

Technical Information

Thioglycollate Medium w/CaCO₃

Product Code: DM 1765

Application: - Thioglycollate Medium w/CaCO₃ is recommended for maintenance of anaerobic cultures, particularly highly fermentative types.

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
Calcium carbonate	0.100
Agar	0.700
Final pH (at 25°C)	7.0±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Thioglycollate Medium with CaCO₃ is a modification of the original medium of thioglycollate described by Brewer (1) and is recommended for maintenance of stock cultures.

Casein enzymic hydrolysate, soyabean meal and L-cystine supplies amino acids and other nitrogenous substances to support bacterial growth. Yeast extract provides the B-complex vitamins. Sodium chloride provides essential ions. Dextrose acts as energy source. The incorporation of calcium carbonate helps to neutralize acid produced during growth (2, 3). The reducing action provided by sodium thioglycollate and sodium sulphite binds molecular oxygen, thereby maintaining a low Eh. (4). A small amount of agar is added to retard the absorption of oxygen by reducing convection currents in the medium.

Methodology

Suspend 30.15 grams of dehydrated powder media in 1000 ml distilled water. Mix thoroughly & heat just to boil. Dispense as desired and sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 25°C and store in a cool, dry place preferably below 25°C.

Note: Due to the presence of calcium carbonate, the prepared medium forms opalescent solution with white precipitate.

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder.

Colour and Clarity

Light yellow coloured very slightly opalescent solution over a slight white precipitate on standing.

Reaction

Reaction of 3.01% w/v aqueous solution at 25°C. pH : 7.0±0.2

pH Range

6.80-7.20

Cultural Response

DM1765: Cultural characteristics observed after an incubation at 35-37°C for 18-48 hours.

Organism	Inoculum (CFU)	Growth
<i>Clostridium perfringens</i> ATCC 12924	50-100	luxuriant
<i>Clostridium sporogenes</i> ATCC 11437	50-100	luxuriant
<i>Streptococcus pyogenes</i> ATCC 19615	50-100	luxuriant

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and the prepared medium at 2 - 8°C. Use before expiry date on the label.

Prepared Media: 2-8° in sealable plastic bags for 2-5 days.

Further Reading

1. Brewer J.H 1940. J Bacteriol 39:10.
2. Vera H.D., 1944. J. Bacteriol 47:59-70.
3. Reischelderfer C, and J.I. Mangels. 1992. Cultural media for anaerobes p2.3.1-2.3.8. In H.D Isenberg (ed.), Clinical Microbiology procedures handbook, vol. 1-American Society for Microbiology, Washington.
4. MacFaddin., J.F 1985. Media for isolation-cultivation-identification-maintenance of medical bacteria, vol.1 William and Wilkins, Baltimore.

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