

## 90404 Thioglycollate Broth with Resazurine (Fluid Thioglycollate Medium, Thioglycollate Medium)

For sterility testing of biologicals and for cultivation of aerobic and anaerobic organisms, and for sterility testing. Any increase in the oxygen content is indicated by a colour change of redox indicator resazurin to red.

### Composition:

Ingredients	Grams/Litre
Casein enzymic hydrolysate	15.0
Yeast extract	5.0
Dextrose	5.5
Sodium chloride	2.5
L-Cystine	0.5
Sodium thioglycollate	0.5
Resazurin	0.001
Agar	0.75
Final pH 7.1 ± 0.2	

Store prepared media below 8°C, protected from direct light. Store dehydrated powder, in a dry place, in tightly-sealed containers at 2-25°C.

### Directions:

Suspend 29.75 g in 1000 ml distilled water. Boil to dissolve the medium completely. Sterilize by autoclaving at 121°C for 15 minutes. Cool to 25°C and store in a cool dark place preferably below 25°C.

### Principle and Interpretation:

Thioglycollate Broth support the rapid growth of a large variety of fastidious anaerobe and aerobic microorganisms. The USP and AOAC have recommended the media for sterility testing of antibiotics, biologicals, foods and for determining the phenol coefficient and sporadic effect of disinfectants. However, it is intended for the examination of clear liquid or water-soluble material.

Casein enzymic hydrolysate is the nitrogen source. Yeast Extract is added as a source of vitamins. Sodium thioglycollate and L-Cystine are reducing agents and lower the redox potential of the medium by removing oxygen. This condition avoids the peroxide formation which can be toxic to some organisms. The sulfhydryl groups (-SH) of these compounds also neutralize the antibacterial effect of mercurial preservatives. This makes it possible to test samples contaminated with heavy metals. Resazurin is an oxidation indicator and change from colorless to pink when oxidised. Agar eliminates the need for seals because it retards dispersion of CO<sub>2</sub>, diffusion of oxygen and reducing substances. Agar and sodium chloride facilitate an early visual recognition of growth. Dextrose is an additional substrate and supports the rapid growth of many organisms. Sodium chloride is used to maintain the osmotic balance of the media.



Cultural characteristics after 48-72 hours at 35°C.

\* These cultures may be incubated at 25-30°C for 2-7 days.

Organisms (ATCC)	Growth
<i>Bacillus subtilis</i> (6633)*	+++
<i>Candida albicans</i> (10231)*	+++
<i>Clostridium sporogenes</i> (11437)*	+++
<i>Micrococcus luteus</i> (9341)*	+++
<i>Neisseria meningitidis</i> (13090)	+++
<i>Streptococcus pyrogenes</i> (19615)	+++
<i>Bacteroides vulgatus</i> (8482)*	+

#### References:

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#### Precautions and Disclaimer

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