

Tryptic Soy Contact Agar with LTH

Article Number 860, 234e,

Intended Use

Tryptic Soy Agar (TSA, Casein Soya Bean Digest Agar) is a complex medium for cultivation and isolation of fastidious bacteria, yeasts and moulds. The medium can be incubated under aerobic or anaerobic conditions. The formulation of the basic medium is prepared according to the recommendations of the actual United States Pharmacopoeia (USP) or European Pharmacopoeia (EP).

Tryptic Soy Agar with the neutralizing agents **L**ecithin, **T**ween 80 and **H**istidine is used for Hygiene Monitoring (Environmental Monitoring) on surfaces, personnel and of air, even in the presence of residues of disinfectants.

Contact Agar TSA with LTH is available as single packed, non-irradiated medium for room temperature storage (indicated by the word "RT") with article number 234e. Additionally the identical medium is now available in a new plate called TSA Contact +LTH - **RT+** with the article number 860.

Compared to the standard **RT**-plates the new **RTplus (RT+)**-plates show the following additional features:

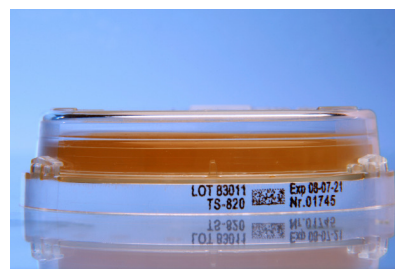
- **RTplus:** After taking the sample the lid can be fixed for a safe transport.



- **RTplus:** Two lid positions available for different incubation conditions.



- Turning the lid clockwise: „Closed“-position is suitable for safe transport as well as aerobic incubation conditions especially at long incubation times;
- Turning the lid counter clockwise: „Vent“-position is suitable for all incubation atmospheres including microaerophilic or anaerobic conditions.
- **RTplus:** Each plate is supplied with a data matrix barcode for identification of each individual plate.



Typical Composition per litre

Soy Peptone	5 g
Casein Peptone	15 g
Sodium Chloride	5 g
Lecithin	0.7 g
Tween 80	5 ml
Histidine	1 g
Agar	15 g

Final pH 7.3 ± 0.2

The agar is clear and yellowish.

Description

The combination of peptones from casein and soya beans supplies the micro-organisms with essential amino acids, low molecular peptides and soluble proteins. The carbohydrates derived from peptones from soy beans will promote the growth of yeasts and moulds. The medium is suitable for cultivation of aerobic as well as anaerobic micro-organisms.

Culture Conditions

The culture conditions may vary depending on the application of the medium. For the use in hygiene monitoring it is recommended to incubate one plate for the detection of yeasts and moulds at 20 to 25°C for 5 to 7 days and a second plate for the detection of bacteria at 30 to 35°C for 2 to 3 days (see Guidance for Industry). The plates should be evaluated at different times during this period.

For inactivation of residuals of disinfectants the TSA medium is supplied with lecithin, Tween 80 and histidine. According to Sutton et al. quarternary ammonium compounds as well as parahydroxybenzoate are inactivated by lecithin. Tween 80 will neutralize phenols (see Russel et al.). According to Wallhäuser histidine will inactivate formaldehyde.

Quality Control

Test strain	Culture conditions	Growth characteristics
<i>Staphylococcus aureus</i> ATCC 6538	1d 34 ± 1 °C	medium sized, slightly yellowish colonies, recovery rate ≥ 70 %
<i>Escherichia coli</i> ATCC 8739	1d 34 ± 1 °C	large, slightly yellowish colonies, recovery rate ≥ 70 %
<i>Pseudomonas aeruginosa</i> ATCC 9027	1d 34 ± 1 °C	medium sized, slightly yellowish colonies, recovery rate ≥ 70 %
<i>Bacillus subtilis</i> ATCC 6633	1d 34 ± 1 °C	large flat dry and irregular shaped colonies, recovery rate ≥ 70 %
<i>Candida albicans</i> ATCC 10231	2d 22.5 ± 2.5 °C	small white dry colonies, recovery rate ≥ 70 %
<i>Aspergillus niger</i> ATCC 16404	3d 22.5 ± 2.5 °C	colonies with light mycelium, recovery rate ≥ 70 %

10 – 100 CFU inoculated

Further Identification

In case of growth it is recommended to identify the colonies using suitable methods.

References

Guidance for Industry: Sterile Drug Products Produced by Aseptic Processing - Current Good Manufacturing Practice (September 2004): Pharmaceutical CGMPs.

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Russel, A. D., Ahonkhai, I., Rogers, D. T. (1979): Microbiological Applications of the Inactivation of Antibiotics and Other Antimicrobial Agents. J. Appl. Bacteriology 46 (2): 207–245

Sutton, S. V. W., Proud, D. W., Rachui, S., Brannan, D. K. ((2002): Validation of microbial recovery from disinfectants. PDA J. Pharm. Sci. Technol. **56**; No. 5: 255-266.

United States Pharmacopoeia 31 (2008): <1116> Microbial evaluation of clean rooms and other controlled environments.

Wallhäuser, K. H. (1995): Praxis der Sterilisation. Georg Thieme Verlag Stuttgart New York.

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