Nutrient Agar ISO

Cat. 1060

For the cultivation of non-fastodious microorganisms in water, feces and from clinical samples.

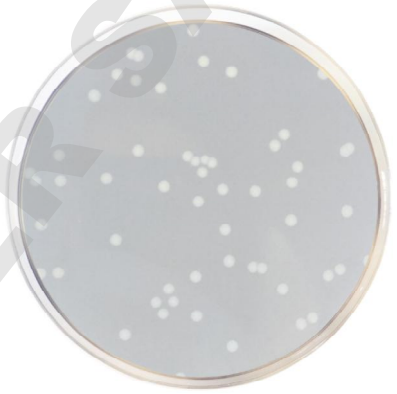
Practical information

Aplications	Categories
Growth	Mesophilic aerobic
Non selective enumeration	Mesophilic aerobic

Industry: Water / Clinical / Food

Regulations: ISO 10273 / ISO 11133 / ISO 19250 / ISO 6579

CE IVD



Principles and uses

Nutrient Agar is a general purpose medium, not selective but suitable for the cultivation of a wide variety nonfastidious microorganisms. It can be used as a colony count medium in sanitation, medical and industrial bacteriology.

There are many uses for Nutrient Agar in the bacteriological analysis of drinking water, wastewater, milk and other foods. The American Public Health Association (APHA) suggested the formula of Nutrient Agar as a standard culture medium used in water testing.

It is also used in the multiplication of microorganisms to produce vaccines and antigens in general, in the tests of sensitivity and resistance, and as a base to prepare an enriched medium by adding ascitic fluid, etc. It is used to grow microorganisms and for subsequent biochemical tests.

The Gelatin peptone and Beef extract provide nitrogen, vitamins, minerals and amino acids essential for growth. Bacteriological agar is the solidifying agent.

ISO 6579, ISO 19250 and ISO 10273 recommend this medium to obtain presuntive Salmonella and Yersinia isolated colonies respectively. Good growth will appear as translucent colonies.

Formula in g/L

Bacteriological agar	15	Peptone	5
Meat extract	3		

Preparation

Suspend 23 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 45 ºC and dispense into appropriate containers.

Instructions for use

» For clinical diagnosis, the type of sample is any clinical sample, especially feces.

- Inoculate on the surface with a handle or swab (the plates).
- Incubate plates and tubes with a tight cap at 35±2 °C for 18-24 hours.
- Reading and interpretation of the results.

» For other uses not covered by the CE marking:

Detection of Salmonella spp. and Yersinia enterocolitica according to ISO 6579, ISO 19250 and ISO 10273:
- Select one typical or suspect colony from each selective medium, if it one turns out to be negative select at least other four.

- Streak the selected colonies onto the surface of the Nutrient Agar.
- In the case of epidemiological studies, it is recommended to identify at least five colonies.
- Should there be less than five typical or suspicious colonies on a plate, all the typical or suspicious colonies will be used for confirmation.
- Incubate at 36±2 ºC for 24±3 hours.
- For isolating of Yersinia enterocolitica incubate at 30 ºC for 18-24 hours.

Quality control

Solubility	Appearance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Fine powder	Beige	Amber slightly opalescent	6,8 ± 0,2

Microbiological test

According to ISO 11133:
Incubation contitions: Productivity qualitative: E.coli (37±1 ºC / 24±2 h), Salmonella typhimurium (34-38 ºC / 24±3 h), Yersinia enterocolitica (30±1 ºC / 24±2 h).
Inoculation conditions: (10^3-10^4 CFU).

Microorganisms	Specification
Salmonella typhimurium ATCC 14028	Good growth (2)
Escherichia coli ATCC 25922	Good growth (2)
Escherichia coli ATCC 8739	Good growth (2)
Yersinia enterocolitica CECT 9144	Good growth (2)

Storage

Temp. Min.:2 ºC
Temp. Max.:25 ºC

Bibliography

Greenberg and Cooper Can. Med. Assn. J. 83:143. 1960. Wetmore and Gochenour J. Bact. 72:79, 1956
Norma UNE-EN-ISO 6579. Microbiology of food and animal feeding stuffs -- Horizontal method for the detection of Salmonella spp.
ISO 10273 Microbiology of Food and animal feeding stuffs- Horizontal method for the detection of presumptive pathogenic Yersinia enterocolitica.
ISO 19250 water quality-detection of Salmonella spp.