



# Technical Data

## Dey-Engley Neutralizing Broth w/o BCP (Double Strength)

LQ584C

### Intended Use:

Recommended for neutralizing and testing antiseptics and disinfectants.

### Composition\*\*

Ingredients	g/ L
Tryptone	10.000
Yeast extract	5.000
Dextrose (Glucose)	20.000
Sodium thioglycollate	2.000
Sodium thiosulphate	12.000
Sodium bisulphite	5.000
Lecithin	14.000
Polysorbate 80 (Tween 80)	10.000

\*\*Formula adjusted, standardized to suit performance parameters

### Directions

Label the ready to use LQ584C bottle. Inoculate 50-100 cfu sample and Incubate at specified temperature and time.

### Principle And Interpretation

Dey-Engley (D/E) Neutralizing Broth (without Bromo cresol purple) is formulated as per United States Pharmacopoeia (1). It 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 bisulphite, soya lecithin and polysorbate 80 act as neutralizing components.

Tryptone provides nitrogen and carbon source, long chain amino acids, vitamins and other essential nutrients. Dextrose is an energy source. Yeast extract is also a rich source of vitamin B-complex. The present formulation incorporate 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. Due to the high concentration of lecithin in the broth medium, turbidity cannot be used to detect growth. Those organisms that ferment dextrose will turn the medium from purple to yellow. Growth of *Pseudomonas* species, which do not ferment dextrose, can be detected by the formation of a pellicle on the surface of the broth (1).

### Type of specimen

Pharmaceutical samples for sterility testing.

### Specimen Collection and Handling:

For testing disinfectants, prepare two sets of test tubes, one containing 9 ml Dey-Engley Neutralizing Broth (LQ584C) and other with 9 ml Dey-Engley Neutralizing Broth Base. Add 1 ml of disinfectant under test. Mix well and allow it to stand for 15 minutes. Inoculate 0.1 ml of 1:100,000 dilution of overnight broth cultures and incubate at 30-35°C for 48 hours. Growth in Neutralizing Broth and no growth in Neutralizing Broth Base indicates neutralization of disinfectant. To check bactericidal activity, both broth tubes are inoculated on D/E Neutralizing Agar (M186). 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 Agar. The control disinfectants used in test procedure are 2% chlorine, 2% formaldehyde, 1% glutaraldehyde, 2% iodine, 2% phenol, 1/750 quaternary ammonium compounds, 1/1000 mercurials etc. After use, contaminated materials must be sterilized by autoclaving before discarding.

## Warning and Precautions

Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling specimens. Safety guidelines may be referred in individual safety data sheets.

## Limitations :

1. Individual organisms differ in their growth requirement and may show variable growth patterns on the medium
2. Each lot of the medium has been tested for the organisms specified on the COA. It is recommended to users to validate the medium for any specific microorganism other than mentioned in the COA based on the user's unique requirement.

## Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

## Quality Control

### Appearance

Sterile clear Dey-Engley Neutralizing Broth w/o BCP (Double Strength) in glass bottle.

### Colour

Light yellow to amber coloured, opalescent solution in bottle.

### Quantity of Medium

100 ml of medium in glass bottle.

### Sterility Check

Passes release criteria

### Growth Promotion Test

As per United States Pharmacopoeia

### Cultural Response

Cultural characteristics observed after an incubation at i) For bacteria at 30-35°C for ≤3 days i) For fungi at 20-25°C for ≤5 days.

Organism	Inoculum (CFU)	Growth
** <i>Bacillus spizizenii</i> ATCC 6633 (00003*)	50-100	luxuriant
<i>Pseudomonas aeruginosa</i> ATCC 27853 (00025*)	50-100	luxuriant
<i>Salmonella</i> Typhimurium ATCC 14028 (00031*)	50-100	luxuriant
<i>Escherichia coli</i> ATCC 8739 (00012*)	50-100	luxuriant
<i>Staphylococcus aureus</i> subsp. <i>aureus</i> ATCC 6538 (00032*)	50-100	luxuriant
<i>Staphylococcus aureus</i> subsp. <i>aureus</i> ATCC 25923 (00034*)	50-100	luxuriant
<i>Escherichia coli</i> ATCC 25922 (00013*)	50-100	luxuriant
<b>Growth at 20-25°C for ≤5 days.</b>		
<i>Candida albicans</i> ATCC 10231 (00054*)	-	luxuriant
<i>Candida albicans</i> ATCC 2091 (00055*)	-	luxuriant
# <i>Aspergillus brasiliensis</i> ATCC 16404 (00053*)	-	luxuriant

Key : (\*) Corresponding WDCM numbers.

\*\* Formerly known as *Bacillus subtilis* subsp. *spizizenii*

# Formerly known as *Aspergillus niger*

## Storage and Shelf Life

Store between 15-30°C. Use before expiry date on the label. Product performance is best if used within stated expiry period.

## Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with sample must be decontaminated and disposed of in accordance with current laboratory techniques (2,3).

## Reference

- 1.The United States Pharmacopoeia-National Formulary (USP-NF), 2022.
- 2.Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
- 3.Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.

Revision: 01/2025

### Disclaimer :

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