REF 04920

10158A-1211

chromID™ Salmonella Agar

IVD

Chromogenic medium for the selective isolation and differentiation of the genus *Salmonella*.

SUMMARY AND EXPLANATION

chromID™ Salmonella Agar is a selectve isolation and differentiation medium for the detection of *Salmonella* in human specimens (stools, rectal specimens) and food products according to standards NF EN ISO 6579 (1) and NF V 08-052 (2).

PRINCIPLE

chromID™ Salmonella Agar consists of a nutritive base combining different peptones and 3 chromogenic substrates which enable:

- the growth of all *Salmonella*.
- the detection of activities of specific enzymes.
- The differentiation of *Salmonella* including lactose (+) *Salmonella*, is based on the following principle:
- spontaneous pale pink to mauve colouration of strains producing esterase.

Other bacterial strains produce colonies that are different colours.
The selective mixture inhibits most Gram (+) bacteria and yeasts.

PRESENTATION

	Ready-to-use medium
REF 04920	Pack of 1x10 plates (90 mm)
	*SM

* printed on each plate.

COMPOSITION

Theoretical formula

This medium can be adjusted and/or supplemented according to the performance criteria required:

Peptones (porcine or bovine)	6.25 g
Tris	0.16 g
Lactose (bovine)	6 g
Bile Salts (bovine or ovine)	1.5 g
NaCl	5 g
Agar	14 g
Niaproof	1 mL
Chromogenic mixture	12.46 mL
Selective mixture	0.025 g
Purified water	1 L

pH 7.3 ± 0.2

REAGENTS AND MATERIAL REQUIRED BUT NOT PROVIDED

Reagents:

- Mannitol Selenite Cystine Broth, 10mL (Ref. 04242)
- Rappaport-Vassiliades Broth (Ref. 42073)
- Selenite Broth, 10mL (Ref. 04281)
- XLD Agar (Ref. 04154)
- Buffered Peptone Water 1%, 25mL (Ref. 04200)

Material:

- Bacteriology incubator

WARNINGS AND PRECAUTIONS

- **For *in vitro* diagnostic use and microbiological control.**
- **For professional use only.**
- This product contains materials of animal origin. Certified knowledge of the origin and/or sanitary state of the animals does not totally guarantee the absence of transmissible pathogenic agents. It is therefore recommended that these products be treated as potentially infectious and handled observing the usual safety precautions (do not ingest or inhale).
- All specimens, microbial cultures and inoculated products should be considered infectious and handled appropriately. Aseptic technique and usual precautions for handling the bacterial group studied should be observed throughout this procedure.
- Culture media should not be used as manufacturing material or components.
- Do not expose the medium to light.
- Do not use past the expiration date.
- Do not use if the packaging is damaged.
- Do not use contaminated plates, or plates that exude moisture.
- Interpretation of the test results should be made in taking into consideration the patient's history, colonial and microscopic morphology and, if necessary, the results of any other tests performed.
- Use of the medium may be difficult for people who have problems recognising colours.
- The performance data was obtained using the procedures indicated in this package insert. Any change or modification in the procedure may affect the results.

STORAGE CONDITIONS

Protect from light.
Store product in original packaging at 2-8°C until the expiry date.

SPECIMENS

For use in medical bacteriology
The medium is inoculated directly using stools (liquid stools or a suspension of stools in sterile physiological saline), rectal specimens or an enrichment broth.

For use in food bacteriology
Follow the recommendations in the current standards to perform specimen collection and preparation.

Good laboratory practices for collection and transport should be respected.

INSTRUCTIONS FOR USE

For use in medical bacteriology:
The detection of *Salmonella* using chromID™ Salmonella Agar may be performed using the usual faecal culture protocol:

1. **Allow plates to come to room temperature.**
2. Inoculate the chromID™ Salmonella Agar directly from the sepcimens or after enirchment using Rappaport or Selenite broth.
3. Incubate the plates inverted (agar-side up) at 35±2°C in aerobic conditions in the dark. The user is responsible for choosing the appropriate temperature for the intended use, in accordance with current standards.
4. The cultures are generally examined after 18-24 hours incubation. In certain cases it may be necessary to prolong incubation.

For use in industrial bacteriology:
This medium is suited to the simplified application of the standardized protocol NF EN ISO 6579 (1) and NF-V 08- 52 (2) for the detection of *Salmonella* in food products.
According to the NF EN ISO 6579 standard (1), isolation on chromID™ Salmonella agar should be performed in parallel with XLD agar after pre-enrichment in buffered peptone water, followed by enrichment in Rappaport-Vassiliades Broth.

1. **Allow plates to come to room temperature.**
2. Inoculate the enrichment broth onto a plate.
3. Incubate the plates inverted (agar-side up) at 35±2°C in aerobic conditions in the dark. The user is responsible for choosing the appropriate temperature for the intended use, in accordance with current standards.
4. The cultures are generally examined after 18-24 hours incubation.

READING AND INTERPRETATION
- After incubation, observe the bacterial growth.
- Record the presence of characteristic colonies of *Salmonella*: pale pink to mauve colonies.
- Identification of the microorganisms isolated must be followed by biochemical and/or immunological tests (3).

QUALITY CONTROL

Protocol:

The nutrient capacity of the medium can be tested using the following strains:
- *Salmonella enteritidis* ATCC 13076
- *Salmonella paratyphi A* ATCC 9150
- *Salmonella typhi* Clinical strain
- *Salmonella typhimurium* ATCC 14028
- *Enterococcus faecalis* ATCC 29212
- *Pseudomonas aeruginosa* ATCC 10145

Range of expected results:

Strain	Results at 35±2°C after 18-48 hours
Salmonella enteritidis ATCC 13076	Growth, mauve colonies
Salmonella paratyphi A ATCC 9150	Growth, mauve colonies
Salmonella typhi Clinical strain	Growth, mauve colonies
Salmonella typhimurium ATCC 14028	Growth, mauve colonies
Enterococcus faecalis ATCC 29212	Inhibition
Pseudomonas aeruginosa ATCC 10145	Inhibition, pale pink colonies

Note:

It is the responsibility of the user to perform Quality Control taking into consideration the intended use of the medium, and in accordance with any local applicable regulations (frequency, number of strains, incubation temperature…).

LIMITATIONS OF THE METHOD
- White preciptiates may be observed when certain microorganisms grow. These preciptiates do not have the characteristic appearance of *Salmonella* species.
- Some *Salmonella* serovars (in particular *Salmonella* Dublin, *Salmonella* Abortusovis, *Salmonella* Gallinarum) may produce a weak colouration or be slow to produce a colouration.
- Certain Gram (-) bacilli other than *Salmonella* may produce characteristic colonies. Complete identification must therefore be performed using additional tests.
- Certain stool specimens may contain free esterases which are likely to produce a pink to mauve coloration of the medium at the inoculation point.
- Depending on the sensitivity of strains to selective agents, certain Gram (+) bacteria and yeasts may grow on this medium.
- Growth depends on the requirements of each individual microorganism. It is therefore possible that certain strains of *Salmonella*, which have specific requirements may not develop.
- Depending on the specimens analysed, it is recommended that chromID™ Salmonella Agar be used in conjunction with additional media intended for faecal culture (e.g. Camplyobacter Agar, Yersinia Agar, Clostridium Difficile agars etc).
- In food microbiology, it is recommented that chromID™ Salmonella Agar be used in conjunction with media recommended by the reference standards.
- chromID™ Salmonella Agar has been evaluated on a number of bacterial strains. Given the wide variety of food products, manufacturing processes and microbial flora, it may be necessary to check that chromID™ Salmonella Agar is suited to the specific nature of the products tested.

PERFORMANCE

Performance was evaluated at 35±2°C using 37 bacterial strains.

Nutrient capacity:
Strains tested on chromID™ Salmonella Agar were all isolated.

Identification:
The sensitivity of detection and specificity of colouration of the microorganisms on are shown below:

Species or group	Number of strains isolated	Sensitivity of detection	Specificity of colouration
Salmonella spp	7	7	7
Strains other than *Salmonella*	17	17	14
Inhibitory strains	13		

These results were obtained under controlled laboratory conditions using non-clinical strains. Interpretation of this performance data should include consideration for the limitations previously stated.

WASTE DISPOSAL

Unused product may be considered as non hazardous waste and disposed of accordingly.
Dispose of all used reagents as well as any other contaminated disposable materials following procedures for infectious or potentially infectious materials.
It is the responsibility of each laboratory to handle waste and effluents produced according to their nature and degree of hazard and to treat and dispose of them (or have them treated and disposed of) in accordance with any applicable regulations.

LITERATURE REFERENCES

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2. Microbiologie des aliments. - Recherche des Salmonella. Méthode de routine. - NF V 08-052 - Mai 97 – AFNOR – ISSN 0335-3931.
3. SENTA-LOYS A., SAUVONNET V., ROGER-DALBERT C. – Impact of SM ID 2, a new chromogenic medium, on identification and susceptibility results. – Poster n° 642, Paris 2003, 23rd RICAI.
4. AGBAN A., OUNANIAN M., LUU-DUC C. et al. – Synthèse de substrats indigogéniques. Mise en évidence de l'activité estérasique des Salmonella. – Eur. J. Med. Chem., 1990, vol. 25, p. 697-699.
5. DELORME S., SENTA-LOYS A., SAUVONNET V. et al. – SM ID 2, a new chromogenic medium for isolation, detection and presomptive identification of Salmonella: comparison with SM ID, Hektoen and four commercially available chromogenic media. – Poster 933, Glasgow 2003, 13th ECCMID.
6. MANAFI M., WILLINGER B. – Comparison of three rapid methods for identification of Salmonella spp. – Lett. Appl. Microbiol., 1994, vol. 19, p. 328-331.
7. PIGNATO S., GIAMMANCO G., GIAMMANCO G. – Rambach agar and SM-ID medium sensitivity for presumptive identification of Salmonella subspecies I-VI. – J. Med. Microbiol., 1995, vol. 43 , p. 68-71.
8. RUIZ J., NUMEZ M.L., DIAZ J and al. – Comparison of five plating media for isolation of Salmonella species from human stools. – J. Clin. Microbiol., 1996, vol. 34, p. 686-688.

INDEX OF SYMBOLS

Symbol	Meaning
REF or **REF**	Catalogue number
IVD	In Vitro Diagnostic Medical Device
	Manufacturer
	Temperature limitation
	Use by
LOT	Batch code
	Protect from light
	Consult Instructions for Use
	Contains sufficient for <n> tests

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