

TM 438 – TPEY AGAR BASE

INTENDED USE

For selective isolation and enumeration of *Staphylococci* from foods and other materials.

PRODUCT SUMMARY AND EXPLANATION

Tellurite Polymyxin Egg Yolk Agar was formulated by Crisley et al for the detection and enumeration of coagulase-positive *Staphylococci* in food materials. It is also used for the recovery of coagulase-positive *Staphylococci* from foods, air, dust and soil. The base must be supplemented with potassium tellurite solution and enriched with an egg yolk emulsion prior to its use for the isolation of *Staphylococci*. Coagulase-negative *Staphylococci* and other organisms are greatly suppressed on this medium.

The coagulase positive *Staphylococci* are differentiated by their formation of jet black or dark grey colonies with a zone of precipitated egg yolk around the colonies or a clear zone around the colonies and precipitation below the colonies. Coagulase-negative organisms may produce small black pinpoint colonies without egg yolk precipitation or clearing around the colonies. Mannitol-positive and/or tellurite-positive *Staphylococci* are coagulase-negative. Definitive identification of *S. aureus*, therefore, should be based primarily on the coagulase reaction, with mannitol fermentation and tellurite reduction being used only for confirmation. The prepared medium becomes less inhibitory to coagulase-negative strains of staphylococci if stored for longer than one week. Graves and Frazier showed that *Bacillus* species able to grow on TPEY Agar produce an antibiotic that inhibits growth of *Staphylococci*.

COMPOSITION

Ingredients	Gms / Ltr
Casein enzymic hydrolysate	10.000
Yeast extract	5.000
D-Mannitol	5.000
Sodium chloride	20.000
Lithium chloride	2.000
Agar	18.000

PRINCIPLE

Casein enzymic hydrolysate, yeast extract and mannitol serve as nitrogenous and energy source for coagulase-positive staphylococci which adopt fermentative pathway for the utilization of carbohydrate. Lithium chloride, potassium tellurite and polymyxin B restrict the growth of wide range of bacteria including some coagulase-negative *Staphylococci*.

INSTRUCTION FOR USE

- Suspend 60 grams in 890 ml of distilled water.
- Heat to boiling to dissolve the medium completely.
- Sterilize by autoclaving at 118°C (12 psi pressure) for 15 minutes. Cool to 50°C.
- Aseptically add 10 ml of sterile 1% Potassium Tellurite, 100 ml Egg Yolk Emulsion and polymyxin B to a final concentration of 4 mg/l.
- Mix well and pour into sterile Petri plates.

Warning: Lithium chloride is harmful. Avoid bodily contact and inhalation of vapours. On contact with skin, wash with plenty of water immediately.

QUALITY CONTROL SPECIFICATIONS



Appearance of Powder	: Cream to yellow homogeneous free flowing powder
Appearance of prepared medium	: Light amber coloured clear to slightly opalescent gel. On addition of egg yolk emulsion and potassium tellurite, yellow coloured opaque gel forms in Petri plates.
pH (at 25°C)	: 7.2±0.2

INTERPRETATION

Cultural characteristics observed after incubation with added sterile 1% Potassium Tellurite and Egg Yolk Emulsion and polymyxin B.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Colour of colony	Incubation Temperature	Incubation Period
<i>Bacillus subtilis</i>	6633	50-100	Poor-fair	10-30%	Brown	35-37°C	18-48 Hours
<i>Escherichia coli</i>	25922	≥10 ³	Inhibited	0%	-	35-37°C	18-48 Hours
<i>Proteus mirabilis</i>	25933	50-100	Poor-fair	10-30%	Brown	35-37°C	18-48 Hours
<i>Staphylococcus aureus</i>	25923	50-100	Good-luxuriant	≥50%	Black	35-37°C	18-48 Hours
<i>Staphylococcus epidermidis</i>	12228	50-100	Poor-fair	10-30%	Black	35-37°C	18-48 Hours
<i>Streptococcus pyogenes</i>	19615	≥10 ³	Inhibited	0%	-	35-37°C	18-48 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 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. Crisley F. D., Angelotti R. and Foter M. J., 1964, Public Health Rep. 79: 369.



2. Crisley F. D., Peeler J. F. and Angelotti R., 1965, Appl. Microbiol., 13: 140.
3. MacFaddin J. F., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. 1, Williams & Wilkins, Baltimore, Md.
4. Graves R. R. and Frazier W. C., 1963, Appl. Microbiol., 11:513.

 Good Manufacturing Practices Certified	 Best Before	 Quantity	 Catalogue Number	 Manufacturer
 Temperature Unit	 Lot / Batch Number	 Consults Instructions for Use	 QR Code	

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

***For Lab Use Only**
Revision: 08 Nov., 2019