

Dey-Engley Neutralizing HiCynth™ Agar (D/E HiCynth™ MCD186 Agar Disinfectant Testing)

Dey-Engley Neutralizing HiCynth™ Agar is used in disinfectant testing where neutralization of the chemical is important for determining its bactericidal activity.

Composition**

Ingredients	Gms / Litre
HiCynth™ Peptone No.1*	5.000
HiCynth™ Peptone No.5*	2.500
Sodium thiosulphate	6.000
Sodium thioglycollate	1.000
Sodium bisulphite	2.500
Dextrose	10.000
Lecithin	7.000
Polysorbate 80	5.000
Bromocresol purple	0.020
Agar	15.000
Final pH (at 25°C)	7.6±0.2

**Formula adjusted, standardized to suit performance parameters

*Chemically defined peptones

Directions

Suspend 54.02 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. DO NOT AUTOCLAVE. Cool to 45-50°C. Mix well and pour into sterile Petri plates.

Principle And Interpretation

Dey-Engley Neutralizing Agar is formulated as per the procedure described by Engley and Dey (1). A strongly bacteriostatic substance inhibits the growth and reproduction of bacteria without killing them. These bacteria hold the ability to cause infection under favourable conditions. Dey-Engley Neutralizing HiCynth™ Agar is the modification of the same using chemically defined peptones free from animal and vegetable peptones to avoid BSE/TSE risks associated with animal peptones. It neutralizes a broad spectrum of antiseptics and disinfectants including quaternary ammonium compounds, phenolics, iodine and chlorine preparations, mercurials, formaldehyde and glutaraldehyde. (1).

HiCynth™ peptone No. 1 and HiCynth™ Peptone No. 5 provide nitrogenous compounds, carbon compounds, long chain amino acids and vitamin B-complex. Dextrose is an energy source. The present formulation incorporates neutralizing substances for almost all the active products used as antiseptics and disinfectants. Sodium bisulfite neutralizes aldehydes; sodium thioglycollate neutralizes mercurials; sodium thiosulfate neutralizes iodine and chlorine (1); lecithin neutralizes quaternary ammonium compounds; and polysorbate 80, a non-ionic surface-active agent, neutralizes substituted phenolics (2-5). Bromocresol purple is an indicator for dextrose utilization. Due to the high concentration of lecithin in the broth medium, turbidity cannot be used to detect growth. Therefore, bromocresol purple and dextrose are added to the medium. Those organisms that ferment dextrose will turn the medium from purple to yellow. (1).

For Agar Medium: Dey -Engley Neutralizing HiCynth™ Agar medium can be over-filled, producing a meniscus or dome-shaped surface that can be pressed onto a surface for sampling its microbial burden. Incubate the plates, by covering the lids, at an appropriate temperature. The presence of microorganism is determined by the appearance of colonies on the surface of agar medium.

Neutralization Test: Growth in Neutralizing Broth and no growth in Neutralizing Broth Base indicate neutralization of disinfectant. To check bactericidal activity, both broth tubes are inoculated on D/E Neutralizing HiCynth™ Agar. Positive growth from negative tubes of Neutralizing Broth Base indicates bacteriostatic substance while negative growth indicates a bactericidal disinfectant. All positive tubes should show growth on Dey-Engley Neutralizing HiCynth™ Agar. .

The control disinfectants used in test procedure are 2% chlorine, 2% formaldehyde, 1% glutaraldehyde, 2% iodine, 2% phenol, ammonium compounds, 1/1000 mercurials etc.

Quality Control

Appearance

Light yellow to bluish grey homogeneous free flowing powder

Gelling

Firm, comparable with 1.5% Agar gel

Colour and Clarity of prepared medium

Purple coloured, opalescent gel (may have particulate precipitate) forms in Petri plates.

Reaction

Reaction of 5.4% w/v aqueous solution at 25°C. pH : 7.6±0.2

pH

7.40-7.80

Cultural Response

Cultural characteristics observed after an incubation at 35 - 37°C for 40 - 48 hours.

Organism	Inoculum (CFU)	Growth	Recovery
Cultural Response			
<i>Escherichia coli</i> ATCC 25922	50-100	luxuriant	≥70%
<i>Pseudomonas aeruginosa</i> ATCC 27853	50-100	luxuriant	≥70%
<i>Salmonella Typhimurium</i> ATCC 14028	50-100	luxuriant	≥70%
<i>Staphylococcus aureus</i> ATCC 25923	50-100	luxuriant	≥70%
<i>Bacillus subtilis</i> ATCC 6633	50-100	luxuriant	≥70%

Storage and Shelf Life

Store below 30°C in tightly closed container and use freshly prepared medium. Use before expiry date on the label.

Reference

- Engley and Dey, 1970. Chem. Spec. Manuf. Assoc. Proc., Mid-Year Meet., p. 100.
- Downes F. P. and Ito K., (Ed.), 2001, Compendium of Methods for the Microbiological Examination of Foods, 4th Ed. American Public Health Association, Washington, D.C.
- Quisno R.A., Gibby I.W., and Foter M.J., 1946, Am. J. Phar., 118:320.
- Erlandson A. L., and Lawrence C. A., 1953, Science 118:274.
- Brummer B., 1976, Appl. Environ. Microbiol., 32:80.

Revision :00 / 2015

Disclaimer :

User must ensure suitability of the product(s) in their application prior to use. Products conform solely to the information contained in this and other related HiMedia™ publications. The information contained in this publication is based on our research and development work and is to the best of our knowledge true and accurate. HiMedia™ Laboratories Pvt Ltd reserves the right to make changes to specifications and information related to the products at any time. Products are not intended for human or animal or therapeutic use but for laboratory, diagnostic, research or further manufacturing use only, unless otherwise specified. Statements contained herein should not be considered as a warranty of any kind, expressed or implied, and no liability is accepted for infringement of any patents.