

## Dey-Engley Neutralizing Broth I

### Intended Use

A medium used in disinfectant testing where the neutralization of antiseptics and disinfectant is important for determining its bactericidal activity.

### Summary

Dey and Engley described a procedure of neutralizer evaluation and also formulated a medium, known as Dey Engley Neutralizing Medium. This medium neutralizes a broad spectrum of antiseptics and disinfectants including quaternary ammonium compounds, phenolics, iodine and chlorine preparations, mercurials, formaldehyde and glutaraldehyde. Sodium thioglycollate, sodium thiosulphate, sodium bisulfite, soya lecithin and polysorbate 80 act as neutralizing components.

### Principle

Casein enzymic hydrolysate serves as a rich source of nitrogen and amino acid. Yeast extract provides a source of trace elements and vitamins. Dextrose is a source of energy. Five neutralizers are incorporated into the medium to inactivate different types of biocides. Sodium thiosulphate neutralizes iodine and chlorine; sodium thioglycollate neutralizes mercurials; sodium bisulphite neutralizes aldehydes; lecithin neutralizes quaternary ammonium compounds; and polysorbate 80 neutralizes substituted phenolics. Bromocresol purple acts as an indicator, which indicates the utilization of dextrose.

### Formula\*

| Ingredients                | g/L       |
|----------------------------|-----------|
| Casein Enzymic Hydrolysate | 5.0       |
| Yeast Extract              | 2.5       |
| Dextrose                   | 10.0      |
| Sodium Thiosulphate        | 6.0       |
| Sodium Thioglycollate      | 1.0       |
| Sodium Bisulphite          | 2.5       |
| Lecithin                   | 7.0       |
| Polysorbate 80             | 5.0       |
| Bromocresol Purple         | 0.02      |
| Final pH (at 25°C)         | 7.6 ± 0.2 |

\*Adjusted to suit performance parameters.

### Directions

1. Bring the Dey Engley Neutralizing Broth I vial to the room temperature 22°C-30°C.
2. Use Dey Engley Neutralizing Broth I as per required application.

### Quality Control

**Appearance:** Purple coloured, slightly opalescent solution.

**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 40-48 hours. Subculturing is carried out using Dey Engley Neutralizing Agar after enrichment in Dey Engley Neutralizing Broth, and incubate at 30°C-35°C for ≤ 3days.

**Growth Promoting Properties:** The test results observed are within the specified temperature and the shortest period of time, inoculating ≤ 100 cfu (at 30°C-35°C for 40 hours).

### Organism (ATCC)

| Organism (ATCC)  | Growth |
|--|--------|
| <i>Staphylococcus aureus</i> subsp. <i>aureus</i> (6538) | Good   |
| <i>Bacillus spizizenii</i> (6633)                        | Good   |
| <i>Escherichia coli</i> (8739)                           | Good   |
| <i>Pseudomonas aeruginosa</i> (9027)                     | Good   |

**Growth Promotion Test in presence of Quaternary Ammonium Compound and Aldehyde:**

| Organism (ATCC)  | Test* |      | Control** |           |
|--|-------|------|-----------|-----------|
|  | I     | II   | I         | II        |
| <i>Staphylococcus aureus</i> subsp. <i>aureus</i> (6538) | Good  | Good | Inhibited | Inhibited |
| <i>Bacillus spizizenii</i> (6633)                        | Good  | Good | Inhibited | Inhibited |

**Key:**

\* Dey Engley Neutralizing Broth

\*\* Soyabean Casein Digest Medium

I: With Quaternary Ammonium Compound

II: With Aldehyde

**Note:** Inoculum cfu for good growth is 10-100.

**Remarks**

1. Do not use media bottles that exhibit any damage, cracks, microbial contamination, discoloration, drying or other sign of deterioration.
2. Ensure that the temperature of water bath is at 100°C so that the medium melts completely. Cooler water baths give rise to lumpy, uneven medium.
3. Before pouring into sterile petriplates, gently swirl the bottle to check whether the entire contents are properly mixed and melted.
4. Good laboratory practices and hazard precautions must be observed at all times.
5. After use media containers, prepared plates, sample, sample containers and other contaminated materials must be sterilized or incinerated before discarding.

**Storage and Stability**

1. Store the ready to use Dey-Engley Neutralizing Broth I at 15°C-25°C in a cool, dry place away from light.
2. Stability of the kit is as per expiry date mentioned on the label.

**Warranty**

This product is designed to perform as described on the label and package insert. The manufacturer disclaims any implied warranty of use and sale for any other purpose.

**References**

1. Engley and Dey. 1970 CSMA Proceedings.
2. Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.

**Product Presentation:**

| Cat. No.     | Product Description | Pack Size  |
|--------------|---------------------|------------|
| 203040430010 | Ready Prepared Tube | 25 x 10 mL |

**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.

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