

## T. A. T. Broth Base, Granulated

GM562

T.A.T. Broth Base, granulated with added polysorbate 20 is used for sterility testing of highly viscous or gelatinous substances such as salves, ointments and other cosmetic products.

### Composition\*\*

Ingredients	Gms / Litre
Casein enzymic hydrolysate	20.000
Azolectin	5.000
Final pH ( at 25°C)	7.2±0.2

\*\*Formula adjusted, standardized to suit performance parameters

### Directions

Suspend 25 grams in 960 ml distilled water and add 40 ml of polysorbate 20. Heat if necessary to dissolve the medium completely. Dispense in tubes or flasks as desired and sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

### Principle And Interpretation

T.A.T. Broth is prepared according to the formula recommended by United States Food and Drug Administration (1) for enrichment and further isolation and cultivation of gram-negative bacteria in cosmetics, tropical drugs and in the sterility testing of viscous or gelatinous substances. It is especially adapted for the testing of cosmetics.

Cosmetics and pharmaceutical products are subject to contamination during manufacturing and subsequent use by consumers (2). Preservatives are used in aqueous products to make them self-sterilizing for vegetative bacteria, yeasts and moulds, and bacteriostatic or bactericidal for spores (2).

Casein enzymic hydrolysate provides the nitrogen, vitamins, amino acids and carbon in T.A.T. Broth Base. Azolectin and polysorbate 20 neutralize preservatives in the cosmetics or pharmaceutical products, allowing bacteria to grow.

Prepare decimal dilutions of the sample to be tested from 10<sup>-1</sup> to 10<sup>-6</sup>. Inoculate 1 gram (1 ml) sample and 1 ml of each dilution into 40 ml of T.A.T. Broth (3). After incubation, subculture the growth on MacConkey Agar (GM081/M081) and TSI Agar (GM021/M021).

### Quality Control

#### Appearance

Off-white to yellow coloured granular medium

#### Colour and Clarity of prepared medium

Light yellow coloured clear to slightly opalescent solution in tubes

#### Reaction

Reaction of 2.5% w/v aqueous solution containing 4% v/v polysorbate 20 at 25°C. pH : 7.2±0.2

#### pH

7.00-7.40

#### Cultural Response

Cultural characteristics observed after an incubation at 35-37°C for 24-48 hours with added Polysorbate 20.

Organism	Inoculum (CFU)	Growth
<i>Bacillus subtilis</i> ATCC 6633	50-100	good-luxuriant
<i>Candida albicans</i> ATCC 10231	50-100	good-luxuriant
<i>Pseudomonas aeruginosa</i> ATCC 27853	50-100	fair-good
<i>Salmonella</i> Typhi ATCC 6539	50-100	good-luxuriant
<i>Staphylococcus aureus</i> ATCC 25923	50-100	good-luxuriant

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<i>Staphylococcus aureus</i> ATCC 6538	50-100	good-luxuriant
<i>Pseudomonas aeruginosa</i> ATCC 9027	50-100	fair-good

### Storage and Shelf Life

Store below 30°C in tightly closed container and prepared medium at 2-8°C. Use before expiry period on the label.

### Reference

1. Food and Drug Administration, 1969, Procedure for Examination of Tropical Drugs and Cosmetics.
2. Orth, 1993, Handbook of Cosmetic Microbiology, Marcel Dekker, Inc., New York, N.Y.
3. MacFaddin J. F., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. I, Williams and Wilkins, Baltimore.

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