

Technical Information

TB Broth Base

Product Code: DM 1100

Application: TB Broth Base is used for cultivation of *Mycobacterium tuberculosis*.

Composition**

Ingredients	Gms / Litre
Proteose peptone	4.000
Yeast extract	2.000
Disodium phosphate	2.500
Monopotassium phosphate	1.000
Sodium citrate	1.500
Magnesium sulphate	0.600
Polysorbate 80	0.500
Final pH (at 25°C)	7.0±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Dubos and Davis ⁽¹⁾ formulated TB Broth media and is used for the cultivation of *Mycobacterium tuberculosis*. This medium provides dispersed growth of tubercle bacilli which is free of excessive clumps and result in the formation of uniform suspension of Mycobacteria. The medium can also be used without additives and supplements; however, sterile dextrose and sterile serum can be added for the enrichment. Addition of glycerol helps in the cultivation of *Mycobacterium tuberculosis* though some bovine strains are inhibited by it. Proteose peptone and yeast extract provide nitrogenous nutrients like amino acids and peptides, vitamin B complex and other essential nutrients. The medium is well buffered by phosphates. The salts present in the medium supply ions required for the mycobacterial metabolism. Sodium citrate inhibits gram-positive organisms and coliforms. Polysorbate 80, an oleic acid ester provides essential fatty acids for the replication of Mycobacteria.

Methodology

Suspend 12.1 grams of powder media in 1000 ml distilled water, which if desired contains 5 ml glycerol (tested to be non-inhibitory to typical cultures). Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45°C and enrich with dextrose to a final concentration of 0.5% and either bovine albumin fraction-V or serum as desired.

Quality Control

Physical Appearance

Cream to yellow homogeneous free flowing powder

Colour and Clarity of prepared medium

Yellow coloured clear solution without any precipitate.

Reaction

Reaction of 1.21% w/v aqueous solution at 25°C. pH : 7.0±0.2

pH range 6.80-7.20

Cultural Response/Characteristics

DM 1100: Cultural characteristics observed after an incubation at 35-37°C for 2-4 weeks.

Organism

Mycobacterium kansasii ATCC 12478

Mycobacterium smegmatis ATCC 14468

M. tuberculosis H37RV (25618)

Growth

luxuriant

luxuriant

luxuriant



Dehydrated Culture Media
Bases / Media Supplements

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: 2-8⁰ in sealable plastic bags for 2-5 days.

Further Reading

1. Dubos and Davis, 1946, J. Exp. Med., 83 :409.

Disclaimer :

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