

# TECHNICAL DATA SHEET

Article No. 9869

**Baird Parker Agar (base)**

## SYNONYMS

BP Agar, Egg Yolk Tellurite Glycine Pyruvate Agar, ETGP Agar

## SPECIFICATION

Selective culture medium for the screening of staphylococci from a variety of samples acc. to Ph.Eur./USP, FIL-IDF 60:2001, ISO 5944, ISO 6888, ISO 22718.

## FORMULA\* IN G/L

Tryptone	10.0
Sodium pyruvate	10.0
Glycine	12.0
Meat extract	5.0
Lithium chloride	5.0
Yeast extract	1.0
Agar	17.0

Final pH 7.2 ±0.2 at 25 °C

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

## DIRECTIONS

Suspend 60 g of powder in 950 ml of distilled water. Allow it to soak before heating to boil with constant agitation. Sterilize by autoclaving at 121 °C for 15 minutes. Cool to 50 °C and add 50 ml of sterile Egg Yolk Tellurite Emulsion (Art. no. 9557). Homogenize and distribute into plates. Once prepared, the medium must not be reheated nor sterilized again.



## DESCRIPTION

Baird Parker Agar (base) is recommended for the detection and enumeration of staphylococci in food and other material, since it allows a good differentiation of coagulase-positive strains. The growth of the accompanying bacteria is usually suppressed by the high concentration of lithium, glycine and pyruvate. Lithium and glycine enhances the growth of staphylococci. Occasionally the medium may grow some *Bacillus* species, yeast and very rarely, *Proteus*. The growth of *Proteus* species can be suppressed by adding 50 mg/l of sulphamethazine. The presence of tellurite and egg yolk, which must be added to the medium after sterilization, allows the differentiation of presumptive pathogenic staphylococcal colonies. There is a high correlation between the coagulase test and the presence of clear zones of lipolysis in this medium, which is due to the staphylococcal lecithinase. Studies show that almost 100 % of coagulase-positive staphylococci are capable of reducing tellurite, which produces black colonies, whereas other staphylococci cannot always do so.

## TECHNIQUE

The inoculation is carried out by spreading 0.1 ml of sample over each plate with a Drigalsky loop. After 18-24 hours of incubation at 35 °C, select the colonies which are black, shiny and convex with regular margins surrounded by a clear zone. These can be presumably identified as coagulase-positive *Staphylococcus aureus*.

Colonial appearance after 24 hours at 35 °C:

- *Staphylococcus aureus*: Black, shiny, convex, regular margins, 1.0-1.5 mm diameter, surrounded by a clear zone of lipolysis 2-5 mm in width. Wide opaque zones of precipitate extending into the cleared medium may occur after 48 hours.
- Other species of *Staphylococcus*: Black, usually dull, with regular margins. Sometimes brown with zones of clearing but these present as wide opaque zones.
- *Micrococcus* spp: Brown, very small and without clearing zones.
- *Bacillus* spp: Various shades of brown, big. May produce clearing zones after 48 hours.
- Yeasts: White, big and smooth.

## QUALITY CONTROL

- Incubation temperature: 37 ±1.0 °C
- Incubation time: 24-48 ±2 h
- Inoculum: Practical range 100 ±20 CFU. Min. 50 CFU (productivity)/10<sup>4</sup>-10<sup>6</sup> CFU (selectivity)/≥10<sup>3</sup> CFU (specificity), according to ISO 11133:2014/Amd 1:2018.

Microorganism	Growth	Remarks
<i>Escherichia coli</i> ATCC® 8739	Inhibited	Selectivity
<i>Staphylococcus aureus</i> ATCC® 25923	Productivity >0.50	Black colonies; Lecithinase (+)
<i>Staphylococcus aureus</i> ATCC® 6538	Productivity >0.50	Black colonies; Lecithinase (+)
<i>Staphylococcus epidermidis</i> ATCC® 12228	Poor to good (specificity)	Black colonies; Lecithinase (-)
<i>Staphylococcus saprophyticus</i> ATCC® 15305	Poor to good (specificity)	Black colonies; Lecithinase (-)

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## REFERENCES

- ATLAS R.M. & L.C. PARKS (1993) Handbook of Microbiological Media. CRC Press. London.
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- COLIPA (1997) Guidelines on Microbial Quality Management (MQM). Brussels.
- DOWNES, F.P. & K. ITO (2001) Compendium of Methods for the Microbiological Examination of Foods. 4 th ed. APHA. Washington. USA.
- EUROPEAN PHARMAPOEIA (2007) 5 thed. Suppl. 5.6 § 2.6.13 Microbiological examination of non-sterile products. EDQM. Council of Europe. Strasbourg.
- FIL-IDF 60:2001 Standard. Lait et produits à base de lait - Detection des staphylocoques à coagulase positive - Technique du nombre le plus probable. Brussels.
- ISO 5944:2001 Standard. Milk and Milk based products - Detection of coagulase positive staphylococci - MPN Technique. Geneva.
- ISO 6888-1:1999/Adm.2:2018. Standard. Microbiology of food and animal feeding stuffs - Horizontal method for the enumeration of coagulase-positive staphylococci ( Staphylococcus aureus and other species)- Part 1 Technique using Baird-Parker Agar medium. Adment 2: Inclusion of an alternative confirmation test using RPFa stab method.
- ISO 6888-2:1999 Standard. Microbiology of food and animal feeding stuffs - Horizontal method for the enumeration of coagulase-positive staphylococci - Part 1 Technique using rabbit plasma fibrinogen agar medium. Geneva.
- ISO 11133:2014/ Adm 1:2018. Microbiology of food, animal feed and water. Preparation, production, storage and performance testing of culture media.
- ISO 22718 Standard (2015) . Cosmetics - Microbiology - Detection of Staphylococcus aureus.
- USP 31 - NF 26 (2008) Microbial Limit Tests. US Pharmacopoeial Conv. Inc. Rockville. MD. USA.
- ZANGERL, P. & H. ASPERGER (2003) Media used in the detection and enumeration of Staphylococcus aureus. In Handbook.

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## STORAGE

Keep tightly closed, away from light, in a dry place (4-30 °C).

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## SHELF LIFE

5 years from date of production

updated: 14.04.2023

