Thioglycollate Medium w/o Indicator
SKU: 700003644, 700003645, 700003646, 700003647
NCM0279

Intended Use

Thioglcyollate Medium w/o Indicator is used for the cultivation of anaerobic microorganisms in a laboratory setting. Thioglcyollate Medium w/o Indicator is not intended for use in the diagnosis of disease or other conditions in humans.

Description

Quastel and Stephenson found the presence of small amounts of a compound containing an –SH group (cysteine, thioglycollic acid, and glutathione) permitted "aerobic" growth of *Clostridium sporogenes*. Falk, Bucca, and Simmons discovered the advantages of using small quantities of agar in detecting contaminants during sterility testing. Brewer demonstrated the value of a small amount of agar and a reducing substance in this medium.

Thioglycollate Medium w/o Indicator is used for cultivating and detecting microorganisms in normally sterile materials, especially those containing mercurial preservatives when the oxidation-reduction indicator is not present or required. Thioglycollate Medium w/o Indicator is the medium of choice for diagnostic testing, where lack of an indicator avoids possible toxicity to organisms.

Typical Formulation

Enzymatic Digest of Casein	17.0 g/L
Enzymatic Digest of Soybean Meal	3.0 g/L
Dextrose	5.5 g/L
Sodium Chloride	2.5 g/L
L-Cystine	0.25 g/L
Sodium Thioglycollate	0.5 g/L
Agar	0.75 g/L

Final pH: 7.0 ± 0.2 at 25°C
Formula is adjusted and/or supplemented as required to meet performance specifications.

Precaution

Refer to SDS

Preparation

1. Dissolve 29.5 g 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 room temperature.

NOTE: The prepared medium should be reduced prior to inoculation. The prepared tubes should be boiled (with caps loose) for 3 - 5 minutes and cooled before use. Alternatively, the tubes can be placed in an anaerobic environment for at least 3 hours before use.

Quality Control Specifications

Dehydrated Appearance: Powder is homogeneous, free flowing, and light beige.

Prepared Appearance: Prepared medium is clear to hazy, yellow, with no to light precipitate.

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Expected Cultural Response: Cultural response in Thioglycollate Medium w/o Indicator incubated aerobically at 35 ± 2˚C and examined for growth at 24 – 72 hours.

Microorganism	Approx. Inoculum (CFU)	Expected Results
Bacillus subtilis ATCC® 6633	10 - 300	Fair to good
Bacteroides vulgatus ATCC® 8482	10 - 300	Poor to fair
Candida albicans ATCC® 10231	10 - 300	Fair to excellent
Clostridium sporogenes ATCC® 11437	10 - 300	Good to excellent
Micrococcus luteus ATCC® 9341	10 - 300	Poor to excellent
Streptococcus pyogenes ATCC® 19615	10 - 300	Good to excellent

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

Test Procedure
Refer to appropriate references for specific procedures using Thioglycollate Medium w/o Indicator.

Results
Typically growth is visually observed in the media. Gram-negative bacilli usually grow diffusely, Gram-positive cocci exhibit puff-ball type growth and strict aerobes, such as pseudomonads and yeast, grow in a thin layer on the surface of the medium.

Expiration
Refer to expiration date stamped on the 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 when stored as directed.

Limitations of the Procedure
Due to nutritional variation, some strains may be encountered that grow poorly or fail to grow on this medium.

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. Quastel and Stephenson. 1926. General biological products standards. Fed. Regist. 21:6109-12.
2. Falk, C. R., H. Bucca, and M. P. Simmons. 1939. A comparative study of the use of varying concentrations of agar in the test medium used to detect contaminants in biological products. J. Bacteriol. 37:121-131.
3. Brewer, J. H. 1940. Clear liquid mediums for the “aerobic” cultivation of anaerobes. J. Amer. Med. Assoc. 115:598-600.
4. www.fda.gov/Food/ScienceResearch/LaboratoryMethods/BacteriologicalAnalytical manualBAM/default.htm.
5. MacFaddin, J. F. 1985. Media for isolation-cultivation-identification maintenance of medical bacteria, vol. 1, p. 755-762. Williams & Wilkins, Baltimore, MD.

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