T.A.T. Broth

LQ203C

Intended use

For sterility testing of highly viscous or gelatinous substances such as salves, ointments and other cosmetic product.

Composition**

Ingredients	g / L
Tryptone	20.000
Azolectin	5.000
Polysorbate 20 (Tween 20)	40.00

**Formula adjusted, standardized to suit performance parameters

Directions

Label the ready to use LQ203C bottle. Inoculate the sample and Incubate at specified temperature and time.

Principle And Interpretation

T.A.T. Broth is prepared according to the formula recommended by United States Food and Drug Administration and United States Pharmacopoeia (1,2) 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 (3). Preservatives are used in aqueous products to make them self-sterilizing for vegetative bacteria, yeasts and moulds, and bacteriostatic or bactericidal for spores (3).

Tryptone 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 10-1 to 10-6. Inoculate 1 gram (1 ml) sample and 1 ml of each dilution into 40 ml of T.A.T. Broth (4). After incubation, subculture the growth on MacConkey Agar (M081) and TSI Agar (M021).

Type of specimen

Pharmaceutical & Industrial sample: salves, ointments and other cosmetic product.

Specimen Collection and Handling

For Pharmaceutical, Industrial samples follow appropriate techniques for handling specimens as per established guidelines (1,2).

After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions

Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations

1.Due to nutritional variation, certain species may show poor growth.

2.Further isolation and biochemical tests should be carried out for confirmation.

Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

Quality Control

Appearance

Sterile T.A.T. Medium in a glass bottle.

Colour

Light yellow coloured clear to slightly opalescent solution

Quantity of Medium

100 ml of medium in glass bottle.

pH

7.00- 7.40

Sterility Check

Passes release criteria

Cultural Response

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

Organism	Inoculum (CFU)	Growth
$ *Bacillus spizizenii* ATCC 6633 (00003*)	50-100	good-luxuriant
Candida albicans ATCC 10231 (00054*)	50-100	good-luxuriant
Pseudomonas aeruginosa ATCC 27853 (00025*)	50-100	fair-good
Staphylococcus aureus subsp. aureus ATCC 25923 (00034*)	50-100	good-luxuriant
Staphylococcus aureus subsp. aureus ATCC 6538 (00032*)	50-100	good-luxuriant
^*Pseudomonas paraeruginosa* ATCC 9027 (00026*)	50-100	fair-good

Key: (*) Corresponding WDCM numbers

^ Formerly known as *Pseudomonas aeruginosa*

$Formerly known as *Bacillus subtilis* subsp. *spizizenii*

Storage and Shelf Life

Store between 15-30°C. Use before expiry date on the label. Product performance is best if used within stated expiry period.

Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with sample must be decontaminated and disposed of in accordance with current laboratory techniques (5,6).

Reference

1. Food and Drug Administration, 1969, Procedure for Examination of Tropical Drugs and Cosmetics.
2. The United States Pharmacopoeia, 2011. The United States Pharmacopeial Convention. Rockville, MD.
3. Orth, 1993, Handbook of Cosmetic Microbiology, Marcel Dekker, Inc., New York, N.Y.
4. MacFaddin J. F., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. I, Williams
5. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
6. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.

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