

TAT Broth Base • TAT Broth

Intended Use

TAT Broth Base with added polysorbate 20 and TAT Broth (complete) are used for cultivating microorganisms from highly viscous or gelatinous materials.

Summary and Explanation

TAT (Tryptone-Azolectin-Tween™*) Broth Base with the addition of polysorbate 20 is recommended for testing for the presence of microorganisms in viscous materials, such as salves or ointments. It is especially adapted to the testing of cosmetics. Cosmetics and pharmaceutical products are subject to contamination during manufacturing and use by consumers.¹ Preservatives are used in aqueous products to make them self-sterilizing for vegetative bacteria, yeasts and molds, and bacteriostatic or bactericidal for spores.¹ TAT Broth is the medium, including polysorbate 20, provided in bottles.

*Tween is a trademark of ICI Americas, Inc.

User Quality Control

Identity Specifications

Difco™ TAT Broth Base

Dehydrated Appearance: Beige, free-flowing, homogeneous.
Solution: 2.5% solution with 4% polysorbate 20. Soluble when heated to 50-60°C; let stand for 15-30 minutes with occasional agitation to dissolve prior to autoclaving. Solution is light amber, clear to very slightly opalescent, may have a very slight precipitate.

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

Reaction of 2.5% Solution w/4% Polysorbate 20 at 25°C: pH 7.2 ± 0.2

Cultural Response

Difco™ TAT Broth

Prepare the medium per label directions or use prepared TAT Broth. Inoculate and incubate at 35 ± 2°C for 18-48 hours.

ORGANISM	ATCC™	INOCULUM CFU	RECOVERY
<i>Bacillus subtilis</i>	6633	10 ² -3 × 10 ²	Good
<i>Candida albicans</i>	26790	10 ² -3 × 10 ²	Fair to good
<i>Pseudomonas aeruginosa</i>	27853	10 ² -3 × 10 ²	Good
<i>Salmonella enterica</i> subsp. <i>enterica</i> serotype Typhi	6539	10 ² -3 × 10 ²	Good
<i>Staphylococcus aureus</i>	25923	10 ² -3 × 10 ²	Good

Principles of the Procedure

Peptone provides the nitrogen, vitamins, amino acids and carbon in TAT Broth Base. Soy lecithin and polysorbate 20 neutralize preservatives in the cosmetics or pharmaceutical products, allowing bacteria to grow.

Formulae

Difco™ TAT Broth Base

Approximate Formula* Per 960 mL	
Pancreatic Digest of Casein	20.0 g
Soy Lecithin.....	5.0 g

Difco™ TAT Broth (prepared)

Approximate Formula* Per Liter	
Pancreatic Digest of Casein	20.0 g
Soy Lecithin.....	5.0 g
Polysorbate 20	40.0 mL

*Adjusted and/or supplemented as required to meet performance criteria.

Directions for Preparation from Dehydrated Product

1. Suspend 25 g of the powder in 960 mL of purified water.
2. Add 40 mL of polysorbate 20.
3. Heat in a water bath at 50-60°C for 15-30 minutes with occasional agitation to dissolve completely.
4. Autoclave at 121°C for 15 minutes.
5. Test samples of the finished product for performance using stable, typical control cultures.

Procedure

1. Add 10 g or 10 mL of an undiluted sample to 90 mL of complete medium and agitate to obtain an even suspension.
2. Incubate at 35 ± 2°C for 18-48 hours.

Expected Results

Tubes or bottles exhibiting growth should be subcultured for identification.

Reference

1. Orth. 1993. Handbook of cosmetic microbiology. Marcel Dekker, Inc., New York, N.Y.

Availability

Difco™ TAT Broth Base

Cat. No. 298410 Dehydrated – 500 g
292848 Dehydrated – 2 kg

Difco™ TAT Broth

Cat. No. 290721 Prepared Bottles (wide mouth), 90 mL – Pkg. of 10