Technical Information

Double Sugar MiVeg Agar

Product Code : VM1057

Application:- Double Sugar MiVeg Agar is used for the differentiation of gram-negative enteric bacilli on the basis of their ability to ferment dextrose and lactose with or without gas formation.

Composition**

Ingredients	Gms / Litre
MiVeg peptone	2.5
MiVeg hydrolysate	7.5
MiVeg extract	3.0
Lactose	10.0
Dextrose	1.0
Sodium chloride	5.0
Phenol red	0.025
Agar	15.0
Final pH (at 25°C)	7.3 ± 0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

Double Sugar MiVeg Agar is prepared by adding vegetable peptone in place of animal based peptone thus making the medium free from BSE/TSE risks. This medium is the modification of the medium which is based upon the original formula of Russell (1) except the litmus is now substituted by phenol red and used for differentiating gram- negative enteric bacilli especially the colon-typhoid-salmonellae-dysentery groups based on the fermentation of dextrose and lactose. After the incubation, the acid production in aerobic condition (on the slant) and under anaerobic condition (in the butt) can be detected by the change in colour of the indicator. Phenol red act as pH indicator of the medium. Gaseous fermentation is indicated by the splitting of the agar or by the bubble formation in the butt. Organism like *Salmonella* serotype Typhi capable of fermenting dextrose but not lactose, will show an initial acid slant in short incubation period. As the dextrose is consumed, the reaction under aerobic condition reverts and becomes alkaline. Under anaerobic condition in the butt, the same organisms fail to revert the reaction and remain acidic.

Methodology

Suspend 44.02 grams of powder media in 1000 ml distilled water. Mix thoroughly. Heat to boiling to dissolve the medium completely. Dispense in tubes or as desired and sterilize by autoclaving at 12-15 lbs pressure (118-121°C) for 15 minutes. Allow the tubes to solidify in slanting position to form generous butt.

Quality Control

Physical Appearance

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

Gelling

Firm, comparable with 1.5% Agar gel.

Colour and Clarity of prepared medium

Red coloured, clear to slightly opalescent gel forms in tubes as slants.

Reaction

Reaction of 4.4% 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 after an incubation at 35 - 37°C for 18 - 40 hours.

Organisms (ATCC)	Inoculum (CFU)	Growth	Slant	Gas	Butt
Escherichia coli (25922)	10^2-10^3	luxuriant	A	+	A
Proteus vulgaris (13315)	10^2-10^3	luxuriant	K	+	A
Pseudomonas aeruginosa (27853)	10^2-10^3	luxuriant	K	-	K
Salmonella serotype Typhimurium (14028)	10^2-10^3	luxuriant	K	+	A
Shigella dysenteriae (13313)	10^2-10^3	luxuriant	K	-	A

Key : A = acidic reaction, yellowing of the medium
K = alkaline reaction, red colour of the medium

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 days.

Further Reading

1. Russell, 1911, J. Med. Res., 25:217.

Disclaimer :

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