

**IVD** in vitro diagnosticum - For professional use only



## GN Enrichment Broth acc. to HAJNA

**GN enrichment broth acc. to HAJNA**

**Cat. No. 1.10756.0500**  
**(500 g)**

Medium proposed by HAJNA (1955) for the selective cultivation of Gram-negative intestinal bacteria (especially of *Shigella*) from all types of materials.

The yields of shigellae achieved by previous enrichment with GN enrichment broth are higher than those obtained by smearing directly onto selective or elective plates (CROFT and MILLER 1956). The yields of salmonellae and shigellae are considerably improved by using this medium, combined with XLD Agar (TAYLOR and SCHELHART 1967, 1968; DUNN and MARTIN 1971).

### See also General Instruction of Use

Warnings and precautions see [www.merck-chemicals.com](http://www.merck-chemicals.com)

#### Principle

Microbiological method

#### Mode of Action

Tryptose serves as a nutrient base. Citrate and deoxycholate act as selective agents and suppress the growth of Gram-positive microorganisms (particularly fecal streptococci), all types of spore-forming bacilli and some coliform bacteria.

Mannitol selectively promotes the growth of mannitol-metabolizing salmonellae and shigellae. Phosphate buffer prevents premature over-acidification of the culture medium by acidic metabolic products. If *Proteus* and *Pseudomonas aeruginosa* are present, they usually proliferate more slowly than salmonellae and shigellae during the first 6-8 hours of incubation.

#### Typical Composition (g/litre)

Tryptose 20.0; D(+)glucose 1.0; D(-)mannitol 2.0; di-potassium hydrogen phosphate 4.0; potassium dihydrogen phosphate 1.5; sodium chloride 5.0; sodium citrate 5.0; sodium deoxycholate 0.5.

#### Preparation and Storage

**Cat. No. 1.10756. GN Enrichment Broth acc. to HAJNA (500 g)**

Usable up to the expiry date when stored dry and tightly closed at +15 to +25°C. Protect from light.

After first opening of the bottle the content can be used up to the expiry date when stored dry and tightly closed at +15 to +25°C.

Suspend 39 g/litre, dispense into suitable containers, autoclave (15 min at 121 °C).

pH: 7.0 ± 0.2 at 25 °C.

The prepared broth is clear and yellowish.

#### Specimen

e.g. Stool.

Clinical specimen collection, handling and processing, see general instructions of use.

#### Experimental Procedure and Evaluation

Inoculate the enrichment broth with the sample material.

Incubation: approx. 6 hours at room temperature aerobically.

Spread the resulting culture thinly on the surface of elective plates.

#### Quality control

Test strains	Growth
<i>Shigella flexneri</i> ATCC 12022	good
<i>Shigella sonnei</i> ATCC 11060	good
<i>Salmonella typhimurium</i> ATCC 14028	good

<b>Salmonella enteritidis NCTC 5188</b>	<b>good</b>
<b>Escherichia coli ATCC 25922</b>	<b>good</b>
<b>Staphylococcus aureus ATCC 25923</b>	<b>none</b>
<b>Enterococcus faecalis ATCC 11700</b>	<b>none</b>
<b>Bacillus cereus ATCC 11778</b>	<b>none</b>

## Literature

- DUNN, C., a. MARTIN, W.: Comparison of media for isolation of Salmonella and Shigella from fecal specimen. - **Appl. Microbiol.**, **22**; 17-22 (1971).
- HAJNA, A.A.: A new specimen preservative for gram-negative organisms of the intestinal group. - **Publ. Hlth. Lab.**, **13**; 59-62 (1955).
- HAJNA, A.A.: A new enrichment broth medium for gram-negative organisms of the intestinal group. - **Publ. Hlth. Lab.**, **13**; 83-89 (1955).
- CROFT, C.C., a. MILLER, M.J.: Isolation of shigella from rectal swabs with HAJNA "GN" broth. - **Am. J. Clin. Path.**, **26**; 411-417 (1956).
- TAYLOR, W.I., a. SCHELHART, D.: Isolation of shigellae, IV. Comparison of plating media with stools. - **Am. J. Clin. Path.**, **48**; 356-362 (1968).
- TAYLOR, W.I., a. SCHELHART, D.: Isolation of shigellae, V. Comparison of enrichment broth with stools. - **Appl. Microbiol.**, **16**; 1383-1386 (1967).

