Vogel Johnson Agar
SKU: 700003656, 700003657, 700003658, 700003659
NCM0282

Intended Use
Vogel Johnson Agar is used for the isolation of staphylococci in a laboratory setting. Vogel Johnson Agar is not intended for use in the diagnosis of disease or other conditions in humans.

Description
Coagulase-positive staphylococci, primarily *Staphylococcus aureus*, are among the microorganisms that cause spoilage or chemical changes in cosmetic products. To isolate coagulase-positive, mannitol fermenting staphylococci, Vogel and Johnson modified Tellurite-Glycine Agar by Zebovitz, Evans, and Niven. The modification included increasing mannitol and adding a pH indicator. Vogel Johnson Agar selects and differentiates coagulase-positive staphylococci that ferment mannitol and reduce tellurite.

Vogel Johnson (VJ) Agar is specified in standard methods testing for cosmetics and nutritional supplements.

Typical Formulation

Enzymatic Digest of Casein	10.0 g/L
Yeast Extract	5.0 g/L
Mannitol	10.0 g/L
Dipotassium Phosphate	5.0 g/L
Lithium Chloride	5.0 g/L
Glycine	10.0 g/L
Phenol Red	0.025 g/L
Agar	15.0 g/L

Final pH: 7.2 ± 0.2 at 25°C
Formula is adjusted and/or supplemented as required to meet performance specifications.

Supplement
NCM4012 Potassium Tellurite 1%

Precaution
Refer to SDS

Preparation
1. Suspend 60 grams of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.
4. Cool to 45 - 50°C and aseptically add 20mL of NCM4012* Potassium Tellurite 1%. Note: Do not heat medium after Tellurite Supplement has been added.
5. Mix thoroughly before dispensing.

*Larger vials may be available. Please see appropriate supplement data sheet for availability and preparation instructions.

Quality Control Specifications
Dehydrated Appearance: Powder is homogeneous, free flowing, and off-white to beige to pinkish beige.

Prepared Appearance: Prepared medium is trace to slightly hazy and red-orange.

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Expected Cultural Response: Cultural response on Vogel Johnson Agar incubated aerobically at 35 ± 2°C and examined for growth after 18 - 48 hours.

Microorganism	Approx. Inoculum (CFU)	Expected Results	
		Response	Reaction
Enterococcus faecalis ATCC® 29212	~ 1000	Partial to complete inhibition	Black colonies
Escherichia coli ATCC® 25922	~ 1000	Complete inhibition	---
Staphylococcus aureus ATCC® 25923	10 - 300	Growth	Black colonies w/ yellow halo
Staphylococcus epidermidis ATCC® 12228	~ 1000	Partial to complete inhibition	Black colonies

The organisms listed are the minimum that should be used for quality control testing.

Test Procedure
Refer to appropriate references for the isolation and identification of staphylococci.

Results
Coagulase-positive strains of *S. aureus* reduce tellurite and form black colonies on the medium. These strains typically ferment mannitol and exhibit yellow halos around black colonies. Most organisms other than coagulase - positive staphylococci are inhibited during the first 24 hours of incubation. After 24 hours, other organisms, especially fecal streptococci and coagulase - negative *S. epidermidis* may grow.

Expiration
Refer to expiration date stamped on container. The dehydrated medium should be discarded if not free flowing, or if appearance has changed from the original color. Expiry applies to medium in its intact container.

Limitation of the Procedure
1. Some strains may be encountered that grow poorly or fail to grow on this medium.
2. It is recommended to hold prepared Vogel Johnson Agar overnight before inoculation.

Storage
Store dehydrated culture media at 2-30°C away from direct sunlight. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light by keeping container tightly closed.

References
1. www.fda.gov/Food/ScienceResearch/LaboratoryMethods/BacteriologicalAnalyticalmanualBAM/default.htm.
2. Vogel, T. A., and M. Johnson. 1960. A modification of the Tellurite-Glycine Medium for use in the identification of *Staphylococcus aureus.* Public Health Lab. 18:131.
3. Zebovitz, E., J. B. Evans, and C. F. Niven, Jr. 1955. Tellurite-Glycine Agar; a selective plating medium for the quantitative detection of coagulase-positive staphylococci. J. Bacteriol. 70:686.
4. MacFaddin, J. F. 1985. Media for isolation-cultivation-identification-maintenance of medical bacteria, vol.1, p. 846-849. Williams & Wilkins, Baltimore, MD.
5. Curry, A. S., J. G. Graf, and G. N. McEwen, Jr. (eds.). 1993. CTFA microbiology guidelines. The Cosmetic, Toiletry, and Fragrance Association, Washington, D.C.

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