DNASE TEST AGAR

INTENDED USE
Remel DNase Test Agar is a solid medium recommended for use in qualitative procedures to detect deoxyribonuclease (DNase) activity in microorganisms.

SUMMARY AND EXPLANATION
In 1957, Jeffries et al. developed a medium for demonstrating deoxyribonuclease (DNase) activity of microorganisms possessing this extracellular enzyme.[1] Such microorganisms depolymerize DNA in the medium resulting in a clear zone around the colonies when the plate is flooded with 1N hydrochloric acid (HCl). DNase Test Agar has been recommended for identification of a variety of bacteria including staphylococci, enteric gram-negative bacilli, and pseudomonads.[2-5]

PRINCIPLE
Casein and soy peptones supply nitrogen, amino acids, and peptides necessary for bacterial growth. Sodium chloride provides essential electrolytes and maintains osmotic equilibrium. DNase-producing organisms depolymerize DNA into nucleotide fractions such as, mononucleotides and oligonucleotides. After incubation, DNase Test Agar requires addition of 1N HCl to the plate. HCl reacts with DNA (polymerized) in the medium, yielding free nucleic acid and a cloudy precipitate. In areas where DNA has been depolymerized, around and below DNase-producing colonies, a clear zone results.

REAGENTS (CLASSICAL FORMULAE)*

Casein Peptone	15.0 g	Deoxyribonucleic Acid (DNA)	2.0 g
Sodium Chloride	5.0 g	Agar	15.0 g
Soy Peptone	5.0 g	Demineralized Water	1000.0 ml

pH 7.3 ± 0.2 @ 25°C

*Adjusted as required to meet performance standards.

PRECAUTIONS
This product is For Laboratory Use only. It is not intended for use in the diagnosis of disease or other conditions.

PREPARATION OF DEHYDRATED CULTURE MEDIUM
1. Suspend 42 g of medium in 1000 ml of demineralized water.
2. Heat to boiling with agitation to completely dissolve.
3. Sterilize by autoclaving at 121°C for 15 minutes or following established laboratory procedures.
4. Dispense into appropriate containers.

PROCEDURE
1. Consult current editions of appropriate references for the recommended procedure for sample preparation, inoculation, testing, and interpretation.

QUALITY CONTROL
Each lot number of DNase Test Agar has been manufactured, packaged, and processed in accordance with current Good Manufacturing Practice regulations. All lot numbers have been tested using the following quality control organisms and have been found to be acceptable. Testing of control organisms should be performed in accordance with established laboratory quality control procedures. If aberrant quality control results are noted, sample results should not be reported.

CONTROL	INCUBATION	RESULTS
Serratia marcescens ATCC® 8100	Ambient, 18-24 h @ 33-37°C	Positive
Staphylococcus aureus ATCC® 25923	Ambient, 18-24 h @ 33-37°C	Positive
Escherichia coli ATCC® 25922	Ambient, 18-24 h @ 33-37°C	Negative
Staphylococcus epidermidis ATCC® 12228	Ambient, 18-24 h @ 33-37°C	Negative

LIMITATIONS
1. Some stains of *S. aureus* do not grow well on DNase Test Agar, however, growth is not required for detection of DNase activity.[6]
2. DNase Test Agar is intended as a supplemental test for identification of various organisms. Additional biochemical testing may be required for definitive identification of the test isolate.[6]

BIBLIOGRAPHY

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5. Elston, H.R. and J.H. Elston. 1968. J. Clin. Pathol. 21:210-212
6. MacFaddin, J.F. 2000. Biochemical Tests for Identification of Medical Bacteria. 3rd ed. Lippincott Williams & Wilkins, Philadelphia, PA.

Refer to the front of Remel *Technical Manual of Microbiological Media* for **General Information** regarding precautions, product storage and deterioration, sample collection, storage and transportation, materials required, quality control, and limitations.

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