

TM 1722 - VOGEL JOHNSON AGAR MEDIUM (as per USP)

INTENDED USE

For selective isolation of coagulase positive, mannitol fermenting *S. aureus* from foods & clinical samples.

PRODUCT SUMMARY AND EXPLANATION

Vogel-Johnson Agar Medium is prepared according to the formula of Vogel and Johnson and is recommended for the microbial limit test (pharmaceutical testing) in USP. Originally it was developed by Zebovitz as a Tellurite Glycine Agar, a selective medium for the detection of coagulase positive Staphylococci. This medium is used to detect *Staphylococcus* in pharmaceutical and cosmetics products. *Staphylococcus* is prevalent pathogen in food borne poisoning due to its enterotoxin production. It is commensal found on skin and scalp of human body.

COMPOSITION

Ingredients	Gms / Ltr
Pancreatic digest of Casein	10.000
Yeast extract	5.000
Mannitol	10.000
Dibasic potassium phosphate	5.000
Lithium chloride	5.000
Glycine	10.000
Phenol red	0.025
Agar	16.000

PRINCIPLE

Vogel-Johnson modified the medium by adding phenol red as a pH indicator and increased the mannitol quantity. Tryptone and yeast extract provide nitrogenous and carbonaceous compounds, long chain amino acids, vitamin B complex and other growth nutrients. Dibasic potassium phosphate gives buffering capacity to the medium. During first 24 hours of incubation, contaminating organisms are almost inhibited by tellurite, lithium chloride and high glycine content. *Staphylococcus aureus* may be inhibited by these inhibitors but get compensated by 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, which turns yellow in acidic condition by the fermentation of mannitol. Prolonged incubation may result in the growth of black coagulase negative colonies.

INSTRUCTION FOR USE

- Dissolve 30.51 grams in 500 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 10 ml of sterile 1% Potassium Tellurite solution.
- Mix gently and pour into sterile Petri plates.

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	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Color of the colony	Incubation Temperature	Incubation Period
<i>Staphylococcus aureus subsp. aureus</i>	6538	50 -100	Luxuriant	>=70 %	Black colony surrounded by yellow zone	30-35°C	18-48 Hours
<i>Staphylococcus aureus subsp. aureus</i>	25923	50 -100	Luxuriant	>=70 %	Black surrounded by yellow zone	30-35°C	18-48 Hours
<i>Staphylococcus epidermidis</i>	12228	50 -100	Fair - good	20 -40 %	Translucent to blackish	30-35°C	18-48 Hours
<i>Proteus mirabilis</i>	25933	50 -100	None-poor	0 -10 %	Yellow	30-35°C	18-48 Hours
<i>Escherichia coli</i>	8739	>=10 ³	Inhibited	0 %	-	30-35°C	>=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

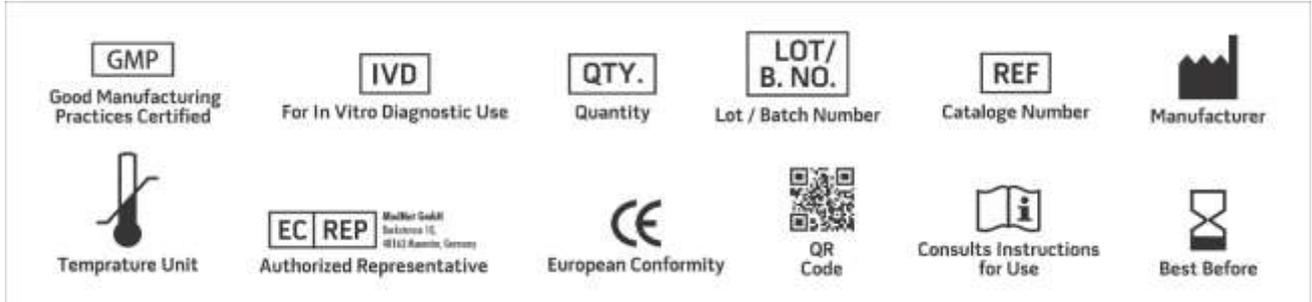
After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

REFERENCES

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5. American Public Health Association, Standard Methods for the Examination of Dairy Products, 1978, 14th Ed., Washington D.C.
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7. Isenberg, H.D. Clinical Microbiology Procedures Handbook. 2nd Edition.
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NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**
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