



Baird Parker Agar Base (FPT)

M1736

Baird Parker Agar Base is recommended for the isolation and enumeration of coagulase positive Staphylococci from food and other materials using Fibrinogen Plasma Trypsin Inhibitor Supplement (FD195).

Composition**

Ingredients	Gms / Litre
Casein enzymic hydrolysate	10.000
Meat extract	5.000
Yeast extract	1.000
Glycine	12.000
Sodium Pyruvate	10.000
Lithium Chloride	5.000
Agar	20.000
Final pH (at 25°C)	7.2±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 6.3 grams in 90 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C and aseptically add rehydrated content of 1 vial of Fibrinogen Plasma Trypsin Inhibitor Supplement (FD195). Mix well and pour into sterile Petri plates.

Warning: Lithium Chloride is harmful. Avoid all bodily contact and inhalation of vapours. On contact with skin wash with plenty of water immediately.

Principle And Interpretation

This medium is a modification of Baird-Parker Medium (M043) and is recommended for the selective isolation, enumeration and confirmation of *Staphylococcus aureus* from food and other specimens (2). This medium retains the Baird-Parker Agar Base, which has been specifically formulated to resuscitate injured cells (3). This medium differs from Baird-Parker Medium in that the egg yolk emulsion has been replaced by fibrinogen, rabbit plasma and trypsin inhibitor. The fibrinogen was added to enhance the coagulase reaction in the medium. The addition of rabbit plasma was found to be more specific for the coagulase activity when compared to other sources of plasma (1). Trypsin inhibitor was added to prevent fibrinolysis.

Some strains of *Staphylococcus aureus* are sensitive to potassium tellurite when used at 0.01% w/v in Baird Parker Agar (M043). This modification of Baird Parker agar base gives comparable growth and selectivity to that achieved on Baird-Parker agar base (M043 and FD045, FD046, FD047). The reduction in potassium tellurite concentration in Baird Parker agar base results in *Staphylococcus aureus* strains forming white, grey or black colonies, which are surrounded by an opaque halo of precipitation, i.e. the coagulase reaction.

Sodium Pyruvate protects injured cells and helps recovery. Lithium Chloride and Potassium Tellurite inhibit most of contaminating microflora except *Staphylococcus aureus*. Glycine, pyruvate enhances growth of *Staphylococcus*. Upon further incubation, an opaque zone is developed around colonies which can be due to lipolytic activity.

On this medium Staphylococcal coagulase positive colonies are white to grey-black surrounded by an opaque zone of coagulase activity within 24-40 hours incubation at 35°C. Reduction in tellurite is necessary because of absence of egg yolk emulsion. This results in translucent agar and white to grey coloured colonies of Staphylococci. For quantitative results select 20 - 200 colonies. Count *Staphylococcus aureus* like colonies and test them for coagulase reaction. Report *Staphylococcus aureus* per gram of food.

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Gelling

Firm, comparable with 2.0% agar gel.

Colour and Clarity

Basal medium : Amber coloured clear to slightly opalescent gel. After addition of Fibrinogen plasma trypsin inhibitor supplement(FD195): Amber coloured opalescent gel forms in Petri plates

Reaction

Reaction of 6.3% w/v aqueous solution at 25°C. pH : 7.2±0.2

pH

7.00-7.40

Cultural Response

Cultural characteristics observed with added Fibrinogen Plasma Trypsin Inhibitor Supplement (FD195), after an incubation at 35-37°C for 24-48 hours.

Cultural Response

Organism	Inoculum (CFU)	Growth	Recovery	Colour of colony	Lecithinase
Cultural Response <i>Bacillus subtilis</i> ATCC 6633	50-100	none - poor	<=10%	dark brown matt	negative
<i>Micrococcus luteus</i> ATCC 10240	50-100	fair-good	30-40%	shades of brown-black (very small)	negative
<i>Proteus mirabilis</i> ATCC 25933	50-100	good - luxuriant	>=50%	brown - black	negative
<i>Staphylococcus aureus</i> ATCC 25923	50-100	good - luxuriant	>=50%	grey-black shiny	positive,opaque zone around the colony
<i>Staphylococcus epidermidis</i> ATCC 12228	50-100	fair-good	30-40%	black	negative
<i>Escherichia coli</i> ATCC 25922	>=10 ³	inhibited	0%		

Storage and Shelf Life

Store below 30°C in tightly closed container and the prepared medium at 2 - 8°C. Use before expiry date on the label.

Reference

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4. Tardio and Baer, 1971, J. Assoc. Off. Anal. Chem., 54: 728.
5. Baer, 1971, J. Assoc. Off. Anal. Chem., 54: 732.
6. The United States Pharmacopoeia, 2008, USP31, The United States Pharmacopoeial Convention. Rockville, MD.
7. J. Assoc. off. Anal. chem, 1971, 54: 401.
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