Technical Information

Kanamycin Esculin Azide MiVeg Broth

Product Code :VM1776

Application:- Kanamycin Esculin Azide MiVeg Broth is used for isolation of *Enterococci* in foodstuffs.

Composition

Ingredients	Gms / Litre
MiVeg hydrolysate	20.00
Yeast extract	5.00
Sodium chloride	5.00
Sodium citrate	1.00
Esculin	1.00
Ferric ammonium citrate	0.50
Sodium azide	0.15
Kanamycin sulphate	0.02
Final pH (at 25°C)	7.0 ± 0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

Kanamycin Esculin Azide MiVeg Broth is prepared by adding MiVeg hydrolysate in place of Casein enzymic hydrolysate thus making the medium free from BSE/TSE risks. This medium is the modification of Kanamycin Esculin Azide Medium which was formulated as per Mossel et al (1,2) for *Enterococci* detection in food stuffs. Like, conventional media, this medium can also be used for bacteriological examination of food stuff using dip slide method (3).

MiVeg hydrolysate, yeast extract provides necessary nutrients for *Enterococci*. Kanamycin sulphate and sodium azide are the selective inhibitory components. Esculin and ferric ammonium citrate together form the indicator system to detect esculin-hydrolysing *Enterococci*.

Mossel et al (4) described the following procedure as - 1gm/1ml food sample is added to prechilled diluent (Tryptone water, MiVeg VM1463) and decimal dilutions are prepared, which are then inoculated onto Kanamycin Esculin Azide MiVeg Broth (VM1776) and incubated at 35°C for upto 16 -24 hours. Blackening of medium indicates esculin hydrolysis due to microbial action.

Methodology

Suspend 32.67 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.

Warning: Sodium azide has a tendency to form explosive metal azides with plumbing materials thus it is advisable to use enough water to flush off the disposables.

Quality Control

Physical Appearance

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

Colour and Clarity of prepared medium

Medium amber coloured, clear solution in tubes.

Reaction

Reaction of 3.27% w/v aqueous solution is pH 7.0 ± 0.2 at 25°C.

pH Range

6.8-7.2

Cultural Response/Characteristics

Cultural characteristics observed after an incubation at 35°C or 42°C for 18-24 hours.

Organisms (ATCC)	Inoculum (CFU)	Growth	Esculin hydrolysis
Enterococcus faecium (19434)	10^3-10^5	luxuriant	+
Enterococcus bovis (27960)	10^3-10^5	luxuriant	+
Escherichia coli (25922)	10^3-10^5	inhibited	–
Staphylococcus aureus (25923)	10^3-10^5	inhibited	–
Enterococcus faecalis (29212)	10^3-10^5	luxuriant	+

Key : + = blackening of medium / black zone around the colony.

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. Mossel D.A.A., Bijker P.G.H. and Eelderink I., 1978, Arch. Lebensmittel - hyg., 29:121.
2. Mossel D.A.A., el al, 1978, In : 'Streptococci.', Skinner F.A. and Quesnel L. B. (Eds.), SAB Symposium, series No.7, Academic Press, London.
3. Mossel D.A.A., et al, 1976, Lab. Practice, 25:393.
4. Mossel D.A.A., Harrenwijn G.A. and Elzebroek B.J.M., 1973, UNICEF, Geneva.

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