# 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

| Aplications | Categories |
|---|---|
| Selective enrichment | Salmonella |
| Selective enrichment | Shigella |

Industry: Clinical / General cultivation

CE
IVD

## 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 dihydrogenphosphate | 1,5 | Sodium chloride | 5 |
| Sodium citrate | 5 | Sodium deoxycholate | 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

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

## Microbiological test

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

| Microrganisms | 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

Temp. Min.:2 ºC
Temp. Max.:25 ºC

## Bibliography

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.