TM 2135 – SENSITIVITY TEST AGAR

INTENDED USE

for determination of antibiotic susceptibility of fastidious microorganisms

PRODUCT SUMMARY AND EXPLANATION

Sensitivity Test Agar, which is used for antimicrobial susceptibility tests, is a semi-defined medium in which the mineral contents have been stabilized to give reproducible results. The thiamine and thymidine content is very low thus making it most suitable for testing antimicrobial activity of sulphonamides. However some mutant strains which are totally dependent on thiamine and thymidine for their growth, will not grow on Sensitivity Test Agar, due to very low levels of these compounds in the media as they are the naturally occurring antagonist of trimethoprim. These strains should be carefully recognized.

Sensitivity Test Agar has been so designed to overcome the problems occurring in Mueller-Hinton Media that are as follows

1. Mueller Hinton Agar and Mueller Hinton Broth give different MIC values.

2. Mueller Hinton Agar shows antagonistic effect towards tetracycline.

3. High levels of sulphonamide and trimethoprim antagonists.

4. Media prepared using peptone of different manufacturers give poor reproducibility.

5. Poor growth supporting ability for Streptococci and variable growth rates with gram-positive organisms.

Some pathogenic organisms are nutritionally dependent due to their intrinsic demands for special growth factors. Supplemental nutrients can be added to Hi-Sensitivity Test Agar to improve the growth of these organisms. The following nutrients can be used.

Nutrient Microorganism(s)

1. Laked blood (5% v/v) Neisseria and Streptococci

2. Fildes Peptic Digest of Blood (5% v/v) Haemophilus

3. Menadione (0.5 mcg/ml) Dwarf colonies of Staphylococcus and Thiamine hydrochloride (2 mcg/ml) aureus and coliform bacteria.

4. Pyridoxine hydrochloride Symbiotic Streptococci (1mcg/ml)

Supplementation of Sensitivity Test Agar with 10% horse blood can be used for susceptibility testing of Helicobacter pylori. Casein enzymic hydrolysate, peptic digest of animal tissue, dextrose, and vitamins provides nitrogen, carbon compounds and other essential growth nutrients.

COMPOSITION

Ingredients	Gms / Ltr
Casein enzymic hydrolysate	11.000
Peptic digest of animal tissue	3.000
Dextrose	2.000

Sodium chloride	3.000
Starch, soluble	1.000
Disodium phosphate	2.000
Sodium acetate	1.000
Magnesium glycerophosphate	0.200
Calcium gluconate	0.100
Cobaltous sulphate	0.001
Cupric sulphate	0.001
Zinc sulphate	0.001
Ferrous sulphate	0.001
Manganous chloride	0.002
Menadione	0.001
Cyanocobalamin	0.001
L-Cysteine hydrochloride	0.020
L-Tryptophan	0.020
Pyridoxine hydrochloride	0.003
Calcium pantothenate	0.003
Nicotinamide	0.003
Biotin	0.0003
Thiamine hydrochloride	0.00004
Adenine	0.010
Guanine	0.010
Xanthine	0.010
Uracil	0.010
Agar	8.000

PRINCIPLE

The goal of an antimicrobial susceptibility test is to predict through an in vitro assessment the likelihood of successfully treating an infection with a particular antimicrobial agent. There are several continual or novel methods for performing antibacterial susceptibility testing. These include the disk diffusion test, broth microdilution, agar gradient and rapid automated instrument methods.

INSTRUCTION FOR USE

- Suspend 31.40 grams in 1000 ml distilled water.
- Heat to boiling to dissolve the medium completely.
- Sterilize by autoclaving at 15 lbs (121°C) for 15 minutes.
- Mix well 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. After addition of 5% v/v laked blood : Red to chocolate 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
Bacillus subtilis	6633	50-100	Good-Luxuriant	≥70%	35-37°C	18- 24 Hours
Bacteroides vulgatus	8482	50-100	Good-Luxuriant	≥70%	35-37°C	18- 24 Hours
Enterococcus faecalis	29212	50-100	Good-Luxuriant	≥70%	35-37°C	18- 24 Hours
Salmonella Typhimurium	14028	50-100	Good-Luxuriant	≥70%	35-37°C	18- 24 Hours
Staphylococcus aureus	25923	50-100	Good-Luxuriant	≥70%	35-37°C	18- 24 Hours
Streptococcus pyogenes	19615	50-100	Good-Luxuriant	≥70%	35-37°C	18- 24 Hours

PACKAGING:

In pack size of 500 gm bottles.

STORAGE

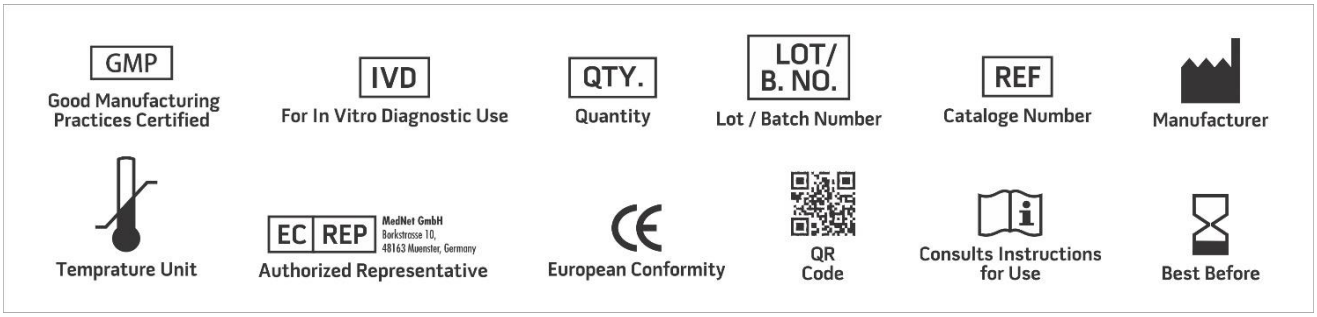
Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 10-25°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided 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.Murray P. R., Baron J. H., Pfaller M. A., Jorgensen J. H. and Yolken R. H., (Ed.). 2003, Manual of Clinical Microbiology, 8th Ed.,American Society for Microbiology, Washington, D.C.
2.Tanner E. I. and Bullin C. H., 1974, J. Clin. Path., 27:565.
3.Thomas M. and Bond L., 1973, Med. Lab. Technol., 30:277.
4.Barker J., Healing D., and Hutchinson J. G. P., 1972, J. Clin. Path., 25:1086
5.Ericsson H. M. and Sherris J. C., 1971, Acta. Pathol. Microbiol Scand Suppl., 217:1.
6.Garrod L. P. and Waterworth P. M., 1971, J. Clin. Path., 24:779.
7.Reller L. B., Schoenknecbt F. D., Kenny M. A. and Sherris J. C., 1974, J. Infect. Dis., 130:454.
8.Duncan I. B. R., 1974, Antimicrob. Agents Chemother., 5:9.
9.Yourassowsky E., Vanderlinden M. P. and Schoutens E., 1974, J. Clin. Path., 27:897.
10.Neussil H., 1976, Chemother., Vol. 2 : 33.
11.Bridson E.Y., 1976, Arztl. Lab., 22:373.
12.Acar J. F., 1980, Antibiotics in Laboratory Medicine, Lorian V. (Ed.), Williams and Wilkins, Baltimore, USA, 48-51.
13.Hartzen S.H., Anderson L.P., Bremmelgaard A. et.al, 1997, Antimicrob. Agents Chemother., 41.2634-2639.



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

***For Lab Use Only**

Revision: 27 May. 2026