Technical Information

Enriched Thioglycollate Broth

Product Code: DM1738

Application: - Enriched Thioglycollate Broth is used for isolation, cultivation and identification of a wide variety of obligate anaerobic bacteria.

Composition**

Ingredients	Gms / Litre
Casein enzymic hydrolysate	17.000
Papaic digest of soyabean meal	3.000
Dextrose	6.000
Sodium chloride	2.500
Sodium thioglycollate	0.500
L-Cystine	0.250
Sodium sulphite	0.100
Hemin	0.005
Vitamin K1	0.0001
Agar	0.700
Sodium bicarbonate	1.000
Final pH (at 25°C)	7.0±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Enriched Thioglycollate Medium is recommended for isolation and cultivation of fastidious and obligate anaerobic bacteria from clinical materials [1]. This medium is also used for susceptibility testing of anaerobes by broth disk elution method. This medium is the modification of original Brewers formulation [2, 3], in which vitamin K1, sodium bicarbonate, hemin and rabbit or horse serum has been added.

Casein enzymic hydrolysate and papaic digest of soyabean meal supports growth of wide variety of fastidious microorganisms. Sodium thioglycollate lowers the oxidation-reduction potential for anaerobic growth and also neutralizes the bacteriostatic effect of mercurial compounds. Most organisms show earlier and more vigorous growth in presence of dextrose, hemin and vitamin K1. Hemin is the source of X-factor, which stimulates the growth of many microorganisms.

Methodology

Suspend 30 grams of powder media in 1000 ml distilled water. Shake well & heat to dissolve the medium completely. Dispense as desired and sterilize by autoclaving at 118-121°C for 15 minutes. Aseptically add 10% rabbit or horse serum. Cool and dry under 85% N_2, 10% H_2 and 5% CO_2 atmosphere.

Quality Control

Physical Appearance
Cream to yellow homogeneous free flowing powder

Colour and Clarity of prepared medium
Light amber coloured, clear to slightly opalescent solution in tubes

Reaction
Reaction of 3.0% w/v aqueous solution at 25°C. pH : 7.0±0.2

pH range 6.80-7.20

Cultural Response/ characteristices
DM 1738: Cultural characteristics observed under anaerobic condition, after an incubation at 35-37°C for 18-48 hours.

Organism	Inoculum (CFU)	Growth
Bacteroides vulgatus ATCC 8482	50-100	luxuriant
Clostridium perfringens ATCC 12924	50-100	luxuriant
Clostridium sporogenes ATCC 11437	50-100	luxuriant
Neisseria meningitidis ATCC 13090	50-100	luxuriant
Streptococcus pyogenes ATCC 19615	50-100	luxuriant

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.
Prepared Media: 2-8^{o} in sealable plastic bags for 2-5 days.

Further Reading

1. Allen S. D., Siders J. A. and Movler M., 1985, In Manual of Clinical Microbiology, Lennette, Balows, Hausler and Shadomy (Eds.), 4th Ed., ASM, Washington, D.C.
2. Brewer J. H., 1940 and 1943, J. Bacteriol., 39:10 and 46:395.
3. Brewer J. H., 1943. J. Bacteriol., 46:395.

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