Technical Information

Antibiotic MiVeg Assay Medium No.37

Product Code : VM2667

Application:- Antibiotic MiVeg Assay Medium No.37 is recommended for cultivation of wide variety of microorganisms and sterility testing of pharmaceutical preparations.

Composition

Ingredients	Gms / Litre
MiVeg hydrolysate	17.000
Papaic digest of soyabean meal	3.000
Dextrose	2.500
Sodium chloride	5.000
Dipotassium phosphate	2.500
Final pH (at 25°C)	7.3±0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

Antibiotic MiVeg Assay Medium No. 37 is prepared by using vegetable peptones instead of animal peptones, which makes the medium BSE/TSE risks free. Grove and Randall have elucidated the antibiotic assays and media in their comprehensive treatise on antibiotic assays (1) and are also formulated as per CFR and USP (2,3).

This medium serves the same purpose of Antibiotic Assay Medium No. 37, hence can also be used for cultivation of fastidious and non-fastidious organisms and sterility testing of pharmaceutical preparations.

It is also used for the sensitivity testing by the tube dilution method for antimicrobial agents (4). Turbidimetric antibiotic assay is based on the change or inhibition of growth of a test microorganisms in a liquid medium containing a uniform concentration of an antibiotic. After incubation of the test organism in the working dilutions of the antibiotics, the amount of growth is determined by measuring the light transmittance using spectrophotometer. The concentration of antibiotic is determined by comparing amounts of growth obtained with that given by the reference standard solutions. Use of this method is appropriate only when test samples are clear.

The combination of MiVeg hydrolysate and Papaic digest of soyabean meal makes this medium nutritious by providing amino acids and long chain peptides for the growth of microorganisms. Dextrose serves as the carbohydrate source and dipotassium phosphate faclitates buffering in the medium. The osmotic balance of the medium is maintained by sodium chloride.

Methodology

Suspend 30 grams of powder media in 1000 ml purified/distilled water. Mix thoroughly. Heat to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 25°C and store in a cool dark place preferably below 25°C.

Quality Control

Physical Appearance

Cream to yellow homogeneous free flowing powder

Colour and Clarity of prepared medium

Light yellow coloured clear solution without any precipitate in tubes.

Reaction

Reaction of 3.0 % w/v aqueous solution at 25°C pH: 7.3±0.2

pH range

7.10-7.50

Cultural Response/Characteristics

Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours

Organisms (ATCC)	Inoculum (CFU)	Growth
Growth at 30-35°C for <= 3 days		
Escherichia coli ATCC25922	50 -100	luxuriant
Escherichia coli ATCC 8739	50 -100	luxuriant
Escherichia coli NCTC 9002	50 -100	luxuriant
Salmonella Ebony NCTC6017	50 -100	luxuriant
Salmonella TyphimuriumATCC 14028	50 -100	luxuriant
Bacillus subtilis ATCC 6633	50 -100	luxuriant
Staphylococcus aureus ATCC25923	50 -100	luxuriant
Staphylococcus aureus ATCC 6538	50 -100	luxuriant
Micrococcus luteus ATCC 9341	50 -100	luxuriant
Streptococcus pneumonia ATCC 6305	50 -100	luxuriant
Pseudomonas aeruginosa ATCC 27853	50 -100	luxuriant
Pseudomonas aeruginosa ATCC 9027	50 -100	luxuriant
Growth at 20-25°C for <= 5 days		
Candida albicans ATCC10231	50 -100	luxuriant
Candida albicans ATCC 2091	50 -100	luxuriant
**Aspergillus brasiliensis ATCC 16404*	50 -100	luxuriant

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, 1955, Assay Methods of Antibiotics, Medical Encyclopedia, Inc. New York
2. Tests and Methods of Assay of Antibiotics and Antibiotic containing Drugs, FDA, CFR, 1983 Title 21, Part 436, Subpart D, Washington, D.C.: U.S. Government Printing Office, paragraphs 436, 100-436, 106, p. 242-259, (April 1).
3. United States Pharmacopoeia / National Formulary 2011, US Pharmacopoeial Convention, Inc., Rockville, MD.
4. Wright and Welch, 1959-60, Antibiotics Ann., 61.

Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
- The product conform solely to the technical information provided in this booklet and to the best of knowledge research and development work carried at **CDH** is true and accurate
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