Technical Information

Hoyle MiVeg Medium Base

Product Code : VM1015

Application:- Hoyle MiVeg Medium Base is a highly selective medium is recommended for the isolation and differentiation of *Corynebacterium diphtheriae*.

Composition

Ingredients	Gms / Litre
MiVeg peptone	10.00
MiVeg extract	10.00
Sodium chloride	5.00
Agar	15.00
Final pH (at 25°C)	7.8 ± 0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

Hoyle MiVeg Medium Base is prepared by adding MiVeg peptone and MiVeg extract in place of peptones of animal origin thus making the medium free from BSE/TSE risks. This medium is the modification of the medium modified by Hoyle (1) originally formulated by Neill for the isolation and differentiation of *Corynebacterium diphtheriae*. Like conventional medium it is less inhibitory to some *mitis* types as compared to Neill's medium but supports the rapid growth of all types of *Corynebacterium diphtheriae* so that diagnosis is possible after 18 hours incubation.

MiVeg peptone and MiVeg extract provide necessary growth nutrients to the organisms. Potassium tellurite is a selective agent that inhibits most of the normal flora of the upper respiratory tract except *Corynebacterium*. Hoyle MiVeg Medium Base is a highly selective medium and should be used in conjunction with non-selective media such as Loeffler Serum MiVeg Medium (VM1537) and Blood Agar Base w/low pH, MiVeg (VM1089) with 10% horse blood (2). *Corynebacterium diphtheriae* are usually present in small numbers permitting well isolated colonies. So, inoculation is done by directly rubbing the swab over the entire surface of the medium. If results are found negative then prolong the incubation upto 72 hours. To study the morphology, Gentian violet staining is done. It is advised to use colonies from Loeffer medium, to demonstrate the characteristic morphology and staining reactions of *Corynebacterium diphtheriae* by Neisser's or Alberts method. The toxigenicity of *Corynebacterium diphtheriae* strains can be determined by Elek's (3) method.

Methodology

Suspend 40 grams of powder media in 1000 ml distilled water. Mix thoroughly and heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 55°C and aseptically add 50 ml of laked blood and 10 ml of 3.5% Potassium Tellurite solution (MS2047). Mix well and pour into sterile plates.

Quality Control

Physical Appearance

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

Gelling

Firm, comparable with 1.5% Agar gel.

Colour and Clarity of prepared medium

Basal medium yields amber coloured gel, addition of laked blood and tellurite gives brownish red coloured, opalescent gel forms in petri plates.

Reaction

Reaction of 4.0% w/v aqueous solution is pH 7.8 ± 0.2 at 25°C.

pH Range

7.6-8.0

Cultural Response/Characteristics

Cultural characteristics observed after an incubation at 35-37°C for 18 –24 hours, with added 50 ml of laked blood and 10 ml of 3.5% Potassium Tellurite Solution (MS2047).

Organisms (ATCC)	Inoculum (CFU)	Growth	Recovery	Colony characteristics
Corynebacterium diphtheriae type *mitis*	10^2-10^3	good- luxuriant	>50%	Grey colonies with shinning surface
Corynebacterium diphtheriae type *intermedius* (14779)	10^2-10^3	good- luxuriant	>50%	Grey colonies with darker centres.
Enterococcus faecalis (29212)	10^2-10^3	good- luxuriant	>50%	Black minute colonies
Escherichia coli (25922)	I10^2-10^3	good- luxuriant	0%	_

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: 2-8^0 in sealable plastic bags for 2-5 day.

Further Reading

1. Hoyle I., 1941, Lancet., 1:175.
2. MacFaddin J.F., 1985 (ed), Media for Isolation-Cultivation-Identification Maintenance of Medical Bacteria, Vol I, William and Wilkins, Baltimore.
3. Elek S.D., 1948, Brit. Med. J., 1:493.

Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
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