

Technical Information

Bordet Gengou MiVeg Base with 1.6% Agar

Product Code : VM1175A

Application:- Bordet Gengou MiVeg with 1.6% Agar Media is used for the detection and isolation of *Bordetella pertussis* and *Bordetella parapertussis*. Also used for the "cough plate" method in case of whooping cough.

Composition

Ingredients	Gms / Litre
Potatoes infusion from	125.0
MiVeg peptone	10.00
Sodium chloride	5.50
Agar	16.00
Final pH (at 25°C)	6.7±0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

Bordet Gengou MiVeg with 1.6% Agar is prepared by using MiVeg peptones instead of peptic digest of animal tissue thus the media becomes BSE/TSE risk free. This medium is the modification of originally formulated media for cultivation of *Bordetella* species, by Bordet and Gengou (1). This media is used for diagnosing whooping cough from pharyngeal exudates, nasopharyngeal swabs. Cough plate technique are used for isolation of *Bordetella pertussis* - a causative agent of whooping cough. The medium contains Potato infusion and MiVeg peptone which serve as carbon and nitrogen source while glycerol and blood enrichment supplies additional nutrients required for the growth of organism. Being highly nutritious, these media support luxuriant growth of *Bordetella* and can be used for mass cultivation of *Bordetella pertussis* for vaccine production (2) and for maintaining stock cultures (1). Enrichment of the basal medium with 15% sheep blood aids in the detection of *Bordetella pertussis* by the virtue of its haemolytic reaction and with 25% human blood aids in the detection of *Mycobacterium* species from small sputum inocula and in Streptomycin sensitivity testing (3). Incubation should be carried out in a moist chamber (60% humidity) at 37°C upto 7 days. Medium should not be overdried before use. After incubation *Bordetella pertussis* colonies appear smooth, raised, glistening with a zone of haemolysis. This media can be selective for *Bordetella*, by using antibiotics like Penicillin (4), Methicillin (5), Cephalexin (6) amongst which Cephalexin was found to be superior. Cephalexin is used at a concentration of 40 mg/litre. Amphotericin B (10 µg/ml) can be added as an antifungal agent to the medium.

Methodology

Suspend 36.0 grams of powder media in 1000 ml distilled water containing 10 ml Glycerol. Mix thoroughly. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C and aseptically add 15 - 20% sterile, fresh defibrinated blood (sheep, rabbit, human or horse). Mix well, taking care to avoid incorporation of air bubbles and pour into sterile petri plates.

Quality Control

Physical Appearance

Light yellow coloured, may have slightly greenish tinge, homogeneous, free flowing powder.

Gelling

Firm, comparable with 1.6% Agar gel.

Colour and Clarity of prepared medium

Basal medium yields, light yellow coloured clear to slightly opalescent gel, with addition of 15% v/v sterile defibrinated blood, cherry red coloured, opaque gel forms in petri plates.

Reaction

Reaction of 3.6% w/v aqueous solution pH: 6.7±0.2 at 25°C

pH range

6.5-6.9

Cultural Response/Characteristics

Cultural characteristics observed after an incubation at 35 - 37°C for 3-4 days with added glycerol and 15%v/v sterile defibrinated blood.

Organisms (ATCC)	Growth	Haemolysis
<i>Bordetella bronchiseptica</i> (4617)	good - luxuriant	gamma
<i>Bordetella pertussis</i> (8467)	good - luxuriant	beta
<i>Bordetella parapertussis</i> (10521)	good - luxuriant	gamma

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° in sealable plastic bags for 2-5 days.

Further Reading

1. Bordet J. and Gengou O., 1906, Ann. Inst. Pasteur, 20:731.
2. Kendrick P.L. and Eldering G., 1936, Am. J. Pub. Health, 26:506.
3. Tarshis M.S. and Frisch A.W., 1951, Am. J. Clin. Path., 21:101.
4. Flemming A., 1932, J. Path. Bact., 35:831.
5. Broome C.V., Fraser D.W. and English J.W., 1979, Internat. Symp. on Pertussis, DHEW, Washington, D.C., 19.
6. Suitcliffe E.M. and Abbott J.D., 1972, B.M.J., iii:732.

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