphate	1.5
Magnesium Chloride anhydrous	10.9
Malachite Green Oxalate	0.04
Agar	2.7
Final pH 5.2 ± 0.1 at 25°C	

DESCRIPTION

Modified semi-solid Rappaport-Vassiliadis (MSRV) Medium Base is used with Novobiocin for the selective enrichment of motile Salmonellae in animal faeces and environmental samples. The medium meets the specifications for formulation and performance recommended by ISO 6579 Amendment 1.

PRINCIPLE

Enzymatic digest of animal and plant tissue and acid hydrolysate of casein provide amino acids, nitrogen, carbon, vitamins and minerals. Sodium chloride maintains the osmotic balance of the medium. Potassium dihydrogenphosphate is the buffer. Magnesium chloride raises the osmotic pressure. Malachite green oxalate inhibits organisms other than *Salmonella* spp. Novobiocin is added as a selective agent active mostly against Gram-positive bacteria. Agar is the solidifying agent.

PREPARATION

Suspend 31.6 g of powder in 1 liter of deionized or distilled water. Heat with frequent agitation and boil for 1 minute to completely dissolved the powder. DO NOT AUTOCLAVE. Cool up to 45-50°C. Aseptically, add the contents of 1 vial of Novobiocin Supplement (ref. 81021) reconstituted with 5 ml sterile distilled water. Mix well. Pour in Petri dishes.

TECHNIQUE

For pre-enrichment, add the sample to Buffered Peptone Water (ref. 414020) at a ratio of 1:9 (e.g. 25 g per 225 ml), homogenize well and incubate at 36 ± 2°C for 16-20 h.

Inoculate the MSRV Medium plates with 0.1 ml of the pre-enrichment culture (inoculate 3 drops in three different spots, equally spaced on the medium surface). Incubate at 41.5 ± 1°C for 18-27 h.

INTERPRETATION OF RESULTS

A grey-white turbid zone extending out from the inoculated drop indicates a positive result for motile *Salmonella* spp.
Negative plates, where the medium remains blue-green around inoculation drops, should be re-incubated for a further 18-27 h.

Subculture should be carried out from the positive plates, with the inoculum being taken from the furthest edge of the migration zone. Presumptive identification is achieved by subculture onto XLD Agar (ref. 10056) and a second *Salmonella* agar of choice such as Chromatic™ Salmonella (ref. 11614). Characteristic presumptive *Salmonella* colonies should be confirmed with biochemical and serological tests.

STORAGE

The powder is very hygroscopic, store the powder at 10-30°C, in a dry environment, in its original container tightly closed and use it before the expiry date on the label or until signs of deterioration or contamination are evident. Store prepared plates at 2-8°C away from light.

WARNING AND PRECAUTIONS

For professional use only. Operators must be trained and have certain experience in the laboratory methods. Please read the instructions carefully before using this product. Reliability of assay results cannot be guaranteed if there are any deviations from the instructions in this document.

Consult the Safety Data Sheet (SDS) for information regarding hazards and safe handling practices.

DISPOSAL OF WASTE

Disposal of waste must be carried out according to the national and local regulations in force.

REFERENCES

1. ISO 6579-1:2017+Amd1:2020. Microbiology of the food chain – Horizontal method for the detection, enumeration and serotyping of Salmonella. Part 1: Detection of Salmonella spp.
2. EN ISO 11133:2014+Amd1:2018. Microbiology of food, animal feed and water − Preparation, production, storage and performance testing of culture media.
3. Rapporto ISTISAN 96/35. ISSN 1123-3117. Metodi di analisi per il controllo microbiologico degli alimenti. Raccolta a cura di D. De Medici, L. Fenicia, L. Orefice e A. Stacchini.
4. DeSmedit J.M., R. Bolderdijk, H. Rappold and D. Lautenschlaeger (1986) Rapid Salmonella detection in food by motility enrichment on a modified semi-solid Rappaport-Vassiliadis Medium. J. Food Prot. 49:510-514.
5. Vassiliadis P., D. Trichopoulos, A. Kalandidi and E. Xirouchaki (1978) Isolation of salmonellae from sewage with a new procedure of enrichment. J. Appl. Bacteriol 44:233-239.
6. Rappaport F., N. Konforti and B Navon (1956) A new enrichment medium for certain salmonellae. J. Clin. Pathol. 9:261-266.

LIOFILCHEM® S.r.l.
Via Scozia, Zona Ind.le - 64026, Roseto degli Abruzzi (TE) - ITALY
Tel +39 0858930745 Fax +39 0858930330 www.liofilchem.com liofilchem@liofilchem.com

PRODUCT SPECIFICATIONS

NAME
MSRV Medium Base

STORAGE
10-30°C

pH OF THE MEDIUM
5.2 ± 0.1

USE
Modified semi-solid Rappaport-Vassiliadis (MSRV) Medium Base is used with Novobiocin for the selective enrichment of motile Salmonellae in animal faeces and environmental samples. The medium meets the specifications for formulation and performance recommended by ISO 6579.

TECHNIQUE
Refer to technical sheet of the product

APPEARANCE OF THE MEDIUM
Powder medium
Appearance: free-flowing, homogeneous
Colour: blue
Ready-to-use medium
Appearance: slightly opalescent, semi-solid gel
Colour: blue

SHELFLIFE
4 years

QUALITY CONTROL
Appearance of Dehydrated Medium: Free-flowing, homogeneous, blue

Appearance of Prepared Medium: Slightly opalescent, semi-solid gel, blue

Expected Cultural Response

Inoculum: 10^4 CFU (productivity); 10^5-10^6 CFU (selectivity)

Incubation: 2 x (18-27 h) / 41.5 ± 1°C

Microorganism		Specification
Salmonella Enteritidis	WDCM 00030	Grey-white turbid zone extending out from inoculated drop(s) After 24-48 h the turbid zone(s) will be (almost) fully migrated over the plate
Salmonella Typhimurium	WDCM 00031	Grey-white turbid zone extending out from inoculated drop(s) After 24-48 h the turbid zone(s) will be (almost) fully migrated over the plate
Escherichia coli	WDCM 00013	Possible growth at the place of the inoculated drops(s) without a turbid zone
Enterococcus faecalis	WDCM 00009	No growth

PACKAGING

Ref. 610018	Dehydrated medium	500 g of powder in plastic bottle
Ref. 620018	Dehydrated medium	100 g of powder in plastic bottle

TABLE OF SYMBOLS

LOT Batch code	Do not reuse	Manufacturer	Use by	Fragile, handle with care
REF Catalogue number	Temperature limitation	Contains sufficient for <n> tests	Caution, consult instructions for use	

LIOFILCHEM® S.r.l.
Via Scozia, Zona Ind.le - 64026, Roseto degli Abruzzi (TE) - ITALY
Tel +39 0858930745 Fax +39 0858930330 www.liofilchem.com liofilchem@liofilchem.com