Technical Information

Antibiotic Assay Medium No. 37

Product Code: DM 2667

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

Composition**

Ingredients	Gms / Litre
Casein enzymic 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

Grove and Randall have described the antibiotic assays and medias in their the medical literature on antibiotic assays [1]. Antibiotic Assay Medium No. 37 can be used as a general medium for sterility checking of pharmaceutical products and cultivation of fastidious and non-fastidious organisms is formulated as per CFR and USP [2, 3]. The medium is also used for the sensitivity testing by the tube dilution method against antimicrobial agents [4].

Turbidimetric tube diention antibiotic assay is based on the change or inhibition of growth of a test microorganims in a liquid medium containing a uniform concentration of an antibiotic. After incubation of the test orgainism 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 colourless

The combination of casein enzymic 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 facilitates buffering in the medium. Sodium chloride maintains the osmotic balance of the medium.

Methodology

Suspend 30 grams of powder media in 1000 ml distilled water. Shake well and heat if necessary to issolve 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.
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
DM2667: Cultural characteristics observed after an incubation at

Organism	Inoculum (CFU)	Growth
Escherichia coli ATCC 25922	50 -100	luxuriant
Escherichia coli ATCC 8739	50 -100	luxuriant
Escherichia coli NCTC 9002	50 -100	luxuriant
Salmonella Ebony NCTC6017	50 -100	luxuriant
Salmonella Typhimurium ATCC 14028	50 -100	luxuriant
Bacillus subtilis ATCC6633	50 -100	luxuriant
Staphylococcus aureus ATCC25923	50 -100	luxuriant
Staphylococcus aureus ATCC 6538	50 -100	luxuriant
Micrococcus luteus ATCC9341	50 -100	luxuriant
Streptococcus pneumoniae 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 albi cans ATCC10231*	50 -100	luxuriant
Candida albi cans ATCC 2091	50 -100	luxuriant
**Aspergillus brasiliensis ATCC 16404*	50 -100	luxuriant

**Key: Formerly known as Aspergillus niger ATCC 16404*

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 (USP21/NF16) 1985, 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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