

TM 580 – DNASE TEST AGAR W/ TOLUIDINE BLUE

INTENDED USE

For detection of deoxyribonuclease activity of microorganisms and for identification of staphylococci.

PRODUCT SUMMARY AND EXPLANATION

DNase Test Agar w/ toluidine blue is used for detecting deoxyribonuclease activity of bacteria and fungi and particularly for identification of pathogenic Staphylococci. With added toluidine blue, it is used in differentiation and identification of non-pigmented *Serratia* species isolated from clinical sources that might be improperly identified as *Enterobacter* and *Klebsiella* species. DNase activity was observed by Weckman and Catlin in Micrococci and found the correlation with coagulase activity as coagulase positive species were DNase positive. Di Salvo confirmed the results of Weckman and Catlin and observed accurate correlation of DNase and coagulase activity. In his experiment Di Salvo incorporated DNA and calcium chloride to activate DNase enzyme. Schreier modified DNase medium by adding toluidine blue. Modified medium achieved faster identification of *Serratia marcescens* and could differentiate *Serratia* from other members of the *Enterobacteriaceae*.

COMPOSITION

Ingredients	Gms / Ltr
Tryptose	20.000
Deoxyribonucleic acid (DNA)	2.000
Sodium chloride	5.000
Toluidine blue	0.100
Agar	15.000

PRINCIPLE

The medium consists of Tryptose which provide essential nutrients. DNase depolymerizes the DNA resulting in the formation of a clear zone around the microbial growth which is visualized by flooding the plate with hydrochloric acid. When toluidine blue is added to the medium itself, DNase activity results in the production of a bright pink reaction due to the metachromatic property of toluidine blue. Some strains of Staphylococci may be inhibited on DNase Test Agar due to toluidine blue.

INSTRUCTION FOR USE

- Dissolve 42.10 grams in 1000 ml purified/distilled water.
- Heat with frequent agitation to dissolve the medium completely.
- Sterilize by autoclaving at 118°C to 121°C for 15 minutes. Cool to 45-50°C.
- Mix well and pour in sterile Petri plates.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Light yellow to light blue homogeneous free flowing powder.
Appearance of prepared medium : Blue coloured, clear to slightly opalescent gel forms in Petri plates.
pH (at 25°C) : 7.3 ± 0.2

INTERPRETATION

Cultural characteristics observed after incubation.



Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	DNase Activity	Incubation Temperature	Incubation Period
<i>Serratia marcescens</i>	8100	50-100	luxuriant	>70%	Positive reaction, pink to red zone around the growth	35-37°C	18-24 Hours
<i>Staphylococcus aureus subsp. aureus</i>	25923	50-100	luxuriant	>70%	Positive reaction, pink to red zone around the growth	35-37°C	18-24 Hours
<i>Staphylococcus epidermidis</i>	12228	50-100	luxuriant	>70%	Negative reaction	35-37°C	18-24 Hours
<i>Streptococcus pyogenes</i>	19615	50-100	luxuriant	>70%	Positive reaction, pink to red zone around the growth	35-37°C	18-24 Hours

PACKAGING:

In pack size of 100 gm bottles.

STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 2-8°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.













Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

REFERENCES

1. Di Salvo, 1958, Med. Tech. Bull., U.S. Armed Forces Med. J., 9:191.
2. Schreir, 1969, Am. J. Clin. Pathol., 51:711.
3. Streitfeld, Hoffman and Janklow, 1962, J. Bact., 84:77.
4. Weckman and Catlin, 1957, J. Bact., 73:747

 GMP Good Manufacturing Practices Certified	 IVD For In Vitro Diagnostic Use	 QTY. Quantity	 LOT/ B. NO. Lot / Batch Number	 REF Catalogue Number	 Manufacturer
 Temperature Unit	 EC REP Authorized Representative <small>MedNet GmbH Borkstrasse 10, 48163 Moenster, Germany</small>	 CE European Conformity	 QR Code	 Consults Instructions for Use	 Best Before



NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**
Revision: 08 Nov., 2019

