

D3435 Dey-Engley Neutralizing Broth

Dey-Engley Neutralizing Broth is used in disinfectant testing where the neutralization of the antiseptics and disinfectants is important for determining its bactericidal activity.

Composition:

Ingredients	Grams/Litre
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
Bromo Cresol Purple	0.02
Final pH 7.6 +/- 0.2 at 25°C	

Store prepared media below 8°C, protected from direct light. Store dehydrated powder in a dry place in tightly-sealed containers at 4°C.

Appearance: Bluish, grey colored, homogeneous, free flowing powder.

Color and Clarity: Purple colored, opalescent solution or gel forms in tubes or petri plates.

Directions:

Suspend 39 g of Dey-Engley Neutralizing Broth in 1000 ml of distilled water. Boil to dissolve the medium completely. Sterilize by autoclaving 15 lbs. pressure (121°C) for 15 minutes.

Technique:

- For testing disinfectants, prepare two sets of test tubes, one containing 9 ml of Dey-Engley Neutralizing Broth and the other containing 9 ml of Dey-Engley Neutralizing Broth Base.
- Add 1 ml of disinfectant to each tube.
- Mix well and allow it to stand for 15 minutes.
- Inoculate 0.1 ml of a 1:100,000 dilution of overnight broth cultures and incubate at 37°C for 48 hours.
- Growth is indicated by a color change from purple to yellow.
- Growth in the Dey-Engley Neutralizing Broth and no growth in the Dey-Engley Neutralizing Broth Base indicates the neutralization of disinfectant.
- To check bactericidal activity, both broth tubes are inoculated on.
- Positive growth from negative tubes of Neutralizing Broth Base indicates a bacteriostatic substance, while negative growth indicates a bactericidal disinfectant.

Dey-Engley Neutralizing Broth Base	g/l	Dey-Engley Neutralizing Agar	g/l
Casein enzymatic hydrolysate	5.0	Casein enzymatic hydrolysate	5.0
Yeast extract	2.5	Yeast extract	2.5
Dextrose	10.0	Dextrose	10.0
Bromocresol purple	0.02	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



Principle and Interpretation:

The Dey-Engley Neutralizing Broth neutralizes a broad spectrum of antiseptics and disinfectants including, quaternary ammonium compounds, phenolics, iodine, chlorine, mercurials, formaldehyde and glutaraldehyde. Sodium thioglycollate, sodium thiosulphate, sodium bisulphite, soya lecithin and polysorbate 80 act as neutralizing components. Growth is indicated by a color change from purple to yellow.

Cultural characteristics after 40-48 hours at 35-37°C.

Organisms (ATCC)	Growth
<i>Bacillus subtilis</i> (6633)	+++
<i>Escherichia coli</i> (25922)	+++
<i>Pseudomonas aeruginosa</i> (27853)	+++
<i>Salmonella typhimurium</i> (14028)	+++
<i>Staphylococcus aureus</i> (25923)	+++

References:

1. Dey and Engley, CSMA Proceedings (1970)

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

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