Dehydrated Culture Media
Bases / Media Supplements

Technical Information

Urea MiVeg Agar Base (Christensen)

Product Code : VM1112

Application:- Urea MiVeg Agar Base with urea addition is recommended for the differentiation and detection of urease production, particularly by members of the genus *Proteus*.

Composition

Ingredients	Gms / Litre
MiVeg peptone	1.0
Dextrose	1.0
Sodium chloride	5.0
Disodium phosphate	1.2
Monopotassium phosphate	0.8
Phenol red	0.012
Agar	15.0
Final pH (at 25°C)	6.8 ± 0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

Urea MiVeg Agar Base is prepared by adding MiVeg peptones in place of Peptic digest of animal tissue thereby making the medium BSE/TSE risks free. Urea MiVeg Agar Base is the modification of Urea Agar Base which was formulated in accordance with Christensen formulation (1, 2) who modified the original medium formulated by Rustigian and Stuart (3). This medium differentiates between rapid urease positive *Proteus* species, other urease positive organisms like *Citrobacter*, *Enterobacter, Klebsiella* and bacteria other than *Enterobacteriaceae*.

Addition of MiVeg peptone, dextrose and reduced content of buffer helps to support an early luxuriant growth. Inoculate heavy inoculums onto the slants surface. Incubate the medium at 35-37°C for 18-24h. The urease producing organisms consumes urea with formation of ammonia that makes medium alkaline i.e., indicated by the change in colour of the medium to red. Phenol red is the indicator. Prolonged incubation may cause alkaline reaction in the medium. Check using medium without urea as the negative control.

Methodology

Suspend 24 grams of powder media in 950 ml distilled water. Mix thoroughly. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 10 lbs pressure (115°C) for 20 minutes. Cool to 50°C and aseptically add 50 ml of sterile 40% Urea Solution (MS2048). Mix well and dispense into sterile tubes. Allow the tubes to set in the slanting position. Do not overheat or reheat the medium as urea decomposes very easily.

Quality Control

Physical Appearance

Light orange coloured, homogeneous, free flowing powder.

Gelling

Firm, comparable with 1.5% Agar gel.

Colour and Clarity of prepared medium

Yellowish orange coloured, clear gel forms in tubes as slants.

Reaction

Reaction of 2.4% 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 for 18-24 hours on addition of sterile 40% Urea Solution (MS2048).

Organisms (ATCC)	Inoculum (CFU)	Growth	Recovery	Urease
Enterobacter aerogenes (13048)	10^2-10^3	luxuriant	>70%	-
Escherichia coli (25922)	10^2-10^3	luxuriant	>70%	-
Klebsiella pneumoniae (13883)	10^2-10^3	luxuriant	>70%	+
Proteus mirabilis (10975	10^2-10^3	luxuriant	>70%	+
Proteus vulgaris (13315)	10^2-10^3	luxuriant	>70%	+
Salmonella serotype Typhimurium (14028)	10^2-10^3	luxuriant	>70%	-

Storage and Shelf Life

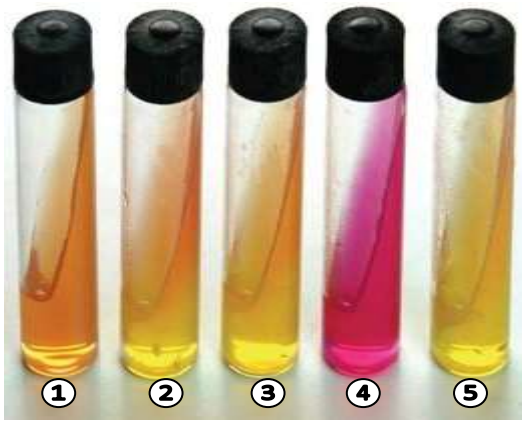
Dried Media: Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.
Prepared Media: 2-8^0 in sealable plastic bags for 2-5 day.

Further Reading

1. Christensen, W.B., 1946, J. Bact., 52:461.

2. MacFaddin J.F., 2000(ed), Biochemical Tests for Identification of Medical Bacteria, 3rd edition, Lippinicott Williams and Wilkins, New York.

3. Rustiian and Stuart, 1941, Proc.Soc.Exp.Biol. Med., 47 :108.



VM1112 Urea MiVeg Agar Base (Christensen)

1. Control
2. *Enterobacter aerogenes*
3. *Escherichia coli*
4. *Proteus mirabilis*
5. *Salmonella* serotype Typhimurium

Disclaimer :

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