

# MAST® Culture Media and Supplements

## Technical Information Sheet

**Product Code DM 132**



## DNase Agar

A medium for the presumptive identification of pathogenic staphylococci by demonstration of DNase production.

### 1. Description

In 1957 Weckman and Catlin<sup>1</sup> showed that strains of *Staphylococcus aureus* produced significantly larger quantities of the enzyme DNase in a tube viscometric test, than did *S.epidermidis*. This suggested that DNase production might be a useful supplementary determinative characteristic to the coagulation test, for the identification of potentially pathogenic staphylococci. Later Jefferies et al. (1957)<sup>2</sup> described a rapid agar plate method for demonstrating DNase

activity and 100% correlation between this test and the tube coagulase method was noted by Di Salvo (1958).<sup>3</sup>

Subsequent work by other workers 4-6 has shown that a certain proportion of staphylococci do not fit into this scheme. However, Blair et al. (1967)<sup>7</sup> recommended the DNase plate test as a useful method for screening out coagulase negative staphylococci.

### 2. Typical Formula\*

Formula	grams per litre
Selected peptone mixture	20.0
Sodium chloride	5.0
Agar	13.0
Deoxyribonucleic acid	2.0
<b>pH approx. 7.3</b>	

### 3. Directions

1. Suspend by swirling 40g of powder in 1 litre or the contents of the sachet in the stated volume of distilled or deionised water.
2. Mix well and sterilise by autoclaving at 121°C for 15 minutes.
3. Cool to 50°C, mix well and pour plates.

#### 4. In Use

Inoculate plates with drops of cultures of the organisms to give heavy spots of growth after 18 hours incubation at 37°C. Flood the plates with normal HCl and examine for clearing around colonies (DNase positive). This clearing is due to the fact that nucleotide fractions, after DNase attack, are not precipitated by acid. DNase negative colonies, therefore, show no clearing.

#### 5. References

1. Weckman Barbara G, Catlin BW. *J Bact* 1957; **73**: 747-753.
2. Jeffries CD, Holman F, Guse DG. *J Bact.* 1957; **73**: 590-591.
3. Di Salvo JW. Med Techs Bull Suppl to Armed Forces Medical Journal 1958;
4. Zierdt CH, Golde DW. *Appl Microbiol.* 1970; **20**: No 1 54-57
5. Morton HE, Cohn Judith *Appl Microbiol.* 1972; **23**: No 4 725-733.
6. Mensies Rosalie E. *J Clin Path* 1977; **30**: 606- 608.
7. Blair EB, Emerson JS, Tull AJ. *Am J Clin Path.* 1967; **47**: 30-39.



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