CM 20604 – DNASE TEST AGAR BASE (W/O INDICATOR)

INTENDED USE

For detection of deoxyribonuclease activity of microorganisms & identification of pathogenic Staphylococci.

PRODUCT SUMMARY AND EXPLANATION

DNaseTestAgarisused for detecting deoxyribonuclease activity of bacteria and fungi and particularly for identification of pathogenicStaphylococci. With added toluidine blue, it is used in differentiation and identification of non-pigmented Serratia speciesisolated from clinical sources that might be improperly identified as Enterobacter and Klebsiella species. The correlationbetween DNase activity and coagulase activity was first studied by Weckman and Catlin. Jeffries et al demonstratedDNase activity by the agar plate method employing a semi-synthetic medium. Positive DNase activity was visualized as clearzones (around colonies) when the plates were flooded with 1 N hydrochloric acid. DiSalvo confirmed the correlationbetween coagulase activity and DNase activity by incorporating DNA into the medium along with calcium chloride to activatethe enzyme. Di Salvo incorporated DNA and calcium chloride to activate DNase enzyme. Schreier modified DNasemedium by adding toluidine blue by. This modified medium achieved faster identification of Serratia marcescens andcould differentiate Serratia from other members of the Enterobacteriaceae.

COMPOSITION

Ingredients	Gms / Ltr
Tryptone	15.000
Soya peptone	5.000
Deoxyribonucleic acid (DNA)	2.000
Sodium chloride	5.000
Agar	15.000

PRINCIPLE

Themediumconsists of Tryptone and soya peptone which provide necessary nitrogenous nutrients for the organisms. DNase produced by microorganisms depolymerizes the DNA substrate in the medium. Sodium chloride maintains the osmotic balance in the medium.

INSTRUCTION FOR USE

Dissolve 42.0 grams in 1000 ml purified / distilled water.
Heat with frequent agitation to dissolve the medium completely.
Sterilize by autoclaving at 12 to 15 psi pressure (118°C to 121°C) for 15 minutes.
Cool to 45°C and pour into sterile petri plates. Add 0.1 gm Toluidine Blue before sterilizing the medium or flood the plates with 0.1% Toluidine Blue (FD051) solution after incubation as desired.

QUALITY CONTROL SPECIFICATIONS

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

INTERPRETATION

Culturalcharacteristics observed after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	DNase Activity	Recovery	Incubation Temperature	Incubation Period
Serratia marcescens	8100	50-100	Luxuriant	Positive, change in colour from blue to pink purple around the growth when toluidine blue is used / clear zone surrounding colonies when plates are flooded w/1N HCL	>=70%	35-37°C	18-24 Hours
Staphylococcus aureus subsp. aureus	25923	50-100	Luxuriant	Positive, change in colour from blue to pink purple around the growth when toluidine blue is used/ clear zone surrounding colonies when plates are flooded w/1N HCL	>=70%	35-37°C	18-24 Hours
Staphylococcus epidermidis	12228	50-100	Luxuriant	Negative reaction	>=70%	35-37°C	18-24 Hours
Streptococcus pyogenes	19615	50-100	Luxuriant	Positive, change in colour from blue to pink purple around the growth when toluidine blue is used / clear zone surrounding colonies when plates are flooded w/1N HCL	>=70%	35-37°C	18-24 Hours

PACKAGING:

Inpacksizeof100 gm bottles.

STORAGE

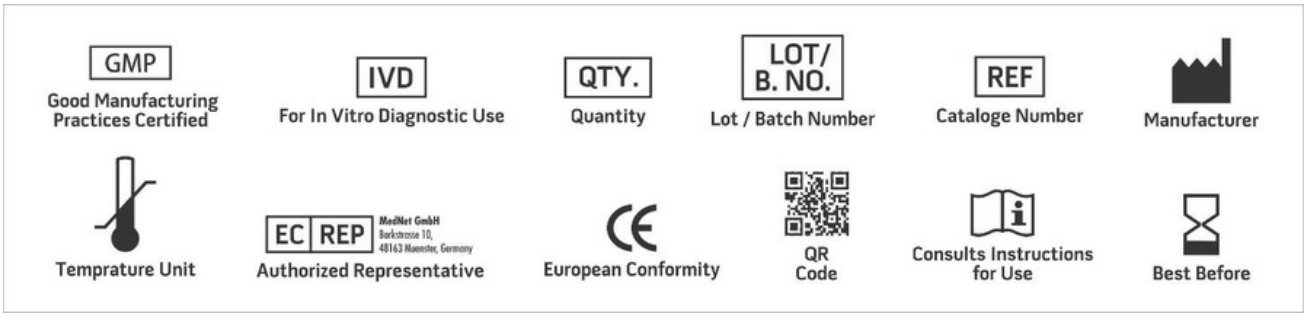
Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 2-8°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided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

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

REFERENCES

1.Weckman and Catlin, 1957, J. Bact., 73:747.
2. Di Salvo, 1958, Med. Tech. Bull., U.S. Armed Forces Med. J., 9:191.
3. Schreir, 1969, Am. J. Clin. Pathol., 51:711.
4. Streitfeld, Hoffman and Janklow, 1962, J. Bact., 84:77.
5. Jeffries C. D., Holtman F., and Guse D. G., 1957, J. Bacteriol., 73:590.
6. Jorgensen,J.H., Pfaller , M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.



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

*For LabUse Only