BAIRD PARKER AGAR BASE TM 358

For isolation and enumeration of coagulase positive *Staphylococci* sp. in foods

Composition

Ingredients	g/L
Agar	20.00
Glycine	12.00
Casein enzymatic hydrolysate	10.00
Sodium pyruvate	10.00
Beef extract	5.00
Lithium chloride	5.00
Yeast extract	1.00

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers below 25°C and protect from direct Sunlight.

Instructions for use

Dissolve 63g in 950ml in distilled water. Gently heat to boil with gentle swirling and dissolve the medium completely. Sterilize at 15 psi (121°C) for 15 minutes. Cool to 45-50°C and add 50 ml of **Egg Yolk Emulsion (TS 002)** and 3ml of **Potassium Tellurite solution (TS 003)** or 50 ml **Egg Yolk Tellurite Emulsion (TS 001)** can be used. Mix well and dispense into sterile Petri plates.

NOTE: Refrigerate in sealed containers, in tubes or bottles with screw caps. The base without additive can be kept for long periods of time and can be melted as needed.

Appearance: Yellow coloured, clear to slightly opalescent gel
pH (at 25°C): 7.0 ± 0.2

Principle

BAIRD PARKER AGAR BASE is used for the isolation and enumeration of coagulase positive *Staphylococci*. "Baird Parker" developed this medium. Casein enzymatic hydrolysate, Beef extract are the source of carbon and nitrogen. Yeast extract provides vitamins (B - complex) which helps in stimulating bacterial growth.

The selectivity of the medium is maintained by the addition of Lithium chloride and 3.5 % of Potassium Tellurite solution. Both are helpful in suppressing the growth of other organism except Staphylococci sp. Lithium chloride and potassium tellurite inhibit the accompanying flora. Glycine and Sodium pyruvate stimulate the growth of *Staphylococci*. *Staphylococci* that contain Lecithinase break down the egg yolk and form clear zones around the colonies. Black colonies are formed due to reduction of the Potassium tellurite to tellurium.

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. Typical *S. aureus* colonies are black, shiny, convex and surrounded by a clear zone of approximately 2 - 5 mm in diameter. Some other micro-organisms, 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.

Microbiological parameters (Growth promotion test)

Cultural characteristics observed after inoculation (10^3CFU/ml), on incubation at 35°C - 37°C for 18 - 72 hours.

Test strains	ATCC	Inoculum (CFU/ml)	Growth	Colony appearance
Staphylococcus aureus	6538	10^3	Luxuriant	Black colour
Staphylococcus aureus	25923	10^3	Luxuriant	Black colour
Proteus mirabilis	25933	10^3	Good	Brown colour
Bacillus subtilis	6633	10^3	None - poor	Brown colour
Staphylococcus epidermidis	12228	10^3	Poor – good	Black colour

References

1. Baird-Parker and Devenport J. App. Bact. 28:390. (1965).
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