

TMV 117 - GN BROTH, HAJNA (VEG.)

INTENDED USE

For selective enrichment of gram-negative organisms of the enteric group.

PRODUCT SUMMARY AND EXPLANATION

GN Veg Broth is prepared by using plant based protein hydrolysate and synthetic sources and is therefore free of TSE/BSE risks. It is prepared by using Veg Hydrolysate No.1 in place of Tryptose and Synthetic detergent No.III in place of sodium deoxycholate. GN Veg Broth is the modification of GN Broth can be used against conventional GN Broth, Hajna which is recommended by APHA for examination of foods. GN Broth, Hajna medium is generally used as a enteric enrichment broth for clinical specimens and as a nonselective enrichment broth for foods to recover *Salmonella* and *Shigella* species. Hajna suggested enrichment of organisms from clinical samples, like rectal swabs upto 6 hours before plating on solid media. This enrichment broth should be used in conjunction with selective and nonselective plating media to increase the probability of isolating pathogens. GN Veg Broth can be used for similar purposes.

COMPOSITION

| Ingredients | Gms / Ltr |
|-----------------------------|-----------|
| Veg hydrolysate No.1 | 20.00 |
| Dextrose | 1.00 |
| Mannitol | 2.00 |
| Sodium citrate | 5.00 |
| Synthetic detergent No. III | 0.50 |
| Dipotassium phosphate | 4.00 |
| Monopotassium phosphate | 1.50 |
| Sodium chloride | 5.00 |

PRINCIPLE

Veg hydrolysate No.1 serves as a source of carbon, nitrogen, vitamins and amino acids necessary for bacterial growth. Sodium citrate and Synthetic detergent No.III inhibit gram-positive and some gram-negative bacteria other than *Salmonella* and *Shigella*. 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 first 6 hours of incubation.

INSTRUCTION FOR USE

- Dissolve 39.0 grams in 1000 ml purified/distilled water.
- Heat if necessary to dissolve the medium completely.
- Dispense in test tubes or flasks as desired.
- Sterilize by autoclaving at 115°C (10 psi pressure) for 15 minutes, avoid excessive heating.

QUALITY CONTROL SPECIFICATIONS



Appearance of Powder : Light yellow coloured, may have slightly greenish tinge, homogeneous, free flowing powder.

Appearance of prepared medium pH (at 25°C) : Light amber coloured, clear to slightly opalescent solution in tubes.
: 7.0±0.2

INTERPRETATION

Cultural characteristics observed after an incubation.

| Microorganism | ATCC | Inoculum (CFU/ml) | Growth | Growth after 24 hours on MacConkey Agar | Color of the colony | Incubation Temperature | Incubation Period |
|-------------------------------|-------|-------------------|-----------|---|------------------------|------------------------|-------------------|
| <i>Escherichia coli</i> | 25922 | 50-100 | Good | Good | Pink-red with bile ppt | 35 - 37°C | 18 - 24 Hours |
| <i>Enterococcus faecalis</i> | 19433 | 50-100 | None-poor | None-poor | Pale pink-red | 35 - 37°C | 18 - 24 Hours |
| <i>Proteus mirabilis</i> | 25933 | 50-100 | Good | Good | Colourless | 35 - 37°C | 18 - 24 Hours |
| <i>Pseudomonas aeruginosa</i> | 27853 | 50-100 | Good | Good | Colourless | 35 - 37°C | 18 - 24 Hours |
| <i>Salmonella Typhimurium</i> | 14028 | 50-100 | Good | Good | Colourless | 35 - 37°C | 18 - 24 Hours |
| <i>Shigella flexneri</i> | 12022 | 50-100 | Good | Good | Colourless | 35 - 37°C | 18 - 24 Hours |

PACKAGING:

In pack size of 100 gm and 500 gm bottles.

STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.

Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL



After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

REFERENCES

1. Downes F.P and Ito K (Eds.), 2001, Compendium of Methods For The Microbio- logical Examination of Foods, 4th ed., APHA, Washington, D.C.
2. Hajna, 1955, Publ. Health Lab., 13:59.
3. Hajna, 1955, Publ. Health Lab., 13:83.
4. Hajna, 1956, Air. Univ. Sch. Ar. Med., USAF, 56:39.
5. Patrick Murray et.al, 2005, Manual of Clinical Microbiology, 7th ed., ASM, Washington, D.C.
6. Forbes, B.A., Sahem D.F and Weissfeld A.S., 2002, Bailey and Scott's Diagnos- tic Microbiology, 11th ed., The C.V. Mosby Co., St. Louis.
7. MacFaddin J.F., 2000(ed), Biochemical Tests for Identification of Medical Bac- teria, 3rd edition, Lippincott Williams and Wilkins, New York.



NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**
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