

# DNase Agar with Mannitol

Medium used for the identification and determination of deoxyribonuclease activity of microorganisms.

## • CONTENTS (Liter)

Tryptose	20.0 g
Mannitol	10.0 g
Deoxyribonucleic Acid	2.0 g
Sodium Chloride	5.0 g
Phenol Red	0.02 g
Agar	13.0 g
Final pH = 7.3 ± 0.2 at 25°C	

## • PROCEDURE

Suspend 50.02 G of powder in 1 L of distilled or deionized water. Heat to boiling until completely dissolved. Sterilize by autoclave at 121°C for 15 minutes. Cool to 45 - 50°C in water bath. Mix well. Pour into petri dishes.

## • INTERPRETATION

DNase Agar with Mannitol is a medium used for the identification and determination of deoxyribonuclease activity of microorganisms. Tryptose provides nitrogen, carbon, vitamins and minerals. Mannitol is the fermentable carbohydrate and energy source. DNase produced by microorganisms depolymerize the DNA. After adding 1N hydrochloric acid into the cultured medium, DNase activity is indicated by clear zones around DNase-producing colonies. While, negative DNase activity of the medium is observed opaque. Sodium chloride maintains the osmotic balance. Phenol red is the pH indicator. Agar is the solidifying agent.

## • TECHNIC

Inoculate the specimen using a sterile loop to the medium. Incubate at 35 ± 2°C for 18 - 24 hours up to 48 hours. Add 1 N hydrochloric acid into the cultured medium to observe DNase activity. Refer appropriate references for recommended test procedure.

## • QUALITY CONTROL FOR USE

### Dehydrated medium

Appearance: free-flowing, homogeneous

Color: light pink

### Prepared medium

Appearance : slightly opalescent

Color: pinkish red

Incubation conditions: 35 ± 2°C / 18 - 24 hours up to 48 hours

Microorganism	ATCC	Growth	Mannitol fermentation	DNase Activity
<i>Staphylococcus aureus</i>	25923	good	+ (yellow)	+ (clear zone)
<i>Staphylococcus aureus</i>	6538	good	+ (yellow)	+ (clear zone)
<i>Escherichia coli</i>	25922	good	+ (yellow)	-
<i>Staphylococcus epidermidis</i>	12228	good	- (no color change)	-

**• STORE**

The powder is very hygroscopic. Store the powder at room temperature, in a dry environment, in its original container tightly closed and use it before the expiry date on the label. Store prepared medium at 2 - 8°C.

**• REFERENCES**

1. Jeffries et al.: Rapid method for determining the activity of microorganisms on nucleic acid. 1957 J. Bact., 73: 590-591.
2. Smith, P.B., Hancock, G.A., a. Rhoden, D.L.: Improved Medium for Detecting Deoxyribonuclease-Producing Bacteria. 1969 Appl. Microbiol., 18; 991-993.

**• PACKAGE**

Cat. No : MB-D2155 DNase Agar with Mannitol	500 G
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