BAIRD-PARKER AGAR

INTENDED USE

Baird-Parker Agar Base is used with EY (Egg Yolk) Tellurite Enrichment in the preparation of Egg-Tellurite-Glycerine-Pyruvate Agar (ETGPA) for selective isolation and enumeration of coagulase-positive staphylococci from food, skin, soil, air and other materials. It may also be used for identification of staphylococci on the basis of their ability to clear egg yolk.

SUMMARY AND EXPLANATION

A number of culture media had been utilized for the recovery of staphylococci from foods prior to the development of a new formulation by Baird-Parker in 1962.[1,2] This scientist subsequently published additional results on the efficacy of the medium for the recovery of coagulase-positive staphylococci.[3,4] In 1971, Tardio and Baer[5] and Baer[6] reported on the results of a study comparing 18 staphylococcal isolation media in which they concluded that Baird-Parker Agar should be substituted for Vogel and Johnson Agar in the official AOAC procedure for the isolation and enumeration of *Staphylococcus aureus*. In this study, it was shown that Baird-Parker Agar was less inhibitory than Vogel and Johnson Agar for selected strains of *S. aureus* and that it possesses a diagnostic aid (egg yolk reaction) not present in Vogel and Johnson Agar. The use of Baird-Parker Agar subsequently was officially adopted by AOAC International.[7]

PRINCIPLE

Baird-Parker Agar Base contains peptone, beef extract and yeast extract as sources of nitrogenous compounds, carbon, sulfur, vitamins and trace minerals. Sodium pyruvate is incorporated in order to stimulate the growth of *S. aureus* without destroying the selectivity. The tellurite additive is toxic to egg yolk-clearing strains other than *S. aureus* and imparts a black color to the colonies. The egg yolk additive, in addition to being an enrichment, aids in the identification process by demonstrating lecithinase activity (egg yolk reaction). Glycine and lithium chloride have inhibitory action for organisms other than *S. aureus*.

REAGENTS (FORMULA)

Pancreatic Digest of Casein	10.0	g
Beef Extract	5.0	g
Yeast Extract	1.0	g
Glycine	12.0	g
Sodium Pyruvate	10.0	g
Lithium Chloride	5.0	g
Agar	20.0	g

Deionized Water ..... 1000.0 ml

PROCEDURE

Food samples are macerated in suitable broth medium, diluted as desired and the dilutions spread-inoculated onto the agar surfaces, which should be dry when inoculated. Incubate plates aerobically for 24 hours at 35 ± 2°C. Consult references for detailed instructions.[7]

EXPECTED RESULTS

Typical colonies of S. aureus are black, shiny, convex and surrounded by clear zones (egg yolk reaction) of approximately 2-5 mm. Coagulase-negative staphylococci generally do not grow well; if some growth occurs, the typical clear zones are absent. The majority of other organisms are inhibited but some may grow sparsely, producing white to brown colonies with no clearing of the egg yolk.

QUALITY CONTROL

All lot numbers have been tested and have been found to be acceptable. Customers can test products using the following quality control organisms. Testing of control organisms should be performed in accordance with established laboratory quality control procedures. If aberrant quality control results are noted, sample results should not be reported.

Organisms	Incubation	Results
Bacillus subtilis ATCC 6633	35 ± 2°C for 24-50 hours	Growth, Brown
Staphylococcus aureus ATCC 25923	35 ± 2°C for 24-50 hours	Growth, Black

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