

TM 2420 - VOGEL JOHNSON AGAR BASE W/ 1.5% AGAR

INTENDED USE

For selective isolation of coagulase positive, mannitol fermenting *Staphylococcus aureus* from heavily contaminated foods in accordance with FDA BAM, 1998.

PRODUCT SUMMARY AND EXPLANATION

Vogel-Johnson Agar Base w/ 1.5% Agar is prepared according to the formula devised by Vogel and Johnson and is recommended for the selective isolation of coagulase positive, mannitol fermenting *Staphylococcus aureus* from heavily contaminated foods in accordance with FDA BAM, 1998. *Staphylococcus aureus*, a gram-positive, spherical bacterium, is a common colonizer of the human skin and mucosa. It causes skin and wound infections, urinary tract infections, pneumonia and bacteremia. It is also commonly implicated in food poisoning and as a common contaminant in cosmetics and pharmaceutical products. Originally it was developed by Zebovitz, as Tellurite Glycine Agar, a selective medium for the detection of coagulase-positive staphylococci. Vogel-Johnson modified the medium in 1960 by the addition of phenol red as a pH indicator and by increasing the quantity of mannitol. Selection and differentiation of coagulase-positive staphylococci on V.J. Agar is based on mannitol fermentation and tellurite reduction. Vogel-Johnson Agar Base w/ 1.5% Agar can also be used in the enumeration and identification of microbes from cosmetics wherein *Staphylococcus* contamination is expected.

COMPOSITION

Ingredients	Gms / Ltr
Tryptone	10.000
Yeast extract	5.000
Mannitol	10.500
Dipotassium hydrogen phosphate	5.50
Lithium chloride	5.00
Glycine	10.10
Phenol red	0.025
Agar	15.00

PRINCIPLE

Tryptone and yeast extract provide nitrogenous and carbonaceous compounds, vitamin B complex and other growth nutrients. Dipotassium hydrogen phosphate provides buffering to the medium. During the first 24 hours, contaminating organisms are almost inhibited by tellurite, lithium chloride and high glycine content. The effect of inhibitors on *S. aureus* is reduced because of the presence of mannitol and glycine. Coagulase-positive staphylococci reduce potassium tellurite to metallic free tellurium and thus produce black colonies surrounded by yellow zones. This yellow colour is due to phenol red indicator that turns yellow in acidic condition due mannitol fermentation. If mannitol is not fermented, yellow zones are not formed. Also the colour of the medium around the colonies may even be a deeper red than normal due to utilization of the peptones in the medium. Prolonged incubation may result in growth of black coagulase-negative colonies.

INSTRUCTION FOR USE

- Dissolve 62.02 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.
- Cool to 45-50°C and add 20 ml of sterile 1% Potassium Tellurite solution.



- Mix gently 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** : Light yellow to pink homogeneous free flowing powder.
- Appearance of prepared medium** : Red coloured clear to slightly opalescent gel forms in Petri plates.
- pH (at 25°C)** : 7.2±0.2

INTERPRETATION

Cultural characteristics observed with added 1% Potassium Tellurite solution, after an incubation.

Microorganism	Strains	Inoculum (CFU/ml)	Growth	Recovery	Colour of colony	Mannitol fermentation	Incubation Temperature	Incubation Period
<i>Escherichia coli</i>	25922 ATCC	≥10 ³	Inhibited	0%	-	-	35-37°C	24-48 Hours
<i>Proteus mirabilis</i>	25933 ATCC	50-100	Poor	10-20%	Black	Negative	35-37°C	24-48 Hours
<i>Staphylococcus aureus</i>	25923 ATCC	50-100	Luxuriant	≥70%	Black with yellow halo	Positive	35-37°C	24-48 Hours
<i>Staphylococcus epidermidis</i>	12228 ATCC	≥10 ³	Fair-good	20-40%	Translucent to Blackish	Negative	35-37°C	24-48 Hours
<i>Escherichia coli</i>	8739 ATCC	≥10 ³	Inhibited	0%	-	-	35-37°C	24-48 Hours
<i>Staphylococcus aureus</i>	6538 ATCC	50-100	Luxuriant	≥70%	Black with Yellow halo	Positive	35-37°C	24-48 Hours
<i>Staphylococcus aureus</i>	9518 NCIMB	50-100	Luxuriant	≥70%	Black with Yellow halo	Positive	35-37°C	24-48 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.

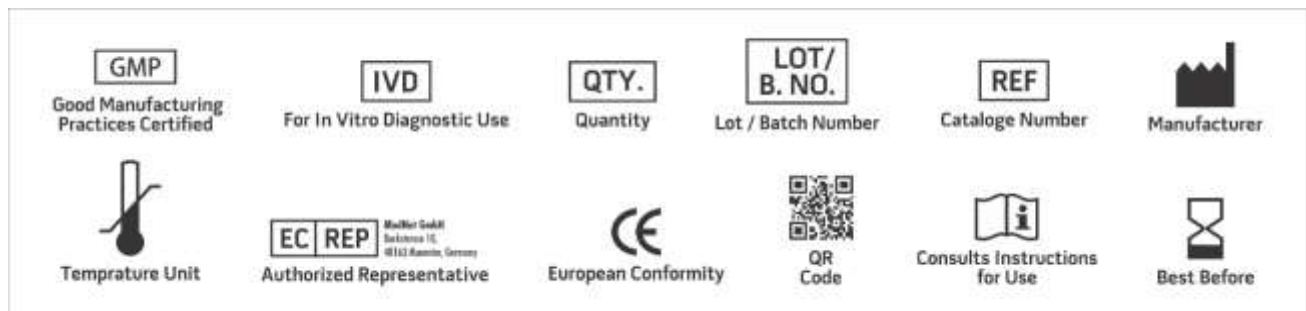
Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL

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

REFERENCES

1. Vogel R. A. and Johnson M. J., 1960, Public Health Lab. 18:131.
2. FDA, U.S. 1998. Bacteriological Analytical Manual. 8 ed. Gaithersburg, Md.: AOAC International. 3.Zebovitz E., Evans J. B. and Niven C. F., 1955, J. Bacteriol., 70:686.
3. MacFaddin, J. F. 1985. Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria. vol. 1. Baltimore: Williams and Wilkins.



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

***For Lab Use Only**
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