



## Baird Parker Agar Base

Selective medium for detection and enumeration of coagulase-positive staphylococci in food and animal feed, according to ISO 6888.

### DESCRIPTION

Baird Parker Agar Base is a selective medium used with supplements for the isolation and enumeration of *Staphylococcus aureus* from food, foodstuffs and water.

This medium complies with the specification given by ISO 6888 (all parts), FDA-BAM and APHA.

### TYPICAL FORMULA

	(g/l)
Pancreatic Digest of Casein	10.0
Meat Extract	5.0
Yeast Extract	1.0
Sodium Pyruvate	10.0
L-Glycine	12.0
Lithium Chloride	5.0
Agar	17.0
Final pH 7.2 ± 0.2 at 25°C	

### METHOD PRINCIPLE

Pancreatic digest of casein and meat extract provide amino acids, nitrogen, carbon, vitamins and minerals for organisms growth. Yeast extract is a source of vitamins, particularly of B-group. Sodium pyruvate and glycine are incorporated to stimulate the growth of even damaged *S. aureus* cells without destroying the selectivity. Lithium chloride and the high concentration of glycine inhibit accompanying microflora. Agar is the solidifying agent.

Supplementation with Egg yolk Tellurite Emulsion (ref. 80122, 80123) in addition to being an enrichment, aids in the identification process by demonstrating lecithinase activity (egg yolk reaction). Presence of potassium tellurite confers further selectivity and determines grey or black colouration of colonies.

If *Proteus* spp are suspected in the test sample, Sulfamethazine Supplement (ref. 81095) may be added to suppress growth and swarming.

For foodstuffs likely to be contaminated by staphylococci forming atypical colonies on Baird Parker Medium or by background flora which can obscure the colonies being sought, the RPF Supplement (ref. 81057) should be used: rabbit plasma, fibrinogen and trypsin inhibitor allow the confirmation of staphylococci on the basis of coagulase reaction.

### PREPARATION

<u>Dehydrated medium</u>	Suspend 60 g of the powder in 1 liter of distilled or deionized water. Mix well. Heat to boil shaking frequently until completely dissolved. Sterilize in autoclave at 121°C for 15 minutes.
<u>Medium in bottles</u>	Melt the content of the bottle in a water bath at 100°C (loosing the cap partially removed) until completely dissolved. Then screw the cap and check the homogeneity of the dissolved medium, if it is the case turning the bottle upside down.
<u>Supplements</u>	Cool the medium to 45-50°C before adding supplements aseptically. <b>Baird Parker Egg Yolk Tellurite Agar:</b> add 5 ml of Egg yolk Tellurite Emulsion to 100 ml of base. If necessary, add 1 ml of reconstituted Sulfamethazine Supplement when <i>Proteus</i> spp are suspected. <b>Baird Parker RPF Agar:</b> add 10 ml of reconstituted RPF Supplement to 90 ml of base (if the 100 ml bottle is being used, first remove 10 ml of medium from the bottle). Mix well avoiding foam formation and under sterile conditions distribute into Petri dishes.

### TEST PROCEDURE

Baird Parker Egg Yolk Tellurite Agar (ISO 6888-1/-3)

- For direct enumeration, spread 0.1 ml of sample, initial suspension or decimal dilutions, over the medium surface (use a suitable diluent such as Buffered Peptone Water, ref. 24099).
- For detection and enumeration by the MPN technique, inoculate by subculturing the selective enrichment in Giolitti Cantoni Broth (ref. 620100).

Baird Parker RPF Agar (ISO 6888-2)

Transfer 1 ml of test sample or its initial suspension to two sterile Petri dishes. Repeat the operation with 1 ml of the first decimal dilution and successive dilution. Into each Petri dish, immediately pour freshly prepared complete medium. Carefully mix the inoculum with the culture medium and leave to solidify.

Incubate at 37 ± 1°C for 24-48 hours.

### INTERPRETING RESULTS

Baird Parker Egg Yolk Tellurite Agar

Take for enumeration only those plates containing a maximum of 300 typical and/or atypical colonies, from two successive dilutions (one of the plates shall contain at least 15 colonies):

- Typical colonies of *S. aureus* appear black or gray, shining and convex, surrounded by a zone of clearing of the medium. After incubation for at least 24 h, an opalescent ring immediately in contact with the colonies, may appear in this clear zone.

- Atypical colonies are identical in appearance but not surrounded by a clear zone. They can mainly be observed in dairy products.

Confirm typical and atypical colonies by the Coagulase Test (ref. 88030). The majority of other organisms are inhibited but some may grow sparsely, producing white to brown colonies with no clearing of the egg yolk.

#### Baird Parker RPF Agar

The medium allows the simultaneous enumeration and confirmation to be performed in a single operation. Coagulase-positive staphylococci colonies appear black or grey with a halo of precipitation, indicating coagulase activity.

#### APPEARANCE

Dehydrated medium: free-flowing, homogeneous, beige.

Prepared medium: opaque, yellow.

#### STORAGE

The powder is very hygroscopic, store the powder at 10-30°C, in a dry environment, in its original container tightly closed. Store bottles at 10-25°C away from light. Do not use the product beyond its expiry date on the label or if product shows any evidence of contamination or any sign of deterioration.

#### SHELF LIFE

Dehydrated medium: 4 years.

Medium in bottles: 2 years.

#### QUALITY CONTROL

Plates are inoculated with the microbial strains indicated in the QC table.

Inoculum for productivity: 50-100 CFU.

Inoculum for selectivity: 10<sup>4</sup>-10<sup>6</sup> CFU.

Inoculum for specificity: 10<sup>3</sup>-10<sup>4</sup> CFU.

Incubation conditions: 37 ± 1°C for 24-48 hours.

#### QC Table.

Microorganism	Specification
<i>Staphylococcus aureus</i>	WDCM 00034 Good growth, black or grey colonies with halo
<i>Escherichia coli</i>	WDCM 00012 Total inhibition
<i>Staphylococcus saprophyticus</i>	WDCM 00159 Black or gray colonies without halo
<i>Staphylococcus epidermidis</i>	WDCM 00009 Black or gray colonies without halo

#### WARNING AND PRECAUTIONS

The product does not contain hazardous substances in concentrations exceeding the limits set by current legislation and therefore is not classified as dangerous. It is nevertheless recommended to consult the safety data sheet for its correct use. The product is intended for professional use only and must be used by properly trained operators.

#### DISPOSAL OF WASTE









Disposal of waste must be carried out according to national and local regulations in force.

#### BIBLIOGRAPHY

1. EN ISO 11133:2014. Microbiology of food, animal feed and water – Preparation, production, storage and performance testing of culture media.
2. ISO 6888-3:2003. Microbiology of food and animal feeding stuffs. Horizontal method for the enumeration of coagulase-positive staphylococci (*Staphylococcus aureus* and other species). Part 3 : detection and MPN technique for low numbers.
3. ISO 6888-1:1999/Amd 1:2003. Inclusion of precision data.
4. ISO 6888-1:1999. 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.
5. ISO 6888-2:1999. Microbiology of food and animal feeding stuffs -- Horizontal method for the enumeration of coagulase-positive staphylococci (*Staphylococcus aureus* and other species) -- Part 2: Technique using rabbit plasma fibrinogen agar medium.
6. Microbiology of food and animal feeding stuffs -- Horizontal method for the enumeration of coagulase-positive staphylococci (*Staphylococcus aureus* and other species) -- Part 2: Technique using rabbit plasma fibrinogen agar medium
7. D.De Medici, L.Fenicia, L.Orefice and A.Stacchin. Rapporto ISTISAN 96/35. ISSN 1123-3117. Metodi di analisi per il controllo microbiologico degli alimenti.
8. Baird Parker , A.C. (1969) The use of Baird Parker's medium for the isolation and enumeration of *Staphylococcus aureus* in "Isolation methods for microbiologists" Shapton, D.A. & Gould ed. London: Academic Press.
9. Smith, B.A. & Baird Parker, A.C. (1964) - The use of sulphamezathine for inhibiting *Proteus* spp. on Baird- Parker's isolation medium for *Staphylococcus aureus*. J. Appl. Bact. 27:78-82.
10. Baird Parker , A.C. (1962) An improved diagnostic and selective medium for isolating coagulase-positive staphylococci. J. Appl. Bacteriol. 25:12-19.

PRESENTATION	Contents	Ref.
Baird Parker Agar Base	Bottles	6 x 100 ml bottles 420110
Baird Parker Agar Base	Dehydrated medium	500 g of powder 610004
Baird Parker Agar Base	Dehydrated medium	100 g of powder 620004

#### TABLE OF SYMBOLS

<b>LOT</b> Batch code	 Keep away from sunlight	 Manufacturer	 Use by	 Fragile, handle with care
<b>REF</b> Catalogue number	 Temperature limitation	 Contains sufficient for <n> tests	 Caution, consult Instruction For Use	 Do not reuse



**LIOFILCHEM® s.r.l.**

Via Scozia zona ind.le, 64026 Roseto degli Abruzzi (Te) Italy

Tel. +39 0858930745

Fax +39 0858930330

www.liofilchem.net

liofilchem@liofilchem.net