

41712 Baird parker Agar acc. GB

Baird Parker Agar is used for the isolation and differentiation of coagulase-positive staphylococci in food according to Baird Parker.

Composition:

Ingredients	Grams/Litre
Tryptone	10.0
Beef extract	5.0
Yeast extract	1.0
Sodium pyruvate	10.0
Glycine	12.0
Lithium chloride (LiCl·6H ₂ O)	5.0
Agar	20.0
Final pH (at 25 °C) 7.0 ± 0.2	

Store prepared media below 8°C, protected from direct light. Store dehydrated powder, in a dry place, in tightly-sealed containers at 2-25°C.

Appearance: Faintly beige coloured, homogeneous, free flowing powder.
 Gelling: Firms
 Color and Clarity: Light yellow coloured, clear gel form in petri plates.

Directions:

Suspend 63 g of the powder in 950 mL of purified water. Mix thoroughly. Heat with frequent agitation and boil to completely dissolve the powder. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 50°C and aseptically add 50 mL of Egg Yolk Tellurite enrichment (Cat. No.75208). Mix thoroughly but gently and pour into sterile petri plates.

Warning : Lithium Chloride is harmful. Avoid all bodily contact and inhalation of vapours. On contact with skin wash with plenty of water immediately.

Formulations:

Principle and Interpretation:

Baird Parker Agar is used for the isolation and differentiation of coagulase-positive staphylococci in food and pharmaceuticals according to Baird Parker.

As nitrogen source for the organism casein peptone and meat extract are added to the medium. Yeast extract provides as well nitrogen but also other important nutrients like e.g. vitamin B₁₂ complex. The medium contains lithium and tellurite which inhibits most of the contaminating microflora, while glycine and pyruvate enhance Staphylococci growth. Staphylococci can reduce tellurite to telluride which results in grey to black coloration of the colonies. With the addition of egg yolk the medium becomes yellow, slightly opaque. A clear halo develops around colonies from coagulase positive *Staphylococcus aureus* and upon further incubation may an opaque zone will appear which is due to egg yolk - lecithinase reaction (lypolytic activity). A halo and grey-black colonies on this medium are presumptive coagulase positive staphylococci as there was found a high correlation between coagulase test and lipophylitic activity. *Staphylococcus aureus* and some strains of *Staphylococcus saprophyticus* (Shaw et al.[5]) may show both of these characteristics, but they are easily distinguished from each other by the different times at which the halo develops. For the examination procedures for plate count of *Staphylococcus aureus*, only plates with characteristic colonies between 20 CFU and 200 CFU should be counted.



Cultural characteristics after 18h~24h or 45h~48h at 36°C±1°C

Organisms	Quality Control Evaluation standards	Characteristic reactions
<i>Staphylococcus aureus</i> (ATCC 25923)	PR≥0.7	Black and convex colony, surrounded by a turbidity zone, with a transparent zone in its outer layer
<i>Staphylococcus epidermidis</i> (CMCC (B) 26069)	Qualitative methods	Black colony, no turbidity zone and transparent circle
<i>Escherichia coli</i> (25922)	G≤1	—

Note:

PR =Growth rate (Quantitative methods using TSA as Reference culture Media)

G= Growth Index (Semi-quantitative methods)

References:

1. A.C. Baird Parker, An improved diagnostic and selective medium for isolating coagulase-positive staphylococci. J. Appl. Bacteriol. 25, 12 (1962)
2. E.H. Lennette, E.H. Spaulding, J.P. Truant, Manual of Clinical Microbiology. 2nd ed. Washington D.C.: American Society for Microbiology (1974)
3. Jean F. Mac Faddin, Media for Isolation-Cultivation Identification-Maintenance of Medical Bacteria. Vol. I, Baltimore, MD.: Williams & Wilkins (1985)
4. A. Nisakanen, M. Alto, Appl. Envir. Microbiol. 35, 1233 (1978)
5. S. Shaw, M. Scott, T. Cowan, Gen. Microbiol. 5, 1010-1023 (1957)
6. ISO 6888-1:2020; Microbiology of the food chain — Horizontal method for the enumeration of coagulase-positive staphylococci (*Staphylococcus aureus* and other species) — Part 1: Technique using Baird-Parker agar medium
7. 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
8. National Standard of the People's Republic of China-- GB 4789.10-2016-- Food microbiological examination: Examination of *Staphylococcus aureus*
9. GB4789.28 Annex D Standard for quality control of the culture media and reagents made by manufacturer and laboratory

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

