Block 5, Street 9 inside The Ismailia free zone. Ismailia- Egypt
Post Code-41511
Tel.-Fax: +202 21813500/ +202 21813600
Mob.: +2 01211550941/ +2 01119225860
E-mail: sales@arenabioscientific.com
Website: www.arenabioscien.com

Thioglycollate broth

Recommended for the recovery of anaerobic and facultative microorganisms.

REF: BS.1/TG01.100.0100	100 Gram	REF: BS.1/TG01.250.0250	250 Gram
REF: BS.1/TG01.500.0500	500 Grams		

CLINICAL SIGNIFICANCE

Thioglycollate broth is a multipurpose, enriched, differential medium used primarily to determine the oxygen requirements of microorganisms. Sodium thioglycollate in the medium consumes oxygen and permits the growth of obligate anaerobes. This, combined with the diffusion of oxygen from the top of the broth, produces a range of oxygen concentrations in the medium along its depth. The oxygen concentration at a given level is indicated by a redox-sensitive dye such as resazurine that turns pink in the presence of oxygen

METHOD PRINCIPLE

Tryptone serves as a source of nitrogen and carbon compounds, long chain amino acids and other essential nutrients. Yeast extract serve as source of essential nutrients to the contaminants, if present. Dextrose serves as the energy source. Sodium chloride maintains the osmotic equilibrium of the medium whereas L-cystine, an amino acid, also serves as source of essential growth factors. Sodium thioglycollate and L-cystine lower the oxidation-reduction potential of the medium by removing oxygen to maintain a low Eh. Sodium thioglycollate also helps to neutralize the toxic effects of mercurial preservatives

MEDIA COMPOSITION

Item	Formula per liter of medium
Tryptone	15.00 gm.
Yeast Extract	5.000 gm.
D(+)-Glucose	5.500 gm.
L-Cystine	0.500 gm.
Sodium chloride	2.500 gm.
Sodium Thioglycollate	0.500 gm.

Final pH 7.1 ± 0.2 at 25°C

PRECAUTIONS AND WARNINGS

Media to be handled by entitled and professionally educated person. Do not ingest or inhale.

Good Laboratories practices using appropriate precautions should be followed in:

- Wearing personnel protective equipment (overall, gloves, glasses,).
- Do not pipette by mouth.
- In case of contact with eyes or skin; rinse immediately with plenty of soap and water. In case of severe injuries; seek medical advice immediately.
- Respect country requirement for waste disposal.
  S56: dispose of this material and its container at hazardous or special waste collection point.
  S57: use appropriate container to avoid environmental contamination.
  S61: avoid release in environment.

For further information, refer to the Thioglycollate broth material safety data sheet.

STORAGE AND STABILITY

BioScien Thioglycollate broth should be stored between 10-30°C in a firmly closed container and the prepared medium at 2-8°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to avoid lump development due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in a dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use. Product performance is best if used within stated expiry period.

PREPARATION

- Suspend 29 grams in 1000 ml distilled water.
- Adjust pH to *7.1 ± 0.2 at 25°C*
- Dispense into tubes.
- Autoclave 15 min at 121 °C.

Deterioration

The color of ***BioScien*** Thioglycollate broth base is Cream to yellow homogeneous free flowing powder. Prepared Media Light yellow coloured clear solution. If there are any physical changes for powder or signs of deterioration (shrinking, cracking, or discoloration), and contaminations for hydrated media, discard the medium.

SPECIMEN

Clinical sample: Blood.

EQUIPMENT REQUIRED NOT PROVIDED

- Inoculating loops, swabs, collection containers
- Incubators
- Sterile petri plates
- Anaerobic chamber / anaerobic jars

QUALITY CONTROL

To ensure adequate quality control, it is recommended that positive and negative control included in each run. If control still out of range please contact ***BioScien*** technical support.

PERFORMANCE CHARACTERISTICS

Cultural characteristics observed with added sterile lysed blood/Haemoglobin solution, Vitamino Growth Supplement and V.C.N. Supplement (FD/V.C.N.) Supplement after an incubation at 35-37°C for 18-48 hours.

Organism	Result	Conditions
Clostridium sporogenes ATCC 19404	Luxuriant	Anaerobic
Clostridium sporogenes ATCC 11437	Luxuriant	Anaerobic
Clostridium perfringens ATCC 13124	Luxuriant	Anaerobic
Staphylococcus aureus subsp. aureus ATCC 25923	Luxuriant	Aerobic
Staphylococcus aureus subsp. aureus ATCC 6538	Luxuriant	Aerobic
Pseudomonas aeruginosa ATCC 27853	Luxuriant	Aerobic
Pseudomonas paraeruginosa ATCC 9027	Luxuriant	Aerobic
Escherichia coli ATCC 25922	Luxuriant	Aerobic
Escherichia coli ATCC 8739	Luxuriant	Aerobic
Salmonella Abony NCTC 6017	Luxuriant	Aerobic
Salmonella Typhimurium ATCC 14028	Luxuriant	Aerobic
Bacteroides fragilis ATCC 23745	Luxuriant	Aerobic
Bacteroides fragilis ATCC 23745	Luxuriant	Anaerobic
Phocaeicola vulgatus ATCC 8482	Luxuriant	Anaerobic

REFERENCES

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2. Nungester, Hood and Warren, 1943, Proc. Soc. Exp. Biol. Med., 52: 287
3. Portwood, 1944, J. Bacteriol., 48: 255
4. Isenberg, H.D. Clinical Microbiology Procedures Handbook. 2nd Edition.
5.Jorgensen,J.H., Pfaller , M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.

SYMBOLS IN PRODUCT LABELLING	
LOT Batch Code/Lot number	Caution
REF Catalogue Number	Do not use if package is damaged
Temperature Limitation	Consult Instruction for use
Expiration Date	
Manufactured by	