GN BROTH, HAJNA TM 117

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

Composition

Ingredients	Gms/Ltr.
Casein enzymatic hydrolysate	10.00
Pancreatic digest of animal tissue	10.00
Sodium citrate	5.00
Sodium chloride	5.00
Dipotassium phosphate	4.00
Mannitol	2.00
Monopotassium phosphate	1.50
Dextrose	1.00
Sodium deoxycholate	0.50

* Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers below 25°C and protect from direct Sunlight.

Instructions for Use

Dissolve 39gms in 1000ml distilled water. Gently heat to boiling with gentle swirling and dissolve the medium completely. Sterilize by autoclaving at 15 psi (118°C) for 15 minutes. Dispense into test tubes containing inverted Durham's tubes for detection of gas production.

Appearance: Gold to light amber, brilliant to clear with non to light ppt.
pH (at 25°C): 7.0 ± 0.2

Principle

GN BROTH, HAJNA is used for selective enrichment of gram-negative organisms of the enteric group. Medium contains ingredients Casein enzymatic hydrolysate and Pancreatic digest of animal tissue for the sources of nitrogen, carbon and vitamins. Dextrose is the energy source. Sodium chloride maintains osmotic balance in the medium. The higher the concentration of Mannitol over Dextrose favors the growth of mannitol-fermenting *Salmonella* spp. and *Shigella* spp. over mannitol non-fermenting species, such as *Proteus* species. The Monopotassium Phosphate and Dipotassium Phosphate are buffering agents. Sodium Citrate and Sodium Deoxycholate inhibit growth of Gram-positive bacteria and coliforms. Sodium Chloride maintains the osmotic balance of the medium.

Interpretation

Cultural characteristics observed after inoculating (10^3CFU / ml), on incubation at 35 - 37°C for 18 - 24hours.

Microorganisms	ATCC	Inoculum (CFU/ml)	Growth
Escherichia coli	25922	10^3	Good
Salmonella typhimurium	14028	10^3	Good
Shigella sonnei	25931	10^3	Good
Enterococcus faecalis	29212	10^2	None to poor

References

1. Hajna, A. A. A new specimen preservative for gram-negative organisms of the intestinal group. Public Health Lab. 13:59-62. (1955).
2. Hajna, A. A. A new enrichment broth medium for gram-negative organisms of the intestinal group. Public Health Lab. 13:83-89. (1955).
3. Croft, C. C., and M. J. Miller. Isolation of Shigella from rectal swabs with Hajna "GN" broth. Am. J. Clin. Path. 26:411-417. (1956).
4. Taylor, W. I., and D. Schelhart. Isolation of shigellae, IV. Comparison of plating media with stools. Am. J. Clin. Path. 48:356-362. (1967).