Spirolate HiVeg™ Broth, OMATA

MV412

Intended Use:

Recommended for mass cultivation of *Treponema pallidum*, Reiter strain for antigen production and other studies.

Composition**

Ingredients	g / L
HiVeg™ hydrolysate	15.000
Dextrose (Glucose)	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 29.0 grams in 1000 ml purified/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 to 45-50ºC 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. Spirolate HiVeg™ Broth, OMATA is prepared by using vegetable peptones in place of animal based peptones which make the media free of BSE/TSE risks. HiVeg™ 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).

Type of specimen

Isolated Microorganism

Specimen Collection and Handling:

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.

Warning and Precautions :

Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations :

1. It is adviced to use 7 days pure culture to avoid erroneous results.

Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

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

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
Treponema pallidum (Reiter strain)	good-luxuriant

Storage and Shelf Life

Store between 10-30°C in a tightly closed container and the prepared medium at 2-8°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to prevent lump formation due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use. Product performance is best if used within stated expiry period.

Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques (3,4).

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
3. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
4. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.

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