

BAIRD PARKER AGAR BASE EUROPEAN PHARMACOPOEIA

CAT N°: 1100

For the selective isolation of staphylococci

FORMULA IN g/l

Glycine	12.00	Lithium Chloride	5.00
Pancreatic Digest of Casein	10.00	Yeast Extract	1.00
Sodium Piruvate	10.00	Bacteriological Agar	20.00
Beef Extract	5.00		

Final pH 6.8 ± 0.2 at 25°C



Staphylococcus aureus
ATCC 25923

PREPARATION

Suspend 63 grams of the medium in 950 ml of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Sterilize in autoclave at 121°C for 15 minutes. Cool to 45-50°C and aseptically add 50 ml of Tellurite Egg Yolk Emulsion (Cat. 5129). Homogenize gently and dispense into Petri dishes. The base without additive can be kept for long periods of time and can be melted as needed. The prepared flask without additives should be stored at 2-8°C. The color of the prepared medium without the egg yolk emulsion added is clear amber slightly opalescent. The color with it is yellow opalescent

The dehydrated medium should be homogeneous, free-flowing and light toasted in color. If there are any physical changes, discard the medium.

USES

BAIRD PARKER AGAR BASE is used for the selective isolation and enumeration of staphylococci. This medium is widely used and is included in many standard method procedures for testing foods, dairy products, etc.

Pancreatic digest of casein, Beef extract and Yeast extract provide nitrogen, vitamins, minerals and amino acids essential for growth. Lithium chloride and Potassium tellurite inhibit the accompanying flora, and Glycine and Sodium pyruvate facilitate staphylococci growth. Staphylococci that contain lecithinase break down the egg yolk and form clear zones around the colonies. Black colonies are formed due to the reduction of the Potassium tellurite to tellurium. Bacteriological agar is the solidifying agent.

The plates should be dry before inoculation (the drying can be done by incubating at 35 ± 2°C for approximately 10 minutes before use). Prepare the sample in an adequate solution, dilute it and place from 0.1 ml to 1.0 ml of the appropriate dilution in the plates. Spread the inoculum over the entire surface. Incubate at 35 ± 2°C for 24 - 48 hours. Typical *S. aureus* colonies are black, shiny, convex and surrounded by a clear zone of approximately 2 - 5 mm in diameter.

Some other microorganisms, which occasionally grow on this medium, are micrococci that form small dark or black colonies, yeasts that form white colonies and some species of *Bacillus* that form dark brown matte colonies.

The European Pharmacopoeia recommends this medium in the Paragraph 2.6.13 "Microbiological examination of non-Sterile products":

A test for specified microorganisms after inoculation and incubation in Trypticasein Soy Broth (Cat. 1224) at 35-37°C 18-72 hours. Subculture in this medium and incubate 35-37°C for 18-72 h. Black colonies of gram positive cocci surrounded by a clear zone indicate the presence of *S. aureus*. Confirmation may be effected by suitable biochemical test such as the

coagulase test and the deoxyribonuclease test. The product passes the test if colonies of the type described do not appear on Baird-Parker Agar Base or if the confirmatory biochemical tests are negative.

MICROBIOLOGICAL TEST

The following results were obtained in the performance of the medium, with Egg Yolk + Potassium Tellurite added, from type cultures after incubation at a temperature of 35±2 °C and observed after 24-48 hours.

Microorganisms	Growth	Colony color	Lecithinase (Transparency around the colonies)	Inoculum (cfu)	Recovery Rate (%)
<i>Bacillus subtilis</i> ATCC 6633	Slight-inhibited	Brown	-	> 10 ⁵	≤0.01
<i>Staphylococcus epidermidis</i> ATCC 12228	Slight-Good	Black	-	10 ³ – 10 ⁵	≥ 30
* <i>Staphylococcus aureus</i> ATCC 6538	Good	Black	+	10 ³ – 10 ⁵	≥ 70
<i>Staphylococcus aureus</i> ATCC 25923	Good	Black	+	10 ³ – 10 ⁵	≥ 70
<i>Proteus mirabilis</i> ATCC 25933	Good	Brown	-	10 ³ – 10 ⁵	≥ 30

*According European Pharmacopoeia incubate at 35-37 °C for 18-72 h.

According to ISO 11133: 24-48 h/37±1°C (Productivity, Specificity) and Selectivity (48±2h 37±1°C)

Microorganisms	Inoculum (cfu)	Selectivity Qualitative	Specificity Qualitative	Productivity Quantitative
<i>Staphylococcus aureus</i> ATCC 25923	10 ²		Black Grey colonies with clear halo	≥0.5
<i>Staphylococcus aureus</i> ATCC 6538	10 ²		Black Grey colonies with clear halo	≥0.5
<i>Escherichia coli</i> ATCC 25922	10 ⁴ -10 ⁶	Inhibited		
<i>Staphylococcus epidermidis</i> ATCC 12228	10 ⁴		Black Grey colonies without clear halo	
<i>Staphylococcus saprophyticus</i> ATCC 15305	10 ⁴		Black Grey colonies without clear halo	

Reference media Productivity: TSA

BIBLIOGRAPHY

Baird-Parker. I App. Bact. 25:12. 1962. Baird-Parker. J. Ann. Micromiol. 30:409, 1963
 Sharp, Neave and Reider. J. App. Bact. 28:390. 1962. Baird-Parker and Devenport J. App. Bact. 28:390. 1965. Tardio and Bact. J. AOAC. 54:728, 1971.
 European Pharmacopoeia 6th Ed. 2007



STORAGE

Once opened keep powdered medium closed to avoid hydration.

