Thioglycollate Broth

For cultivation and isolation of obligate and facultative anaerobic and microaerophilic bacteria and for sterility tests.

Both culture media comply with the recommendations of United States Pharmacopeia XXVI (2003), the European Pharmacopeia and APHA (1992).

Mode of Action

The reducing agents thioglycollate and cystine ensure an anaerobiosis which is adequate even for fastidious anaerobes. The sulfhydryl groups of these substances also inactivate arsenic, mercury and other heavy metal compounds.

The thioglycollate media are thus suitable for the examination of materials which contain heavy metals or heavy metal preservatives. The higher viscosity of the Fluid Thioglycollate Medium prevents rapid uptake of oxygen. Any increase in the oxygen content is indicated by the redox indicator sodium resazurin which changes its colour to red.

Typical Composition (g/litre)

Peptone from casein 15.0; yeast extract 5.0; D(+)glucose 5.5; L-cystine 0.5; sodium chloride 2.5; sodium thioglycollate 0.5.

Preparation

Suspend 29 g Thioglycollate Broth/litre,dispense into tubes, autoclave 15min at 121 °C).

pH: 7.1 ± 0.2 at 25 °C.

The prepared media are clear and yellowish.

■ **The culture media should always be freshly prepared.**

Experimental Procedure and Evaluation

Inoculate the culture medium with the sample material taking care that the sample reaches the bottom of the tubes. In order to ensure anaerobiosis, the medium can then be overlayed with 1cm of sterile liquid paraffin or agar solution.

Incubation: several days at the optimal incubation temperature (35-37 °C).

Anaerobes grow in the lower part of the culture.

Literature

American Public Health Association: Compendium of methods for the microbiological examination of foods. - 3rd ed. (1992).

European Pharmacopeia II, Chapter VIII. 3.

United States Pharmacopeia XXVI, Chapter "Microbial Limit Tests", 2003.

Ordering Information

Product	Merck Cat. No.	Pack size
Thioglycollate Broth	1.08190.0500	500 g
Thioglycollate Broth	1.08190.5000	5 kg
Agar-agar purified	1.01614.1000	1 kg
Paraffin viscous	1.07160.1000	1 l

Quality control

Test strains	Growth
Clostridium sporogenes ATCC 11437	good
Clostridium sporogenes ATCC 19404	good (anaerobic)
Bacillus subtilis ATCC 6633	good
Micrococcus luteus ATCC 9341	good
Pseudomonas aeruginosa ATCC 9027	good
Bacteroides vulgatus ATCC 8482	good (anaerobic)
Staphylococcus aureus ATCC 6538	good
Escherichia coli ATCC 25922	good