Baird Parker HiVeg™ Agar Base MV043

Baird Parker HiVeg Agar Base is recommended for the isolation and enumeration of coagulase positive *Staphylococci* from food and other materials.

Composition ** :

Ingredients	Grams/Litre
HiVeg hydrolysate	10.0
HiVeg extract	5.0
Yeast extract	1.0
Glycine	12.0
Sodium pyruvate	10.0
Lithium chloride	5.0
Agar	20.0

Final pH (at 25°C) 7.0 ± 0.2
** Formula adjusted, standardized to suit performance parameters.

Directions :

Suspend 63 grams in 950 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 50°C and aseptically add 50 ml concentrated Egg Yolk Emulsion (FD045) and 3 ml sterile 3.5% Potassium Tellurite solution (FD047) or 50 ml Egg Yolk Tellurite Emulsion (FD046) for identification of coagulase positive *Staphylococci*. Alternatively one vial of FD195 (Fibrinogen Plasma Trypsin Inhibitor Supplement) may be added per 90 ml of medium. For more selectivity of the medium one vial of FD069 (BP sulpha supplement) per 1000 ml may be added. Mix well before pouring.
Warning : Lithium Chloride is harmful. Avoid bodily contact and inhalation of vapours. On contact with skin wash with plenty of water immediately.

Principle and Interpretation :

HiVeg Baird Parker Agar Base is prepared by using vegetable peptones which are free from BSE/TSE risks. This medium is modification of medium developed by Baird-Parker (1,2) from the tellurite - glycine formulation of Zebovitz et al (3) for isolation of *Staphylococcus aureus* from foods. 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*. With the addition of egg yolk the medium becomes light yellow, opaque. Proteolytic bacteria produce a clear zone around colony in egg yolk containing media. A clear zone and grey-black colonies on this medium are diagnostic for coagulase positive *Staphylococci*. Upon further incubation, an opaque zone is developed around colonies, which can be due to lipolytic activity. This medium, like the conventional medium is found to be less inhibitory to *Staphylococcus aureus* than other media, at the same time being more selective (4, 5).
However, identity of *Staphylococcus aureus* isolated on Baird-Parker HiVeg Agar must be confirmed with a coagulase reaction. Baird-Parker HiVeg Agar Base can also be used to detect coagulase activity by adding Fibrinogen Plasma Trypsin Inhibitor Supplement (FD195) dissolved in 10 ml sterile distilled water added to 90 ml sterile molten medium kept at 45-50°C (6). Mix well and pour into plates. On this medium coagulase positive *Staphylococcal* 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.

Product Profile :

Vegetable based (Code MV)◉	Animal based (Code M)
MV043 HiVeg hydrolysate HiVeg extract	**M043** Casein enzymic hydrolysate Beef extract

Recommended for	:	Isolation and enumeration of coagulase positive *Staphylococci*
Reconstitution	:	63.0 g/l
Quantity on preparation (500g)	:	7.9 L
(100g)	:	1.58 L
pH (25°C)	:	7.0 ± 0.2
Supplement	:	Egg Yolk Emulsion (FD045) and 3.5% Potassium Tellurite Solution (FD047) / Egg Yolk Tellurite Emulsion (FD046) / Fibrnogen Plasma Trypsin Inhibitor Supplement (FD195)
Sterilization	:	121°C / 15 minutes.

Storage : Dry Medium - Below 30°C, Prepared Medium 2 - 8°C.

Quality Control :

Appearance of powder
Light yellow coloured may have slightly greenish tinge homogeneous, free flowing powder.
Gelling
Firm, comparable with 2.0% Agar gel.
Colour and Clarity
Basal medium yields light amber coloured, clear to slightly opalescent gel. With addition of Egg Yolk Tellurite Emulsion (FD046) yellow coloured, opaque gel forms in petri plates.
Reaction
Reaction of 6.3% w/v aqueous solution of basal medium is pH 7.0 ± 0.2 at 25°C.

Continued ...

◉ Prepared from GMO free Vegetable proteins replacing Animal based peptones. Freedom from BSE/TSE worries.

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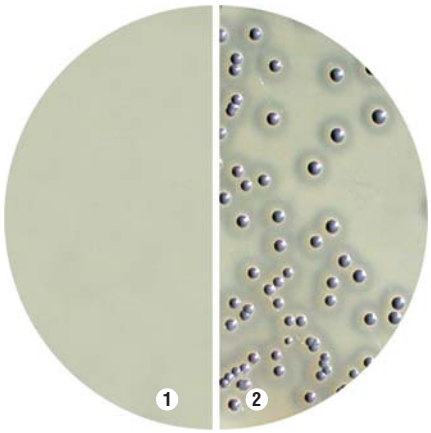
Cultural Response

Cultural characteristics observed after an incubation at 35 - 37°C for 24 - 48 hours, with added Egg Yolk Tellurite Emulsion (FD046)

Organisms (ATCC)	Inoculum (CFU)	Growth	Recovery	Colour of Colony	Lecithinase
Bacillus subtilis (6633)	10^2-10^3	none-poor	<10%	dark brown matt	-
Escherichia coli (25922)	10^2-10^3	none-poor	<10%	large brown black	-
Micrococcus luteus (10240)	10^2-10^3	poor-good	<30%	very small*	-
Proteus mirabilis (25933)	10^2-10^3	good-luxuriant	>50%	brown-black	-
Staphylococcus aureus (25923)	10^2-10^3	good-luxuriant	>50%	grey-black shiny	+
Staphylococcus epidermidis (12228)	10^2-10^3	poor-good	<30%	black	-

Key : + = Positive clear zone around the colony.
- = negative No zone
* in shades of brown black



MV043 Baird Parker HiVeg Agar Base
1. Control
2. *Staphylococcus aureus*

References :

1. Baird-Parker, A.C. 1962, J. Appl. Bact., 25:12.
2. Baird-Parker, A.C. and Davenport, E., 1965, J. Appl. Bact., 28:390.
3. Zebovitz, E., Evans J.B. & Niven C.F., (1955), J. Bact; 70:686.
4. Tardio and Baer,1971, J. Assoc. Off. Anal. Chem., 54:72.
5. Baer, 1971, J. Assoc. Off. Anal. Chem., 54:732.
6. Beckers N. J. et al, 1984, Canad. J. of Microbiol, 30:470.