

Technical Information

K.R.A.N.E.P. MiVeg Agar Base

Product Code :VM1583

Application:- K.R.A.N.E.P. MiVeg Agar Base is recommended for *Staphylococcal* enumeration in food stuffs.

Composition

Ingredients	Gms / Litre
MiVeg peptone	5.0
Sodium chloride	5.0
Yeast extract	1.5
MiVeg extract	1.5
Potassium thiocyanate	25.5
Sodium pyruvate	8.2
Mannitol	5.1
Lithium chloride	5.1
Sodium azide	0.05
Cycloheximide	0.041
Agar	15.0
Final pH (at 25°C)	6.8 ± 0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

K.R.A.N.E.P. MiVeg Agar Base is prepared by adding MiVeg peptone and MiVeg extract in place of peptic digest of animal tissue and beef extract respectively thus making the medium free from BSE/TSE risks. K.R.A.N.E.P. MiVeg Agar Base is labelled with initial letters of its main diagnostic, selective and stimulatory agents like Kalium-Rhodanid- Actidione- Natriumazid-Eigelb-Pyruvate. This medium is the modification of media recommended by Sinnell and Baumgart for selective enumeration of the total *Staphylococcal* count from foodstuffs (1).

Like conventional medium it is made selective by the addition of selective and diagnostic agents. Skorkovsky (2) added potassium thiocyanate and mannitol, Sinnell and Baumgart (3) used sodium azide and cycloheximide, Baird-Parker (4) used sodium pyruvate as a selective growth stimulant and Gillespie and Alder (5) added egg yolk as a diagnostic agent.

MiVeg peptone, MiVeg extract and yeast extract provide necessary growth nutrients. Cycloheximide inhibits of the yeasts and moulds. Sodium azide inhibits bacterial contaminants such as (6) *Enterococci*, *Sarcina* and *Proteus* species (4,

Methodology

Suspend 72 grams of powder media in 900 ml distilled water. Mix thoroughly and heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15lbs pressure (121°C) for 15 minutes. Cool to 50°C and aseptically add sterile 100 ml of Egg Yolk Emulsion (MS2045). Mix well before pouring into sterile petriplates.

Warning: Cycloheximide is very toxic and Lithium chloride is harmful. Avoid skin contact or aerosol formation and inhalation. As sodium azide has a tendency to form explosive metal azides with plumbing materials, use enough water to flush off the disposables.

Quality Control

Physical Appearance

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

Gelling

Firm, comparable with 1.5% Agar gel.

Colour and Clarity of prepared medium

Light yellow coloured, slightly opalescent gel forms in petri plates.

Reaction

Reaction of 7.2% w/v aqueous solution is pH 6.8 ± 0.2 at 25°C.

pH Range

6.6 - 7.0

Cultural Response/Characteristics

Cultural characteristics observed after an incubation at 35-37°C for 24-48 hours with added sterile Egg Yolk Emulsion (MS2045)

Organisms (ATCC)	Inoculum (CFU)	Growth	Recovery	Colony characteristics	Lecithinase
<i>Staphylococcus aureus</i> (25923)	10^2 - 10^3	luxuriant	>50%	golden shiny	+
<i>Staphylococcus epidermidis</i> (12228)	10^2 - 10^3	luxuriant	>50%	white shiny	-

Key : + = opalescent zone around 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° in sealable plastic bags for 2-5 day.

Further Reading

1. Sinell H.J. and Baumgart J. 1967, Zbl. Bakt. I. Abt. Orig., 204:248.
2. Skorkovsky B., 1963, Zent. Bl. Bakt. I. Abt., Orig., 558.
3. Sinnell H. J. and Baumgart J., 1965, Zent. Bl. Bakt. I. Abt. Orig., 197:447.
4. Baird - Parker A.C., 1962, J. Appl. Bact., 25:12.
5. Gillespie W.A. and Alder V.G., 1952, J. Pathol. Bacteriol., 64:187.
6. Appleman M. D., 1963, J. Appl. Bact. 26, ii, Society for Applied Bacteriology : Meetings.
7. Crisley F.D., Peeler J.T. and Angelotti R., 1965, J. Appl. Microbiol., 13:140.

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