

Technical Information

C. botulinum Isolation MiVeg Agar Base

Product Code : VM1911

Application:- C.botulinum Isolation MiVeg Agar Base is a selective media, recommended for isolation of *Clostridium botulinum* from food samples.

Composition

Ingredients	Gms / Litre
MiVeg hydrolysate	40.0
Yeast extract	5.0
Dextrose	2.0
Disodium phosphate	5.0
Sodium chloride	2.0
Magnesium sulphate	0.01
Agar	20.0
Final pH (at 25°C)	7.4 ±0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

C. botulinum Isolation MiVeg Agar Base is prepared by using MiVeg hydrolysate instead of casein enzymic hydrolysate which makes the medium free from BSE/TSE risks. This medium is the modification of C. botulinum Isolation Agar Base recommended by APHA for selective isolation of *Clostridium botulinum* from food samples (1). This organism occurs in soils, in sediments of oceans and lakes and therefore by chance the food may be get contaminated from these sources.

By adding the antibiotic supplement (MS2049) containing Cycloserine, Sulphamethoxazole and Trimethoprim the medium becomes very selective as these are broad spectrum antibiotics. Egg yolk emulsion helps in detecting lecithinase, lipase and proteolytic activity. Lecithin present in the egg yolk is degraded by lecithinase which produce an insoluble, opaque precipitate in the medium surrounding the growth (2). Lipase break down free fats present in the egg yolk causing an iridescent (oil on water) sheen to form on the surface of the colonies.

This medium contains MiVeg hydrolysate and yeast extract which supplies amino acids and other nitrogenous substances and vitamin B complex. Dextrose provides fermentable carbohydrate source. Disodium phosphate maintains in buffering system of the medium while magnesium sulphate supports in sporulation of the organisms.

Methodology

Suspend 37 grams of powder media in 450 ml distilled water. Mix thoroughly. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 50-55°C and aseptically add sterile 50 ml Egg Yolk Emulsion (MS2045) and CBI Supplement (MS2049). Mix well 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 2.0% Agar gel.



Dehydrated Culture Media
Bases / Media Supplements

Colour and Clarity of prepared medium

Basal medium yields yellow coloured slightly opalescent gel. With addition of egg yolk emulsion (MS2045) and CBI supplement (MS2049), light yellow coloured opalescent gel forms in petri plates.

Reaction

Reaction of medium (7.4 gm in 90 ml distilled water) is pH 7.4 ± 0.2 at 25°C

pH range

7.2-7.6

Cultural Response/Characteristics

Cultural characteristics observed after an incubation at $35-37^{\circ}\text{C}$ for 24-48 hours under anaerobic conditions with added Egg Yolk Emulsion (MS2045) and CBI Supplement (MS2049).

Organisms (ATCC)	Inoculum (CFU)	Growth	Lecithinase	Recovery
<i>Clostridium botulinum</i> (25763)	10^2-10^3	good-luxuriant	+	>50%

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: $2-8^{\circ}$ in sealable plastic bags for 2-5 days.

Further Reading

1. Vanderzant C and Splittstoesser (Eds.), 1992, Compendium of Methods For The Microbiological Examination of Foods, 3rd ed., APHA, Washington, D.C.
2. Finegold and Baron, 1986, Bailey and Scott's Diagnostic Microbiology, 7th ed., The C.V. Mosby Company, St. Louis.

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