DNase Test Agar Base

Intended Use
DNase Test Agar Base is a differential medium used for detection of deoxyribonuclease activity to aid in the identification of bacteria and fungi isolated from clinical specimens especially Staphylococci.

Summary
Weckman and Catlin in their study observed that DNase activity might prove to be a taxonomic characteristic useful in the detection of strains of the microscopic group. Subsequently, DiSalvo reported a correlation between coagulase production and DNase activity. This test proves useful in differentiating *Serratia* from *Enterobacter*, *Staphylococcus aureus* from coagulase-negative Staphylococci and *Moraxella catarrhalis* from *Neisseria* species.

Principle
Tryptone and Pancreatic digest of Soyabean Meal provide amino acids and other complex nitrogenous substances required to support bacterial growth. Sodium chloride maintains the osmotic equilibrium. DNA is the substrate for DNase activity. DNase is an extracellular enzyme that breaks the DNA down into subunits composed of nucleotides.
The depolymerization of the DNA may be detected by flooding the surface of the medium with 1N HCl and observing for clear zones around the medium surrounding the growth. In the absence of DNase activity, the reagent reacts with the intact nucleic acid, resulting in the formation of a cloudy precipitation.

Formula*
Ingredients	**g/L**
Tryptone	15.0
Pancreatic Digest of Soyabean Meal	5.0
Deoxyribonucleic Acid (DNA)	2.0
Sodium Chloride	5.0
Agar	15.0
Final pH (at 25°C)	7.3 ± 0.2

*Adjusted to suit performance parameters

Storage and Stability
Store dehydrated medium below 30°C in tightly closed container and the prepared medium at 2°C-8°C. Avoid freezing and overheating. Use before expiry date on the label. Once opened keep powdered medium closed to avoid hydration.

Type of specimen
Food and dairy samples
Clinical samples

Specimen Collection and Handling
Ensure that all samples are properly labelled.
Follow appropriate techniques for handling samples as per established guidelines.
Some samples may require special handling, such as immediate refrigeration or protection from light, follow the standard procedure.
The samples must be stored and tested within the permissible time duration.
After use, contaminated materials must be sterilized by autoclaving before discarding.

Directions
1. Suspend 42.00 g of the powder in 1000 mL purified / distilled water.
2. Heat with frequent agitation to dissolve the powder completely.
3. Sterilize by autoclaving at 118°C -121°C (12 to15 psi) for 15 minutes as per validated cycle.
4. Cool to 45°C and pour into sterile petridishes.

Quality Control

Dehydrated Appearance: Cream to yellow coloured, homogenous free flowing powder.
Prepared Appearance: Light yellow to amber coloured, clear to slightly opalescent gel forms in petridishes.
Cultural Response: Cultural characteristics observed after an incubation at 35°C-37°C for 24-48 hours.

Organism (ATCC)	Growth	DNase activity
Staphylococcus aureus subsp. *aureus* (25923)	Good	+
Streptococcus pyogenes Strain Bruno (19615)	Good	+
Staphylococcus epidermidis strain PCI 1200 (12228)	Good	-

Interpretation of results

1. A clear area surrounding growth on the medium after the addition of 1N HCl indicates a positive reaction i.e. DNase activity.
2. No clearing and a cloudy precipitate around colonies throughout the medium indicate a negative reaction. This occurs due to formation of precipitate salts in the medium.
3. Gram-positive, catalase positive cocci that produce DNase can be provisionally classified as *S. aureus* and confirmed by tube coagulase or thermostable DNase tests.

Performance and Evaluation

Performance of the product is dependent on following parameters as per product label claim:

1. Directions
2. Storage
3. Expiry

Warranty

This product is designed to perform as described on the label and package insert. The manufacturer disclaims any implied warranty of use and sale for any other purpose.

Reference

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. Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.

Product Presentation:

Cat No.	Product description	Pack Size
201040140100	Dehydrated Culture Media	100 g
201040140500	Dehydrated Culture Media	500 g