

D/E Neutralizing Agar with Tween (NCM0009)

Intended Use

D/E Neutralizing Agar with Tween is used for the isolation of microorganisms from sanitized environmental surfaces and is not intended for use in the diagnosis of disease or other conditions in humans.

Description

D/E Neutralizing Agar with Tween was developed by Dey and Engley to neutralize a broad spectrum of disinfectants and preservative antimicrobial chemicals, including quaternary ammonium compounds, phenolics, iodine, chlorine preparations, mercurials, formaldehyde, and glutaraldehyde. D/E Neutralizing media neutralize higher concentrations of residual antimicrobials when compared with other standard neutralizing formulations, such as Lethen media, Thioglycollate media, and Neutralizing Buffer.

Total neutralization of disinfectants is critical. Disinfectant residues can result in a false negative (no-growth) test. D/E Neutralizing Agar effectively neutralizes the inhibitory action of disinfectant carryover, allowing differentiation between bacteriostasis and true bactericidal action of disinfectant chemicals. This is a critical characteristic to consider when evaluating a disinfectant. D/E Neutralizing Agar with Tween is recommended for use in disinfectant evaluations, environmental sampling (swab and contact plate methods), and testing of water-miscible cosmetics.

Typical Formulation

Enzymatic Digest of Casein	5.0 g/L
Yeast Extract	2.5 g/L
Dextrose	10.0 g/L
Sodium Thioglycollate	1.0 g/L
Sodium Thiosulfate	6.0 g/L
Sodium Bisulfite	2.5 g/L
Polysorbate 80 (Tween)	5.0 g/L
Lecithin	7.0 g/L
Bromcresol Purple	0.02 g/L
Agar	15.0 g/L

Final pH: 7.6 ± 0.2 at 25°C

Formula may be adjusted and/or supplemented as required to meet performance specifications.

Precaution

Refer to SDS

Preparation

1. Suspend 54 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.

Test Procedure

D/E Neutralizing Agar is used in a variety of procedures. Consult appropriate references for complete information.

Quality Control Specifications

Dehydrated Appearance: Powder is homogeneous, lumpy, and blue-gray to green.

Prepared Appearance: Prepared medium is purple and opaque.



Expected Cultural Response: Cultural response in D/E Neutralizing Agar with Tween incubated aerobically at 35 ±2°C and examined for growth after 18 - 24 hours.

Microorganism	Approx. Inoculum (CFU)	Expected Results
Bacillus subtilis ATCC® 9372	10 – 100	Growth
Escherichia coli ATCC® 25922	10 – 100	Growth
Pseudomonas aeruginosa ATCC® 27853	10 – 100	Growth
Salmonella typhimurium ATCC® 14028	10 – 100	Growth
Staphylococcus aureus ATCC® 25923	10 – 100	Growth

The organisms listed are the minimum that should be used for quality control testing.

Results

Refer to appropriate references and procedures for results.

Expiration

Refer to expiration date stamped on the container. The dehydrated medium should be discarded if not free flowing, or if appearance has changed from the original color. Expiry applies to medium in its intact container when stored as directed.

Limitation of the Procedure

Due to nutritional variation, some strains may be encountered that grow poorly or fail to grow on this medium.

Storage

Store dehydrated culture media at 2-8 °C away from direct sunlight. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light by keeping container tightly closed.

References

1. Engley, F. B., Jr. and B. P. Dey. 1970. A universal neutralizing medium for antimicrobial chemicals. Presented at the Chemical Specialties Manufacturing Association (CSMA) Proceedings. 56th Mid-Year Meeting.
2. Dey, B. P. and F. B. Engley, Jr. 1983. Methodology for recovery of chemically treated *Staphylococcus aureus* with neutralizing medium. Appl. Environ. Microbiol. 45:1533-1537.
3. Dey, B. P., and F. B. Engley, Jr. 1978. Environmental sampling devices for neutralization of disinfectants, presented at the 4th International Symposium on Contamination Control.
4. Dey, B. P., and F. B. Engley, Jr. 1994. Neutralization of antimicrobial chemicals by recovery media. J. Microbiol. Methods. 19:51- 58.
5. Dey, B. P., and F. B. Engley, Jr. 1995. Comparison of Dey and Engley (D/E) Neutralizing Medium to Lethen Medium and Standard Methods Medium for recovery of *Staphylococcus aureus* from sanitized surfaces. J. Ind. Microbiol. 14:21-25.
6. Curry, A. S., J. G. Graf, and G.N. McEwen, Jr. (eds.). 1993. CTFA Microbiology Guidelines. The Cosmetic, Toiletry and Fragrance Association, Washington, D.C.