Technical Information

Wilson Blair MiVeg Agar Base

Product Code : VM1331

Application:- Wilson Blair MiVeg Agar Base with the addition of selective reagent is recommended for the isolation of *Salmonellae* particularly *Salmonella* serotype Typhi.

Composition**

Ingredients	Gms / Litre
MiVeg special peptone	10.0
MiVeg extract	5.0
Dextrose	10.0
Sodium chloride	5.0
Agar	30.0
Final pH (at 25°C)	7.3 ± 0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

Wilson Blair MiVeg Agar Base is prepared by adding MiVeg special peptone and MiVeg extract in place of Special peptone and Beef extract of animal origin thereby making the medium free from BSE/ TSE risks. This medium is the modification of Wilson and Blair Agar which was formulated by Wilson and Blair (1) for the isolation of *Salmonella* species especially *Salmonella* serotype Typhi from clinical specimens which is the modification of the bismuth sulphite reagent described by Hajna and Perry (2).

MiVeg special peptone and MiVeg extract supply nitrogenous, carbonaceous compounds and certain other essential growth nutrients. Brilliant green dye inhibits gram-positive bacteria. Dextrose is the fermentable carbohydrate. Ferrous sulphate is an indicator of H_2S (hydrogen sulphide) production. Bismuth is a heavy metal which is inhibitory to most gram-negative enteric bacilli other than *Salmonella*. In presence of bismuth sulphite and dextrose *Salmonella* species, reduces ferrous sulphate to iron sulphide i.e, indicated by black coloured colonies. Disodium hydrogen phosphate has buffering capacity whereas sodium chloride maintains the osmotic equilibrium.

Do not store the medium in refrigerator (4°C) for longer than 2 days, as the medium changes to green colour and reduces its selectivity.

Methodology

Suspend 60 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. Add 4 ml of 1% Briliant green solution and 70 ml of selective reagent.

Selective Reagent :

Solution 1 : 40 gm Sodium sulphite in 100 ml distilled water.
Solution 2 : 21 gm Dibasic sodium phosphate in 100 ml distilled water.
Solution 3 : 12.5 gm Bismuth ammonium citrate in 100 ml distilled water.
Solution 4 : 0.96 gm Ferrous sulphate in 20 ml distilled water with 2 drops of hydrochloric acid.

Prepare each solution separately and then combine. Boil the combined solution until a slate grey colour develops.

Quality Control

Physical Appearance

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

Gelling

Firm, comparable with 3.0% Agar gel.

Colour and Clarity of prepared medium

Basal medium yields light yellow coloured, clear to slightly opalescent gel. With addition of selective reagent greenish yellow coloured opaque gel forms in petri plates.

Reaction

Reaction of 6.0% w/v aqueous solution is pH 7.3 ± 0.2 at 25°C.

pH Range

7.1-7.5

Cultural Response/Characteristics

Cultural characteristics observed with added selective reagents after an incubation at 35 - 37°C for 24 - 48 hours.

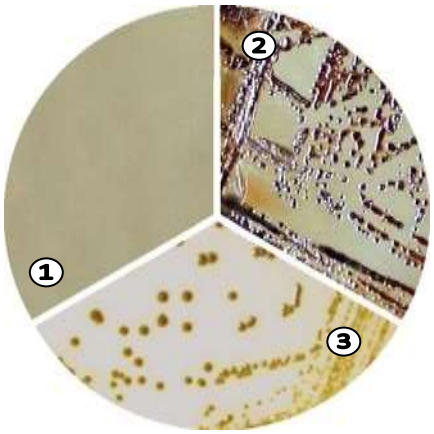
Organisms (ATCC)	Inoculum (CFU)	Growth	Recovery	Colour of Colony
Escherichia coli (25922)	10^2-10^3	Inhibited	0%	-
Proteus mirabilis (25933)	10^2-10^3	Luxuriant	>50%	Green
Salmonella serotype Typhi (6539)	10^2-10^3	Luxuriant	>50%	Black With Sheen
Salmonella serotype Typhimurium (14028)	10^2-10^3	Luxuriant	>50%	Black With Sheen

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. Willson and Blair, 1926, J.Pathol. Bacteriol., 29 : 310.
2. Hajna and Perry, 1938, J. Lab. Clin. Med., 23:1:85.



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1. Control
2. *Salmonella* serotype Typhimurium
3. *Proteus mirabilis*

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