TM 605 – DIAGNOSTIC SENSITIVITY TEST AGAR (DST AGAR)

INTENDED USE

For antibiotic sensitivity testing of fastidious pathogens like *Neisseria*, *Streptococcus* and *Haemophillus* species with blood enrichment.

PRODUCT SUMMARY AND EXPLANATION

Diagnostic Sensitivity Test Agar is recommended for diagnostic as well as testing susceptibility of organisms to antibiotics and chemotherapeutic agents such as Sulfonamides. The latter produce well defined zones due to the absence of interfering substances.

COMPOSITION

Ingredients	Gms / Ltr
Proteose peptone	10.000
Veal infusion solids	10.000
Dextrose (Glucose)	2.000
Sodium chloride	3.000
Disodium hydrogen phosphate	2.000
Sodium acetate	1.000
Adenine sulphate	0.010
Guanine hydrochloride	0.010
Uracil	0.010
Xanthine	0.010
Aneurine	0.00002
Agar	15.000

PRINCIPLE

The medium is nutritionally rich due to presence of amino acid bases and glucose. The salts present, helps in avoiding sudden pH shifts due to acid production, which might affect the susceptibility test and haemolytic reactions and the MIC values of pH susceptible antimicrobials. Aneurine acts as vitamin source which improves the growth of several organisms especially Staphylococci. The agar used in the formulation has been specially processed to allow unimpeded diffusion of antimicrobials from discs. Addition of the bases like adenine, guanine, uracil and xanthine improve the antibiotic testing performance of the medium.

The reactive levels of thymidine and thymine must be sufficiently reduced to avoid antagonism of trimethoprim and sulfonamides which is an essential requirement for satisfactory antimicrobial susceptibility media. The requirement is achieved by addition of lysed horse blood to Diagnostic Sensitivity Testing medium. The level of thymidine is further reduced due to the action of thymidine phosphorylase, released from lysed horse erythrocytes. Thymidine-dependent organisms will not grow in absence of thymidine or will grow poorly in media containing reduced levels.

INSTRUCTION FOR USE

- Dissolve 43.04 grams in 1000 ml purified/distilled water.

- Heat to boiling to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
- For blood agar, cool the base to 45-50°C and add 7% v/v sterile defibrinated horse blood aseptically.
- Mix well with gentle rotation and pour into sterile Petri plates.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Cream to yellow homogeneous free flowing powder.

Appearance of prepared medium : Basal medium: Light amber coloured, clear to slightly opalescent gel forms. After addition of 7%w/v sterile defibrinated blood : Cherry red coloured, opaque gel forms in Petri plates.

pH (at 25°C) : 7.4 ± 0.2

INTERPRETATION

Cultural characteristics observed after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Incubation Temperature	Incubation Period
Staphylococcus aureus subsp. aureus	25923	50-100	Luxuriant	>=70%	35-37 °C	18-24 Hours
Escherichia coli	25922	50-100	Luxuriant	>=70%	35-37 °C	18-24 Hours
Enterococcus faecalis	29212	50-100	Luxuriant	>=70%	35-37 °C	18-24 Hours
Neisseria meningitidis	13090	50-100	Luxuriant	>=70%	35-37 °C	18-24 Hours
Proteus mirabilis	25933	50-100	Luxuriant	>=70%	35-37 °C	18-24 Hours
Micrococcus luteus	10240	50-100	Luxuriant (with the addition of blood)	>=70%	35-37 °C	18-24 Hours
Salmonella Typhi	6539	50-100	Luxuriant	>=70%	35-37 °C	18-24 Hours
Streptococcus pneumoniae	6305	50-100	Luxuriant (with the addition of blood)	>=70%	35-37 °C	18-24 Hours

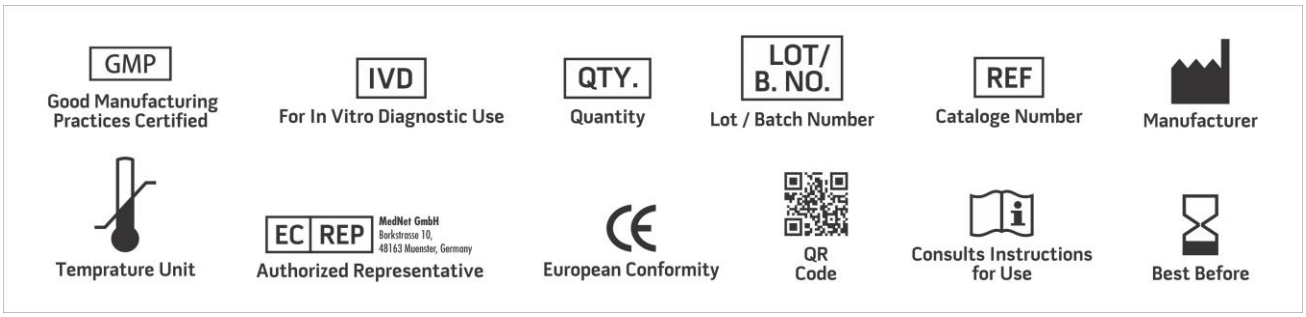
Streptococcus pyogenes	19615	50-100	Luxuriant (with the addition of blood)	>=70%	35-37 °C	18-24 Hours
Shigella flexneri	12022	50-100	Luxuriant	>=70%	35-37 °C	18-24 Hours

PACKAGING:
In pack size of 100 gm and 500 gm bottles.

STORAGE
Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°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. Expert Committee on antibiotics, 1961, World Health Organisation Technical Report Series No. 210, WHO, Geneva.
2. Bechtle R. M. and Schere G. H., 1958, Antibiotics and Chemotherapy, 8(12): 599.
3. Marshall J. H. and Kelsey J. C., 1960, J. Hyg. Camb., 58 : 367.
4. Ferone R., Bushby S. R. M., Burchall J. J., Moore W. D., and Smith D., 1975, Antimicrobial Agents Chemotherap., 7:91-98.
5. Salfinger Y., and Tortorello M.L. Fifth (Ed.), 2015, Compendium of Methods for the Microbiological Examination of Foods, 5th Ed., American Public Health Association, Washington, D.C.



NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.
***For Lab Use Only**
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