# Dey-Engley Neutralizing Agar (D/E Agar Disinfectant Testing)

## Intended Use
Dey-Engley Neutralizing Agar (D/E Agar Disinfectant Testing) is 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 thiosulfate, 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 thiosulfate neutralizes iodine and chlorine; sodium thioglycollate neutralizes mercurials; sodium bisulphate 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 |
| Agar | 15.0 |
| Final pH (at 25°C) | 7.6 ± 0.2 |

*Adjusted to suit performance parameters.

## Storage and Stability
Store between 10-30°C in a tightly closed container and the prepared medium at 2-8°C. Avoid freezing and overheating. Use before expiry date on the label. Once opened keep powdered medium closed to avoid hydration.

## Specimen Collection and Handling
Ensure that all samples are properly labelled.
Follow appropriate techniques for handling samples as per established guidelines.
Some samples may require special handling, such as immediate refrigeration or protection from light, follow the standard procedure.
The samples must be stored and tested within the permissible time duration.
After use, contaminated materials must be sterilized by autoclaving before discarding.

## Directions
1. Suspend 54.02 g of the powder in 1000 mL purified / distilled water.
2. Mix thoroughly.
3. Boil with frequent agitation to dissolve the powder completely. DO NOT OVERHEAT.
4. Sterilize by autoclaving at 121°C (15 psi) for 15 minutes as per validated cycle.

## Quality Control
**Dehydrated Appearance:** Light purple coloured, homogeneous, free flowing powder.
**Prepared Appearance:** Light purple coloured, clear to very slightly opalescent gel forms in petridishes.

**Growth Promotion Test:** Growth promotion is carried out in accordance with the harmonized method of USP/EP/JP/IP 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** |
|---|---|
| *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.

## Interpretation of results
Growth is indicated by a colour change from purple to yellow and visible colonies are found on incubated plate.

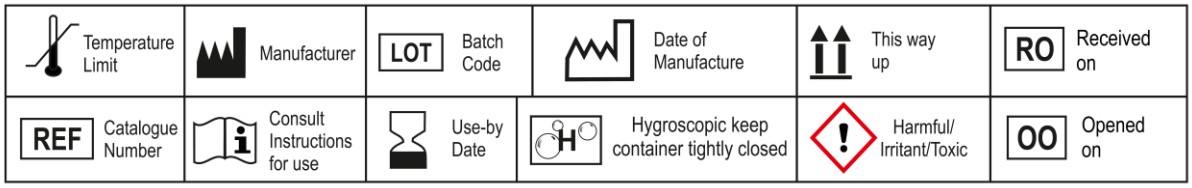
## Performance and Evaluation
Performance of the product is dependent on following parameters as per product label claim:
1. Directions
2. Storage
3. Expiry

## 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.

## Reference

1. Engley and Dey.I970, CSMA Proceedings.
2. Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.


## Product Presentation:
| **Cat No.** | **Product description** | **Pack Size** |
|---|---|---|
| 201040330500 | Dehydrated Culture Media | 500 g |
| 201040335000 | Dehydrated Culture Media | 5 k |
| 203040180250 | Bottle Media | 6 x 250 mL |
| 205040230100 | Ready Prepared Plate (90 mm) | 100 Plates |
| 205040240200 | Ready Prepared Plate (55 mm) | 200 Plates |
| 205040240800 | Ready Prepared Plate (55 mm) | 800 Plates |

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**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.