GN Broth, Hajna

LQ157

Intended use

Recommended for selective enrichment of gram-negative organisms of the enteric group from clinical & non clinical sample.

Composition**

Ingredients	g / L
Tryptose	20.000
Dextrose (Glucose)	1.000
Mannitol	2.000
Sodium citrate	5.000
Sodium deoxycholate	0.500
Dipotassium hydrogen phosphate	4.000
Potassium dihydrogen phosphate	1.500
Sodium chloride	5.000
Final pH (at 25°C)	7.0±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Label the ready to use LQ157 bottle. Inoculate the sample and Incubate at specified temperature and time.

Principle And Interpretation

Hajna (1) developed Gram Negative (GN) Broth as an enrichment medium for recovery of *Salmonella* and *Shigella* from clinical and non-clinical specimens such as urine, blood clots, throat swabs, swabs from eating and drinking utensils etc (1, 2). GN Broth, Hajna is also recommended by APHA (3) for the microbiological examination of foods. Croft and Miller isolated more strains of *Shigella* from rectal swabs using this medium (4). Taylor and Schelhart showed the superiority of GN Broth to selenite enrichment media for isolation of *Shigella* (5). Hajna (2,6) also suggested the enrichment of organisms from rectal swabs in this medium 1-6 hours before plating on solid media.

The medium contains tryptose, which provides amino acids and other nitrogenous substances to support bacterial growth. The combination of sodium citrate and sodium deoxycholate inhibit gram-positive and some gram-negative bacteria such as coliforms. Phosphates serve as a buffering system. Sodium chloride maintains osmotic equilibrium. The higher concentration of mannitol over dextrose limits the growth of *Proteus* and enhances growth of mannitol fermenting *Salmonella* and *Shigella. Proteus, Pseudomonas* and coliforms do not overgrow *Salmonella* and *Shigella* in GN Broth during the first 6 hours of incubation. This enrichment broth should be used in conjunction with selective and nonselective plating media to increase the probability of isolating pathogens (3,7,8).

GN Broth, Hajna should be inoculated directly with the specimen. In case of stool specimens, approximately 1 gram should be used for inoculation. Appropriate references for processing of clinical and food samples should be followed (3,8,9,10). After incubation of 6-8 hours and again after 24 hours, sub culturing on selective agar media should be carried out (7).

Type of specimen

Clinical samples - Rectal swab, faeces, urine etc.

Specimen Collection and Handling:

For clinical samples follow appropriate techniques for handling specimens as per established guidelines (11,12).

After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions

In Vitro diagnostic Use only. For professional use only. Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling clinical specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations

1. Further isolation and biochemical tests must be performed for confirmation.

2. Some strains may show poor growth due to nutritional variations.

Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

Quality Control

Appearance

Sterile GN Broth, Hajna in bottle.

Colour

Light amber coloured solution.

Quantity of medium

100 ml of medium in bottle

pH

6.80- 7.20

Sterility Check

Passes release criteria

Cultural Response

Cultural characteristics observed after an incubation at 35 - 37°C for 18 - 24 hours. Recovery is observed on MacConkey Agar (M081)

Organism	Inoculum (CFU)	Growth in GN broth	Growth after 24 hours on MacConkey Agar	Colour of colony on MacConkey Agar
Escherichia coli ATCC 25922 (00013*)	50-100	good	good	pink-red with bile ppt
Enterococcus faecalis ATCC 19433 (00009*)	50-100	none-poor	none-poor	pale pink-red
Proteus mirabilis ATCC 25933	50-100	good	good	colourless
Pseudomonas aeruginosa ATCC 27853 (00025*)	50-100	good	good	colourless
Salmonella Typhimurium ATCC 14028 (00031*)	50-100	good	good	colourless
Shigella flexneri ATCC 12022 (00126*)	50-100	good	good	colourless

Key: (*) Corresponding WDCM numbers

Storage and Shelf Life

On receipt store between 15-30°C. Use before expiry date on the label. Product performance is best if used within stated expiry period.

Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques (11,12).

Reference

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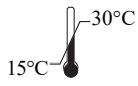
IVD ***In vitro* diagnostic medical device**



Storage temperature

EC REP CEpartner4U, Esdoornlaan 13,
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CE Marking

Do not use if package is damaged

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