Dey Engley Neutralizing Agar Plate (Triple Layer Pack, Gamma-Irradiated)

Intended Use
Dey Engley Neutralizing Agar Plate (Triple Layer Pack, Gamma-Irradiated) is used in disinfectant testing where the neutralization of antiseptics and disinfectants is important for determining its bactericidal activity.

Summary
Dey-Engley Neutralizing Agar plates are formulated as per the procedure described by Engley and Dey. A strongly bacteriostatic substance inhibits the growth and reproduction of bacteria without killing them. Under favourable conditions these bacteria have the ability to cause infections. This medium neutralizes a broad spectrum of antiseptics and disinfectants including quaternary ammonium compounds, phenolics, iodine and chlorine preparations, mercurials, formaldehyde and glutaraldehyde.
The presence of an irradiation indicator enables the rapid and easy visual confirmation by the cleanroom operator that the medium is irradiated. Each pack (media and their wrappings) receives an irradiation dose between 12 and 21 kGy to guarantee that no viable contaminants are present.

Principle
Pancreatic digest of casein provide essential nutrients. Glucose acts as an energy source whereas yeast extract is a rich source of vitamin B-complex. Sodium bisulfite neutralizes aldehydes; sodium thioglycollate neutralizes mercurials; sodium thiosulfate neutralizes iodine and chlorine; lecithin neutralizes quaternary ammonium compounds and polysorbate 80, a non-ionic surface-active agent, neutralizes substituted phenolics. Bromocresol purple is an indicator for glucose utilization. Due to the high concentration of lecithin in the broth medium, turbidity cannot be used to detect growth. Therefore, bromocresol purple and glucose are incorporated in the medium. Organisms capable of fermenting glucose will turn the medium from purple to yellow.

Formula*

Ingredients	g/L
Pancreatic Digest of Casein	5.0
Yeast Extract	2.5
Glucose	10.0
Sodium Thiosulfate	6.0
Sodium Thioglycollate	1.0
Sodium Bisulfite	2.5
Lecithin	7.0
Polysorbate 80	5.0
Bromocresol Purple	0.02
Agar	15.0

*Adjusted to suit performance parameters.

Additional Material Required
Bacteriological Incubator.

Instructions for use
1. Open the sterile pack and remove the plates aseptically.
2. Inoculate/streak the plate as per standard procedure.
3. Incubate the plates in inverted position as per standard guidelines.

Reading and interpretation
1. After incubation, observe the microbial growth and count the colonies.
2. Interpretation is assured by user.
3. User is responsible to define the action limits as per standard guidelines and alert limits on the basis of trend analysis and other relevant data.

Quality Control

Appearance: Gel with smooth and even surface, without any cracks, bubbles and drying or shrinking of media.
Colour of Medium: Purple coloured, slightly opalescent gel in petriplates.
Quantity of Medium: 29 ± 2 g in 90 mm petriplate.
pH at 25°C ± 2°C: 7.6 ± 0.2
Gamma Irradiation: The above said product was Gamma Irradiated between 12 KGy - 21 KGy.
Growth Promotion Test: Growth promotion is carried out in accordance with the harmonized method of USP/EP/JP and growth is observed after an incubation at 30°C-35°C for ≤ 3 days for bacteria and at 20°C-25°C for ≤ 5 days for fungi.
Growth Promoting Properties: The test results observed are within the specified temperature and shortest period of time specified in the test, inoculating ≤ 100 cfu of appropriate microorganism.

Organism (ATCC)	**Growth**
Growth Promoting	
Escherichia coli (8739)	Good
Staphylococcus aureus subsp. *aureus* (6538)	Good
Pseudomonas aeruginosa (9027)	Good
Bacillus spizizenii (6633)	Good
Candida albicans 3147 (10231)	Good
Aspergillus brasiliensis WLRI 034(120) (16404)	Good

Note:
For good growth - Growth obtained on test media should not differ by a factor greater than 2 from calculated value for a standardized inoculum. Growth for *Aspergillus brasiliensis* is observed after 72 hours at 20°C-25°C for quantitative test and the same is carried out for qualitative test and confirmed characteristic growth (White mycelial growth with black spores) after 4-5 days.

Neutralization Activity for Quaternary Ammonium Compound and Aldehyde
The average number of cfu recovered from the test plates is not less than 70% of that recovered from inoculum control.

Organism (ATCC)	**Neutralizing Activity for Quaternary Ammonium Compound and Aldehyde**
Staphylococcus aureus (6538)	Complies
Bacillus subtilis (6633)	Complies

Limitation

The effectiveness of neutralization activity with this medium depends on both the type and concentration of the neutralizers.

Storage and Shelf Life

1. Store between 15°C-25°C to avoid water condensation. Condensation can be prevented by avoiding quick temperature shifts and mechanical stress.
2. Under optimal conditions, the medium has a shelf life of 3 months. Use before expiry mentioned on the label.

Reference

1. Engley and Dey, 1970. Chem. Spec. Manuf. Assoc. Proc., Mid-Year Meet., p. 100.
2. 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.
3. Quisno R.A., Gibby I.W., and Foter M.J., 1946, Am. J. Phar., 118:320.
4. Erlandson A. L., and Lawrence C. A., 1953, Science 118:274.
5. Brummer B., 1976, Appl. Environ. Microbiol., 32:80.
6. Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.

Product Presentation:

Cat No.	Product	Pack Size
205040230100	Dey Engley Neutralizing Agar Plate	100 Plates

Disclaimer

Information provided is based on our inhouse technical data on file, it is recommended that user should validate at his end for suitable use of the product.