

# Nutrient Agar with Sodium Chloride ISO

Cat. 1355

For the confirmation of Enterobacteria

## Practical information

Applications	Categories
Confirmation	Enterobacteria

Industry: Food

Regulations: ISO 21528

## Principles and uses

Nutrient Agar with Sodium Chloride is a medium recommended by the ISO normative 21528 for the confirmation of Enterobacteriaceae.

Peptone and Beef extract provide nitrogen, vitamins, minerals and amino acids essential for growth. Sodium chloride supplies essential electrolytes for transport and osmotic balance. Bacteriological agar is the solidifying agent.

This medium is used after enrichment in BPW (Cat. 1402) and subculture in VRBG Agar (Cat. 1093).

Select well-isolated characteristic colonies from a 24 hours incubated at 37 °C plate of VRBG AGAR and inoculate in Nutrient Agar with Sodium chloride. If more than one morphology is present in the colonies, select one colony of each morphology to subculture. After 24 ± 2 hours at 37°C, select a well-isolated colony from each of the incubated plates for the biochemical confirmation tests.

If any of the selected typical colonies is oxidase-negative and glucose-positive, the tube from which the subculture was derived shall be regarded as being positive for Enterobacteriaceae.

## Formula in g/L

Bacteriological agar	15	Beef extract	3
Sodium chloride	5	Enzymatic digest of animal tissues	5

## Preparation

Suspend 28 grams of the medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Sterilize in autoclave at 121 °C for 15 minutes. Cool to 47-50°C, mix well and dispense into plates.

## Instructions for use

For the purification of colonies in the detection and enumeration of Enterobacteriaceae according to ISO 21528:

- Select well-isolated characteristic colonies from a 24 hours incubated at 37 °C plate of VRBG Agar (Cat. 1092). If more than one morphology is present in the colonies, select one colony of each morphology to subculture.
- Inoculate in Nutrient Agar with Sodium chloride.
- After 24±2 hours at 37°C, select a well-isolated colony from each of the incubated plates for the biochemical confirmation tests.
- If any of the selected typical colonies is oxidase-negative and glucose-positive, the tube from which the subculture was derived shall be regarded as being positive for Enterobacteriaceae.

## Quality control

Solubility	Appearance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25°C)
w/o rests	Fine powder	Beige	Amber slightly opalescent	7,0± 0,2

## Microbiological test

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According ISO 11133:

Incubation conditions: Enterobacteriaceae, Salmonella (24±2 h/ 37±1 °C) and Yersinia enterocolitica (24±2 h/ 30±1 °C).

Inoculation conditions: Productivity qualitative: (10<sup>3</sup>-10<sup>4</sup> cfu)

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#### Microrganisms

#### Specification

Salmonella enteritidis ATCC 13076

Good growth (2)

Salmonella typhimurium ATCC 14028

Good growth (2)

Yersinia enterocolitica ATCC 23715

Good growth (2)

Escherichia coli ATCC 25922

Good growth (2)

Escherichia coli ATCC 8739

Good growth (2)

Yersinia enterocolitica ATCC 9610

Good growth (2)

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#### Storage

Temp. Min.:2 °C

Temp. Max.:25 °C

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#### Bibliography

ISO 21528: Microbiology of the food chain- Horizontal methods for the detection and enumeration of Enterobacteriaceae

The Food Hygiene (England) (no.2) Regulations 2005 Draft Statutory Instrument. England: HMSO; 2005.

SANCO 4198/2004 rev.19 (PLSPV/2001/4198/4198R19-EN.doc). Draft Comisión Regulation on Microbiological Criteria for Foodstuffs. 2005