Technical Information

Antibiotic MiVeg Assay Medium No. 6

Product Code :VM1223

Application:- Antibiotic MiVeg Assay Medium No. 6 is recommended for induction of spore production in *Bacillus subtilis* strains used in antibiotic assay.

Composition

Ingredients	Gms / Litre
MiVeg hydrolysate	17.000
Papaic digest of soyabean meal	3.000
Sodium chloride	5.000
Dextrose	2.500
Dipotassium phosphate	2.500
Manganese sulphate	0.030
Final pH (at 25°C)	7.0±0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

Antibiotic MiVeg Assay Medium No. 6 is prepared by using vegetable peptones instead of animal peptones, which makes the medium free from BSE-TSE risks. This medium is a common medium for the assay of various antibiotics and can be used for the same purpose of Antibiotic Assay Medium No. 6. Antibiotic Assay media are used in the performance of antibiotic assays. Grove and Randall have elaborately elucidated the methods to perform these assays and various media used for this test (1). Schmidt and Moyer have reported the use of antibiotic assay medium for the liquid formulation used in the performance of antibiotic assay (2). These media are recommended by USP (3) and FDA (4). This broth is a modification of animal based Antibiotic Assay Medium No. 6 and is also used for sterility checking procedures of several preparations. It is recommended for inoculum development and spore induction of *Bacillus subtilis* for antibiotic assay. Manganese helps to influence and enhance sporulation in the *Bacillus* species (5, 6). Thermophilic bacteria such as *Bacillus stearothermophilus* can grow at 55 - 65°C while an incubation period of 30 to 35°C is optimum for culture and sporulation of mesophilic spore formers (7). It has been reported that organisms recovered from spoilage of foods such as fruit drinks, tomatoes ,acidified onions and other canned foods sporulate well aerobically on nutrient agar with added manganese (8).

It contains MiVeg hydrolysate and papaic digest of soyabean meal which supplies the nutrients and growth factors. Dextrose is an energy source in the medium. Dipotassium phosphate maintains the buffering system. Manganese sulphate helps in the early initiation of *Bacillus* species.

Methodology

Suspend 30.03 grams of powder media in 1000 ml distilled water. Mix thoroughly. Heat if necessary to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Quality Control

Physical Appearance

Cream to yellow Homogeneous Free flowing powder

Colour and Clarity of prepared medium

Light amber clear may contain a slight precipitate.

Reaction

Reaction of 3.0 % w/v aqueous solution pH: 7.0 ±0.2 at 25°C

pH range

6.80-7.20

Cultural Response/Characteristics

Cultural characteristics observed after an incubation at different temperatures for 6 days.

Organisms (ATCC)	Inoculum (CFU)	Growth	Incubated at	Spore
Bacillus cereus ATCC 10876	50-100	luxuriant	30°C	Positive
Bacillus stearothermophilus ATCC 25611	50-100	luxuriant	55°C	Positive
Bacillus subtilis ATCC 6633	50-100	luxuriant	35°C	Positive
Bacillus pumilus ATCC14884	50-100	luxuriant	35°C	Positive

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. Grove and Randall, Assay Methods of Antibiotics Medical Encyclopedia, Inc. New York. .
2. Schmidt and Moyer JB, 47:199.
3. United States Pharmacopoeia 2011 , USP 34/NF 29 , US Pharmacopoeial Convention, Inc., Rockville, MD.
4. Tests and Methods of Assay of Antibiotics and Antibiotic containing Drugs F, CFR, 1983. Title 21, part 436, Subpart D, Washington, D.C. U.S Government printing office, paragraphs 436, 100-436, 106 pg 242-259 (April 1).
5. Vasantha and Freese, J.Gen.Microbiol. 112:329-336.
6. Charney J, Fisher, W.P. and Hegarty, C.P. 1951. J. Bacteriol. 62:1.
7. Downes FP& Itok (EDs) 2001.Compendium of methods for the microbiological examination of foods. 4th ed.APHA,Washington, DC.
8. Maunder DTEocffmsM, Metal Div. R. and D, Continental Can Co., Inc., Oak Brook, III

Disclaimer :

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