TM 535 – THIOGEL MEDIUM

INTENDED USE

For differentiation of microorganisms based on their ability to liquify gelatin.

PRODUCT SUMMARY AND EXPLANATION

Proteolytic organisms digest proteins and consequently liquefy gelatin or coagulated serum. Liquefaction of gelatin, being the commonest proteolytic property, is routinely used as an index of proteolytic activity. Gelatin will not by itself support the growth of many pathogens and is therefore incorporated into a nutrient medium. In Thiogel Medium, gelatin is incorporated into Thioglycollate Medium without Indicator. Thioglycollate Medium was modified by Brewer by replacing meat infusion in original formulation by plant soya and casein peptones to enhance growth. Thioglycollate Medium is used for cultivation of strict anaerobes, microaerophiles and aerobic microorganisms and for identifying the pure cultures on the basis of their ability to liquefy gelatin.

COMPOSITION

Ingredients	Gms / Ltr
Casein enzymic hydrolysate	17.000
Papaic digest of soyabean meal	3.000
Dextrose	6.000
Sodium chloride	2.500
Sodium thioglycollate	0.500
L-Cystine	0.250
Sodium sulphite	0.100
Gelatin	50.000
Agar	0.700

PRINCIPLE

Casein enzymic hydrolysate, papaic digest of soyabean meal, dextrose and L-cystine in the medium provide nitrogenous and carbonaceous compounds, trace elements, sulphur, and fermentable carbohydrate etc. Thioglycollate is the reducing agent, which binds to the molecular oxygen and thus inhibits the accumulation of peroxides, which are toxic to some microorganisms. Small amount of agar renders and maintains anaerobic condition at the bottom of the tube so that incubation under anaerobic conditions is not necessary. Gelatin serves as the substrate for determining the presence or absence of gelatinase enzyme in microorganisms.

INSTRUCTION FOR USE

- Suspend 80.05 grams in 1000 ml distilled water, preheated to a temperature of 50°C.
- Mix well and allow to stand for 5 minutes. Heat to boiling to dissolve the medium completely.
- Dispense in test tubes filling them upto half of the tubes. Sterilize by autoclaving at 118°C for 15 minutes.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Cream to yellow homogeneous coarse powder.
Appearance of prepared medium : Light straw coloured opalescent viscous gel forms in tubes.
pH (at 25°C) : 7.0±0.2

INTERPRETATION

Cultural characteristics observed after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Gelatin liquefaction	Incubation Temperature	Incubation Period
Bacillus subtilis	6633	50-100	Good-luxuriant	Negative reaction	35-37°C	18-48 Hours
Bacteroides fragilis	25285	50-100	Good-luxuriant	Negative reaction	35-37°C	18-48 Hours
Clostridium sporogenes	11437	50-100	Good-luxuriant	Negative reaction	35-37°C	18-48 Hours
Micrococcus luteus	10240	50-100	Good-luxuriant	Negative reaction	35-37°C	18-48 Hours
Neisseria meningitidis	13090	50-100	Good-luxuriant	Negative reaction	35-37°C	18-48 Hours
Streptococcus pyogenes	19615	50-100	Good-luxuriant	Negative reaction	35-37°C	18-48 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.

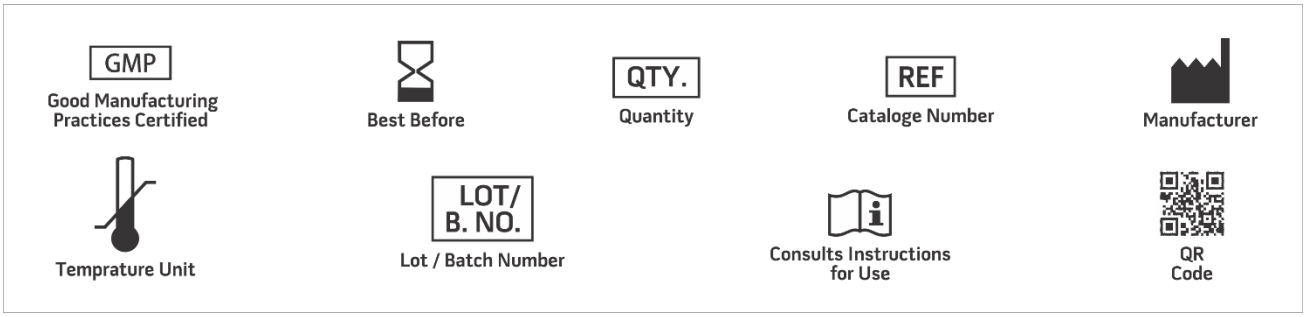
Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL

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

REFERENCES

1.Collee J. G., Fraser A. G., Marmion B. P., Simmons A., (Eds.), Mackie and McCartney, Practical Medical Microbiology, 1996, 14th Edition, Churchill Livingstone
2.MacFaddin J. F., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. 1, Williams and Wilkins, Baltimore.
3.Brewer J. H., 1940, Jour. Amer. Medi. Assoc., 115, 598
4.Brewer J. H., 1940, J. Bacteriol., 39, 10
5.Brewer J. H., 1943 J. Bacteriol., 46, 395
6.Vera H. D., 1944, J. Bacteriol., 47, 59



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

***For Lab Use Only**

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