Technical Information

Kanamycin Esculin Azide Agar Base

Product Code: DM 1510A

Application: - Kanamycin Esculin Azide Agar Base is recommended for isolation of Group D Streptococci in foodstuffs.

Composition**

Ingredients	Gms / Litre
Casein enzymic hydrolysate	20.000
Yeast extract	5.000
Sodium chloride	5.000
Sodium citrate	1.000
Esculin	1.000
Ferric ammonium citrate	0.500
Sodium azide	0.150
Agar	10.000
Final pH (at 25°C)	7.0±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Kanamycin Esculin Azide media are formulated as per Mossel et al (1, 2) to detect Enterococci in food stuffs. Mossel et al (3) recommended it for the dip slide technique for bacteriological monitoring of foods.

Casein enzyme hydrolysate, yeast extract provides nitrogeneous and carbonaceous compounds, long chain amino acids, vitamins and other supplies essential nutrients for Enterococci. Kanamycin sulphate and Sodium azide are the selective inhibitory components. Esculin and Ferric ammonium citrate together form indicator system to detect esculin - hydrolysing Streptococci forming black zones around the colonies.

Mossel et at (4) adopted the following procedure as - 1gm or 1ml mixed food is added to prechilled diluent (Tryptone water DM1463) and decimal dilutions are prepared. The decimal dilution are inoculated in Kanamycin Esculin Azide Broth (DM1776) and incubated at 35° for 16 -24 hours.

Methodology

Suspend 21.32 grams of dehydrated powder media in 500ml distilled water. Mix thoroughly & heat to boil to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45 50°C and aseptically add rehydrated contents of one vial of Kanamycin Sulphate Selective Supplement (MS 1146). Shake well before pouring into sterile petri plates.

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

Quality Control

Appearance
Light yellow to light brown coloured homogeneous free flowing powder

Gelling
Firm, comparable with 1.0% Agar gel.

Colour and Clarity
Medium amber coloured clear to slightly opalescent gel with purplish tinge forms in petri plates.

Reaction
Reaction of 4.26% w/v aqueous solution at 25°C. pH : 7.0±0.2

pH Range
6.80-7.20

Cultural Response
DM 1510A: Cultural characteristics observed after an incubation at 35-37°C or 42°C for 18-24 hours.

Organism	Inoculum (CFU)	Growth	Recovery	Esculin Hydrolysis
Enterococcus bovis ATCC 27960	50-100	luxuriant	>=50%	Positive reaction, blackening of medium around the colony
Enterococcus faecium ATCC 19434	50-100	luxuriant	>=50%	Positive reaction, blackening of medium around the colony
Escherichia coli ATCC 25922	>=10^4	inhibited	0%	-

Storage and Shelf Life

Dried Media: Store between 10-30°C in a tightly closed container and the prepared medium at 2-8°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to prevent lump formation due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use. Product performance is best if used within stated expiry period.

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., et al., 1978, In : Streptococci., Skinner F.A. and Quesnel L. B. (ed.), 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.
5. Reuter E., 1985, Inter. J. Food Microbiol., 2:103.

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