



Spirolate Broth, OMATA

M412

Spirolate Broth, OMATA is used for mass cultivation of *Treponema pallidum*, Reiter strain for antigen production and other studies.

Composition**

Ingredients	Gms / Litre
Casein enzymic hydrolysate	15.000
Dextrose	5.000
Yeast extract	5.000
Sodium chloride	2.500
Sodium thioglycollate	0.500
L-Cystine hydrochloride	1.000
Final pH (at 25°C)	7.1±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 29 grams in 1000 ml distilled water. Add 0.25 grams of TEM-4TR-Diacetyl Tartaric Acid Ester of Monoglycerides of Animal Origin (TEM-4TR) if desired. Heat with frequent stirring and boil for 1 minute. Dispense in test tubes filling them half full (about 15-20 ml in 6" inch tubes). If bigger containers are used, maintain the surface to volume ratio similar to that of tubes. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool and add sterile inactivated 10% v/v sheep/rabbit bovine serum.

Principle And Interpretation

The general term spirochaete is often used to embrace *Treponema* species and organisms similar to spiral morphology. Spirolate Broth, OMATA medium was formulated by Omata and Disraely (1) for cultivating oral Fusobacteria. It is used for the mass cultivation of Reiter treponemes in a medium without agar for antigen production and other studies. It can also be used for the cultivation of other Spirochetes. Supplementation with fatty acids enhances the growth of Reiter *Treponema*.

Casein enzymic hydrolysate, yeast extract provide nitrogenous growth factors, minerals and vitamin B complex for the growth of Reiter treponemes. Dextrose serves as the carbon source. Sodium chloride maintains osmotic equilibrium of the medium. Thioglycollate minimizes the oxygen tension, which is optimum for the growth of treponemes. L-cystine hydrochloride is a reducing agent and is less toxic to Fusobacteria (1). The addition of TEM-4TR provides fatty acids, which enhances the growth of Reiter treponemes (2). Inoculate Spirolate Broth with 0.05 ml aliquots of a 7 days pure culture in Thioglycollate Medium without indicator, supplemented with 10% inactivated sheep, rabbit or bovine serum. Incubate for minimum 7 days at 35-37°C in an anaerobic atmosphere.

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Colour and Clarity of prepared medium

Light straw coloured clear to slightly opalescent solution

Reaction

Reaction of 2.9% w/v aqueous solution at 25°C. pH : 7.1±0.2

pH

6.90-7.30

Cultural Response

M412: Cultural characteristics observed with added 10% inactivated sheep/rabbit bovine serum after an incubation at 35-37°C for minimum 7 days under anaerobic conditions.

Organism

Growth

Cultural Response

Treponema pallidum (Reiter good-luxuriant strain)

Storage and Shelf Life

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

Reference

1. Omata R. R. and Disraely M. N., 1956, J. Bacteriol., 72:677.
2. Power D. A. and Pelczar M. J., 1959, J. Bacteriol., 77 : 789

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