

# GN Enrichment Broth (Hajna)

Cat. 1248

For the selective enrichment of Gram-negative microorganisms, especially *Shigella* spp and *Salmonella* spp from all types of research materials.

## Practical information

Applications	Categories
Selective enrichment	Salmonella
Selective enrichment	Shigella

Industry: Clinical / General cultivation



## Principles and uses

GN Enrichment Broth (Hajna) was developed by Hajna for the selective enrichment of enteric Gram-negative microorganisms. GN stands for Gram-negative. It is intended for use in the detection of *Salmonella* spp. and *Shigella* spp. from clinical and non-clinical specimens.

Tryptose provides nitrogen, vitamins, minerals and amino acids essential for growth. Mannitol and dextrose are the fermentable carbohydrates providing carbon and energy. Mannitol is provided in a higher concentration than dextrose to enhance the growth of mannitol-fermenting species, such as *Salmonella* and *Shigella*, and limits the growth of *Proteus* and other dextrose-fermenting bacteria. Sodium desoxycholate and sodium citrate inhibit the growth of Gram-positive organisms. Potassium phosphate is a reagent with a very high buffering capacity. Most potassium phosphate buffer solutions consist of mixtures of the monobasic and dibasic forms of potassium phosphate to varying degrees, depending on the desired pH.

## Formula in g/L

Dextrose	1	D-mannitol	2
Potassium dihydrogen phosphate	1,5	Sodium chloride	5
Sodium citrate	5	Sodium desoxycholate	0,5
Tryptose	20	Potassium hydrogen phosphate	4

## Preparation

Suspend 39 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. Dispense into appropriate containers and sterilize in autoclave at 121 °C for 15 minutes.

## Instructions for use

For clinical diagnosis, the type of sample is urine and rectal samples.

- Inoculate and incubate in aerobic conditions at 35± 2 °C for 6-24 hours. Growth is indicated by turbidity.
- After incubation, subculture on MacConkey agar plates (Cat. 1052) or SS agar (Cat. 1064) or XLD agar (Cat. 1080) or Chromogenic Salmonella Agar (Cat.1122).
- Incubate at 35±2 °C for 18-24 hours.
- Reading and interpretation of results.

If *Proteus* and *Pseudomonas aeruginosa* are present, the growth of these in the first hours of incubation is very scarce. The growth of *Salmonella* and *Shigella* is good. Due to this, the medium must be observed after the first 6 hours of incubation.

## Quality control

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

## Microbiological test

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Incubation conditions: (35±2 °C / 6-24 h).

Microorganisms	Specification
Enterococcus faecalis ATCC 11700	Partially inhibited growth
Bacillus cereus ATCC 11778	Inhibited growth
Shigella flexneri ATCC 12022	Good growth
Salmonella typhimurium ATCC 14028	Good growth
Escherichia coli ATCC 25922	Good growth

## Storage

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Temp. Min.:2 °C  
Temp. Max.:25 °C

## Bibliography

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Hajna, A.A. 1955. A new enrichment broth medium for Gram-negative organisms of the intestinal group. Public Health Lab. 13:83-89.  
MacFaddin, J.F. 1985 Media for isolation-cultivation-identification-maintenance of medical bacteria, vol 1. p. 357-359. Williams & Wilkins, Baltimore, MD.