

Thioglycollate Broth, TGB (i23279)

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

Industry: Pharmaceutical / Veterinary / Food

Principles & Uses

Thioglycollate Medium, prepared as per the American Pharmacopoeia, is ideal for sterility testing in pharmaceuticals. It supports the growth of aerobic and anaerobic microorganisms without special equipment. Recommended by ISO normative 7937, it's buffered to resist pH changes and is useful for *Clostridium* cultivation. Sodium thioglycollate helps to neutralizes toxic effects of preservatives. The agar in small quantities aids in sterility testing by delaying CO₂ dispersion. Peptone and yeast extract provide nutrients, Sodium thioglycollate and L-cystine reduce the oxidation-reduction potential of the medium by depleting oxygen, thus sustaining a low pH. Resazurin acts as an oxidation indicator, turning pink. Glucose is the fermentable carbohydrate, and sodium chloride maintains osmotic balance. Used in liquid form or as a solid slant, it prevents the accumulation of lethal peroxides for some microorganisms during testing.

Composition (gr/L)

Peptone from Casein 15 g, Yeast Extract 5 g, D-Glucose 5.5 g, L-Cysteine 0.5 g, Sodium Chloride 2.5 g, Sodium Thioglycollate 0.5 g.

Final pH at 25°C 7.1 ± 0.2

Preparation from dehydrated Powder

Suspend 29 g of the powder in 1 L of distilled water. Dispense into tubes. Autoclave at 121°C for 15 minutes.

Quality Control

Dehydrated Appearance: Light tan, free-flowing, homogeneous.

Prepared Appearance: Light amber, clear to very slightly opalescent, may have a slight precipitate.

Reaction of 2.9% Solution at 25°C: pH 7.1 ± 0.2

Cultural Response

Inoculate duplicate tubes and incubate at 30 - 35°C for 18 - 48 hours (up to 72 hours, if necessary) under anaerobic conditions (tight caps).

Organism (ATCC*)	Recovery
<i>Clostridium sporogenes</i> (11437)	Good
<i>Bacillus subtilis</i> (6633)	Good
<i>Pseudomonas aeruginosa</i> (9027)	Good
<i>Staphylococcus aureus</i> (6538)	Good

*ATCC is a registered trade mark of the American Type Culture Collection.



Bacillus subtilis (left). Prepared Culture Media (right).

Storage

Keep the container at 15-30 °C. Store prepared medium at 2-8 °C.