

# Tryptic Soy Agar: Plates 90 mm or 150 mm

Article Number 03075e, 03073a

## 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 current United States Pharmacopoeia (USP, Medium II) or European Pharmacopoeia (EP, Medium B).

TSA in settle plates is mainly used for the determination of airborne micro-organisms either by active air sampling using special air samplers or by the sedimentation method. Plates supplemented with neutralizers are further used for personnel hygiene monitoring.

## Features of ICR-Media

Hygiene monitoring in Isolators and Clean Rooms:

- storage at 15-25°C
- 30 ml filling volume (90 mm plate)
- triple wrapped (a set of ten plates each)
- gamma-irradiated
- transparent inner H<sub>2</sub>O<sub>2</sub>-impermeable bag
- reduced formation of condensed water
- shelf life up to 9 months from the date of production
- long monitoring times
- long incubation times

## heipha ICR-TSA Settle Plates

- ❖ TSA - ICR  
Art.-No. 03075e
- ❖ TSA w. LT - ICR  
Art.-No. 030828e  
(supplemented with lecithin and Tween 80)
- ❖ TSA w. LTHTh - ICR  
Art.-No. 030826e  
(supplemented with lecithin, Tween 80, histidine and sodium thiosulphate, separate manual available)
- ❖ Tryptic Soy Agar w. Penase - ICR  
Art.-No. 03083e  
(supplemented with Penase, separate manual available)

- ❖ Tryptic Soy Agar w. β-Lactamase II - ICR  
Art.-No. 03079e  
(supplemented with β-Lactamase II, separate manual available)
- ❖ Tryptic Soy Agar - ICR 80 ml  
Art.-No. 03073a  
(settle plate 150 mm, filling volume 80 ml)
- ❖ Tryptic Soy Agar w. LTHTh - ICR 15 cm  
Art.-No. 030829a  
(settle plate 150 mm, filling volume 80 ml, supplemented with lecithin, Tween 80, histidine and sodium thiosulphate, separate manual available)

## Features of LI-Media

Hygiene monitoring in non-critical environments

- storage at 15-25°C
- 30 ml filling volume (90 mm plate)
- single wrapped (a set of ten plates each)
- reduced formation of condensed water
- shelf life up to 9 months from the date of production
- long monitoring times
- long incubation times

## heipha LI-TSA Settle Plates

- ❖ TSA - LI  
Art.-No. 03074e  
(separate manual available)
- ❖ TSA w. LTHTh - LI  
Art.-No. 030820e  
(supplemented with lecithin, Tween 80, histidine and sodium thiosulphate, separate manual available)

## Typical Composition per litre

Soy Peptone	5 g
Casein Peptone	15 g
Sodium Chloride	5 g
Agar	15 g
pH 7.3 ± 0.2	

The media are clear or slightly opaque and yellowish.

## Description

The nutrient content of Tryptic Soy Agar promotes the growth of fastidious bacteria as well as moulds and yeasts. For the inactivation of residuals of disinfectants neutralizing agents like lecithin, Tween 80, histidine and sodium thiosulphate can be added to the basic formulation of the medium (please refer to the specific product manuals).

## 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 the detection of anaerobic bacteria TSA w. LTHTh should be used. It is recommended to exchange the lid against a lid with additional spacers (Art.-No. 67000; on request) to allow a fast exchange of the gaseous phase. After taking the sample the plate is incubated at 30-35°C for 2 to 7 days under anaerobic conditions.

## Quality Control

A typical growth promotion test is shown in the table below.

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>P.seudomonas 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	black conidia on a light mycelium, good growth

10 – 100 CFU inoculated

## Further Identification

In case of growth it is recommended to identify the colonies using cultural, biochemical, serological and/or genetical methods.

## References

EC Guide to Good Manufacturing Practice for Medicinal Products (2003): Annex 1.

European Pharmacopoeia 5.0 (2004): 2.6.13. Microbiological examination of non-sterile products.

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

United States Pharmacopoeia (2005): XXVIII <61>. Microbial Limit Tests. <1116> Microbiological Evaluation of Clean Rooms.