PRODUCT SPECIFICATION SHEET

Dey Engley Neutralizing Agar Contact Plate (55mm Plate) (Gamma-irradiated) (Triple Pack) (pack of 10) (CP005IT)

Intended Use

Dey Engley Neutralizing Agar Contact Plate (55mm plate) (Gamma-irradiated) (Triple Pack) (pack of 10) (CP005IT) is a medium for testing of disinfectants, where neutralization of the chemical is important for determining its bactericidal activity.

Product Summary and Explanation

During the environmental monitoring process, neutralization of the disinfectants is important factor. For neutralization of broad spectrum disinfectants and antimicrobial preservatives like quaternary ammonium compounds, phenolics, iodine, chlorine preparations, mercurials, formaldehyde, and glutaraldehyde(1) , Engley and Dey develops the procedure of neutralisation by formulating Dey-Engley Neutralizing Agar. D/E Neutralizing Agar allows differentiation between bacteriostasis and true bactericidal action of disinfectant chemicals by effectively neutralizing the inhibitory action of disinfectant carryover[4,5].This is a significant characteristic to consider when evaluating a disinfectant. D/E Neutralizing Agar is also recommended for use in disinfectant evaluations, environmental sampling (swab and contact plate methods), and testing of water- miscible cosmetics[6].As compared to other neutralizing formulations, like Letheen media, Thioglycollate media, and Neutralizing Buffer[2,3].DENA neutralises higher concentrations of residual antimicrobials.

Principles of the Procedure

Dey-Engley Neutralizing Agar Contact Plate contains casein enzymic hydrolysate which provide essential nutrients for metabolism. Dextrose is an energy and carbon source. Yeast extract is also a rich source of vitamin B-complex. 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.[7-10] Bromocresol purple is an indicator for dextrose utilization. Due to the high concentration of lecithin, bromocresol purple and dextrose are added to the medium. Those organisms that ferment dextrose will turn the medium from purple to yellow.

Formula / Liter

Ingredients	Gms / Litre
Casein enzymic hydrolysate	5.00
Yeast extract	2.50
Dextrose	10.00
Sodium thiosulphate	6.00
Sodium thioglycollate	1.00
Sodium bisulphite	2.50
Lecithin	7.00
Polysorbate 80	5.00
Bromocresol purple	0.02
Agar	15.00
Formula may be adjusted and/or supplemented as required to meet performance specifications	

Precautions

1. Prepared plated media are For *in vitro* Diagnostic Use or For Laboratory Use as labeled.
2. Directions for use should be read and followed carefully.

3. If excessive moisture is observed, invert the bottom over an off-set lid and allow to air dry in order to prevent formation of a seal between the top and bottom of the plate during incubation.
4. Observe aseptic techniques and established precautions against microbiological hazards throughout all procedures, since it must be assumed that all specimens/samples collected might contain infectious microorganisms.

Product Deterioration
Do not use plates if they show evidence of microbial contamination, discoloration, drying, cracking or other signs of deterioration.

Directions
Either streak, inoculate or surface spread the test inoculum (50-100 CFU) aseptically on the plate.

Quality Control Specifications

Appearance	Sterile Dey/Engley Neutralizing Agar in 55mm contact plate (gamma-irradiated)
Colour	Purple coloured medium
Reaction	7.40- 7.80
Quantity of medium	18 ml of medium in 55mm plates

Dose of irradiation : 10.00- 25.00

Sterility Check: Passes release criteria.

Cultural Response
Growth Promotion was carried out in accordance with the harmonized method and growth was observed after an incubation as specified.

Recovery rate
Recovery rate is considered 100% for bacteria growth on Soyabean Casein Digest Agar and fungus growth on Sabouraud Dextrose Agar.

Expected Cultural Response:

Sr. No.	Organisms	Results to be achieved CFU)					
		Inoculum (CFU)	Growth	Observed Lot value (CFU)	Recovery	Incubation Tempera-ture	Incubation Period
	Growth at 30-35°C for <= 3 days						
1.	*Salmonella Abony NCTC 6017*	50 - 100	luxuriant	35 -100	>=70 %	30 -35 °C	18 -24 hrs
2.	*Micrococcus luteus ATCC 9341*	50 - 100	luxuriant	35 -100	>=70 %	30 -35 °C	18 -24 hrs
3.	*Salmonella Typhimurium ATCC 14028*	50 - 100	luxuriant	35 -100	>=70 %	30 -35 °C	18 -24 hrs
4.	*Pseudomonas aeruginosa ATCC 15442*	50 - 100	luxuriant	35 -100	>=70 %	30 -35 °C	18 -24 hrs
5.	*Escherichia coli NCTC 9002*	50 - 100	luxuriant	35 -100	>=70 %	30 -35 °C	18 -24 hrs
6.	*Pseudomonas aeruginosa*	50 - 100	luxuriant	35 -100	>=70 %	30 -35 °C	18 -24 hrs

	ATCC 27853						
7.	*Pseudomonas aeruginosa ATCC 9027*	50 - 100	luxuriant	35 -100	>=70 %	30 -35 °C	18 -24 hrs
8.	*Escherichia coli ATCC 11229*	50 - 100	luxuriant	35 -100	>=70 %	30 -35 °C	18 -24 hrs
9.	*Staphylococcus aureus ATCC 25923*	50 - 100	luxuriant	35 -100	>=70 %	30 -35 °C	18 -24 hrs
10.	*Escherichia coli ATCC 25922*	50 - 100	luxuriant	35 -100	>=70 %	30 -35 °C	18 -24 hrs
11.	*Escherichia coli ATCC 8739*	50 - 100	luxuriant	35 -100	>=70 %	30 -35 °C	18 -24 hrs
12.	*Bacillus subtilis ATCC 19659*	50 - 100	luxuriant	35 -100	>=70 %	30 -35 °C	18 -24 hrs
13.	*Bacillus subtilis ATCC 6633*	50 - 100	luxuriant	35 -100	>=70 %	30 -35 °C	18 -24 hrs
14.	*Staphylococcus aureus ATCC 6538*	50 - 100	luxuriant	35 -100	>=70 %	30 -35 °C	18 -24 hrs
	Growth at 20-25°C for <= 5 days						
15.	*Aspergillus brasiliensis ATCC 16404*	50 - 100	luxuriant	8 -80	>=70 %	20 -25 °C	<=5 d
16.	*Candida albicans ATCC 10231*	50 - 100	luxuriant	35 -100	>=70 %	20 -25 °C	<=5 d
17.	*Candida albicans ATCC 2091*	50 - 100	good-luxuriant	35 -100	>=70 %	20 -25 °C	<=5 d
18.	*Penicillium chrysogenum ATCC 11709*	50 - 100	luxuriant	35 -100	>=70 %	20 -25 °C	<=5 d

The organisms listed are the minimum that should be used for quality control testing.

Test Procedure
Refer to appropriate references for standard test procedures.

Results
Refer to appropriate references and test procedures for interpretation of results.

Storage
On receipt, store plates at 20-25°C.

Expiration
Refer to the expiration date stamped on the pack. Prepared plates stored in their original sleeve wrapping at 15-25°C until just prior to use may be inoculated up to the expiration date and incubated for recommended incubation times.

Product Disposal
After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

Limitations of the Procedure

1. Some diagnostic tests may be performed with the primary plate. However, a pure culture is recommended for the majority of biochemical tests and other identification procedures.
2. Consult appropriate references for further information.

Packaging
Product Name : Dey Engley Neutralizing Agar Contact Plate (55mm Plate)
Product Code : CP005IT
Available Pack sizes : □ -irradiated, Triple Pack (Pack of 10 plates)
References

1. Engley, F. B., Jr. and B. P. Dey. 1970. A universal neutralizing medium for antimicrobial chemicals. Presented at the Chemical Specialties Manufacturing Association (CSMA) Proceedings. 56th Mid-Year Meeting.
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4. Dey, B. P., and F. B. Engley, Jr. 1994. Neutralization of antimicrobial chemicals by recovery media. J. Microbiol. Methods. 19:51-58.
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6. Curry, A. S., J. G. Graf, and G.N. McEwen, Jr. (eds.). 1993. CTFA Microbiology Guidelines. The Cosmetic, Toiletry and Fragrance Association, Washington, D.C.
7. 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.
8. Quisno R.A., Gibby I.W., and Foter M.J., 1946, Am. J. Phar., 118:320.
9. Erlandson A. L., and Lawrence C. A., 1953, Science 118:274.
10. Brummer B., 1976, Appl. Environ. Microbiol., 32:80.

Further Information

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