
BAIRD-PARKER AGAR

INTENDED USE

Remel Baird-Parker Agar is a solid medium recommended for use in qualitative procedures for selective and differential isolation and presumptive identification of coagulase-positive staphylococci.

SUMMARY AND EXPLANATION

Baird-Parker Agar was developed in 1962 for isolation and enumeration of coagulase-positive staphylococci from foods and other materials.¹ It is a modification of tellurite glycine medium developed by Zebovitz, Evan, and Nivan.² Baird-Parker Agar is recommended for use in the examination of foods and other materials by Food and Drug Administration (FDA), the American Public Health Association (APHA), and in the *Manual of Clinical Microbiology*.³⁻⁷

PRINCIPLE

Beef extract, casein peptone, and yeast extract are sources of nitrogen, carbon, sulfur, vitamins, and trace minerals. Sodium pyruvate and glycine enhance the growth of *Staphylococcus aureus*. Lithium chloride and potassium tellurite are selective agents which inhibit most bacteria other than *S. aureus*. Potassium tellurite is also a differential agent which is reduced to metallic tellurium by *S. aureus* resulting in black colonies. Egg yolk emulsion provides for demonstration of the proteolytic action of coagulase-positive staphylococci, evidenced by a clear zone around the colonies. On further incubation, many strains of *S. aureus* form opaque zones within the clear zones as a result of lecithinase or lipase activity.

REAGENTS (CLASSICAL FORMULA)*

Glycine	12.0 g	Yeast Extract	1.0 g
Casein Peptone.....	10.0 g	Egg Yolk Suspension	50.0 ml
Sodium Pyruvate.....	10.0 g	Potassium Tellurite 1%.....	10.0 ml
Beef Extract.....	5.0 g	Agar.....	20.0 g
Lithium Chloride	5.0 g	Deminerlized Water	1000.0 ml

pH 7.0 ± 0.2 @ 25°C

*Adjusted as required to meet performance standards.

PROCEDURE

1. Inoculate and streak the specimen as soon as possible after it is received in the laboratory.
2. If the material is being cultured from a swab, roll the swab over a small area of the agar surface and streak for isolation.
3. Incubate plates aerobically at 33-37°C for 24-48 hours.
4. Observe plates for characteristic colonial morphology and color.

INTERPRETATION OF THE TEST

Positive Test - Black colonies with clear to opaque zones

Negative Test - White to brown colonies

QUALITY CONTROL

All lot numbers of Baird-Parker Agar have been tested using the following quality control organisms and have been found to be acceptable. Testing of control organisms should be performed in accordance with established laboratory quality control procedures. If aberrant quality control results are noted, patient results should not be reported.

CONTROL

Staphylococcus aureus ATCC® 25923
Staphylococcus epidermidis ATCC® 12228
Escherichia coli ATCC® 25922

INCUBATION

Aerobic, 18-24 h @ 33-37°C
Aerobic, 18-24 h @ 33-37°C
Aerobic, 18-24 h @ 33-37°C

RESULTS

Black colonies with clear to opaque zones
Inhibition (partial to complete)
Inhibition (partial to complete)

LIMITATIONS

1. Coagulase-negative *Staphylococcus* may grow on Baird-Parker Agar, however, it does not form clear zones around colonies, which is a characteristic of *S. aureus*.⁸

BIBLIOGRAPHY

1. Baird-Parker, A.C. 1962. J. Appl. Bacteriol. 25:12-19.
2. Zebovitz E., J.B. Evans, and C.F. Niven. 1955. J. Bacteriol. 70:686-690.
3. Food and Drug Administration. 2000. Bacteriological Analytical Manual Online. AOAC International, Gaithersburg, MD.
4. Wehr, H.M. and J.F. Frank. 2004. Standard Methods for the Examination of Dairy Products. 17th ed. APHA, Washington, D.C.
5. Eaton, A.D., L.S. Clesceri, E.W. Rice, and A.E. Greenberg. 2005. Standard Methods for the Examination of Water and Wastewater. 21st ed. APHA, Washington, D.C.
6. Downes, F.P. and K. Ito. 2001. Compendium of Methods for the Microbiological Examination of Foods. 4th ed. APHA, Washington, D.C.
7. Murray, P.R., E.J. Baron, J.H. Jorgensen, M.L. Landry, and M.A. Pfaller. 2007. Manual of Clinical Microbiology. 9th ed. ASM Press, Washington, D.C.
8. MacFaddin, J.F. 1985. Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria. Vol. 1. Williams & Wilkins, Baltimore, MD.

Refer to the front of Remel *Technical Manual of Microbiological Media* for **General Information** regarding precautions, product storage and deterioration, specimen collection, storage and transportation, materials required, quality control, and limitations.

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