TMP 033 - BAIRD PARKER AGAR PLATE

INTENDED USE

For the isolation and enumeration of coagulase positive Staphylococci from food and clinical sample.

PRODUCT SUMMARY AND EXPLANATION

Baird-Parker developed this medium for the isolation and enumeration of coagulase positive Staphylococci from food and clinical samples. It is a selective medium which applies the ability of *Staphylococcus* species to utilize lecithinase for metabolizing egg lecithin and to reduce tellurite to tellurium. The medium was found to be less inhibitory to *Staphylococcus aureus* than other media at the same time being more selective. Subsequently the use of Baird-Parker Agar was officially adopted by AOAC International and is recommended in the USP for use in the performance of Microbial Limit Tests. Recently, ISO committee has also recommended this medium for the isolation and enumeration of Staphylococci.

COMPOSITION

Ingredients	Gms / Ltr
Agar	20.000
Glycine	12.000
Casein enzymatic hydrolysate	10.000
Sodium pyruvate	10.000
Beef extract	5.000
Lithium chloride	5.000
Yeast extract	1.000
Egg yolk tellurite emulsion	50ml

PRINCIPLE

Casein enzymatic hydrolysate and beef extract are the source of carbon and nitrogen. Yeast extract provides vitamins (B - complex) which helps in stimulating bacterial growth. Sodium pyruvate protects injured cells and helps in recovery along with stimulating the growth of *Staphylococcus aureus* without destroying selectivity. Lithium chloride and glycine are incorporated into the medium to improve the general selectivity of the agar. Egg yolk tellurite emulsion helps in the differentiation process by demonstrating lecithinase (egg yolk reaction) and proteolytic activity. Staphylococci that contain Lecithinase break down the egg yolk and form clear zones around the colonies. Upon further incubation, an opaque zone is developed around colonies, which can be due to lipolytic activity. Reduction of Potassium tellurite to tellurium results in the formation of black colonies, a characteristic feature of *Staphylococcus aureus*.

INSTRUCTION FOR USE

Either streak, inoculate or surface spread the test inoculum aseptically on the plate.

QUALITY CONTROL SPECIFICATIONS

Appearance	:	Yellow colour, Opaque gel
Quantity of Medium	:	25ml of medium in 90mm plates.
pH (at 25°C)	:	7.0± 0.2
Sterility Check	:	Passes release criteria

INTERPRETATION

Cultural characteristics observed after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Colour of colony	Lecithinse Activity	Incubation Temperature	Incubation Period
Staphylococcus aureus	6538	50-100	Luxuriant	>=70%	Grey-Black, shiny	Positive, opaque zone around colony	35-37˚C	24-48 Hours
Staphylococcus aureus	25923	50-100	Luxuriant	>=70%	Grey-Black, shiny	Positive, opaque zone around colony	35-37˚C	24-48 Hours
Proteus mirabilis	25933	50-100	Good-Luxuriant	>=50%	Brown-Black	Negative	35-37˚C	24-48 Hours
Bacillus subtilis	6633	50-100	None-Poor	0-10%	Dark brown matt	Negative	35-37˚C	24-48 Hours
Staphylococcus epidermidis	12228	50-100	Poor-Good	30-40%	Black Colour	Negative	35-37˚C	24-48 Hours
Micrococcus luteus	10240	50-1000	Poor-Good	30-40%	Shades of brown black	Negative	35-37˚C	24-48 Hours
Escherichia coli	25922	50-100	None-Poor	0-10%	Large brown black	Negative	35-37˚C	24-48 Hours

PACKAGING:

Doubled layered packing containing 5 No. of plates with one silica gel desiccant bag packed inside it.

STORAGE

On receipt, store the plates at 15–30 °C. Avoid freezing and overheating. Do not open until ready to use. Prepared plates stored in their original sleeve wrapping until just prior to use may be inoculated up to the expiration date and incubated for recommended incubation times. Allow the medium to warm to room temperature before inoculation.

Product Deterioration: Do not use plates if they show evidence of microbial contamination, discoloration, drying, cracking or other signs of deterioration.

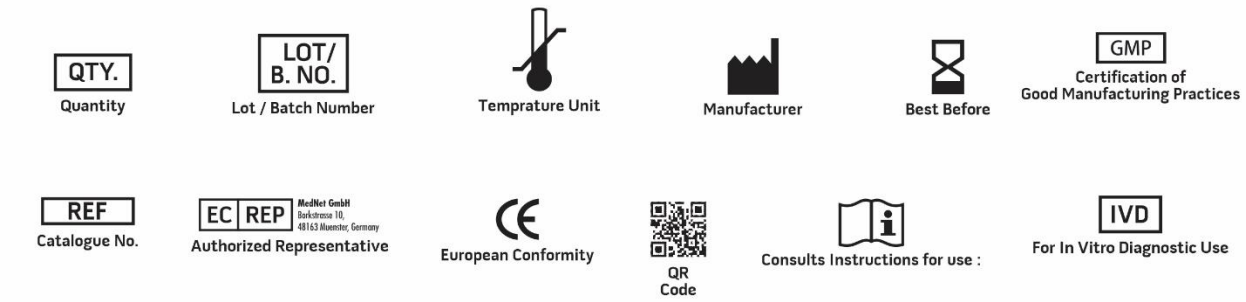
DISPOSAL

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

REFERENCES

1. Baird-Parker and Devenport J. App. Bact. 28:390. (1965).
2. Baird-Parker, A.C. 1962. An improved diagnostic and selective medium for isolating coagulase-positive staphylococci.. J. Appl. Bacteriol. 25: 12-19.
3. Baird-Parker. J. Ann. Micromiol. 30:409. (1963).
4. European Pharmacopoeia 6th Ed. (2007).
5. Sharp, Neave and Reider. J. App. Bact. 28:390. (1962).
6. International Organization for Standardization (ISO), 1983, Draft ISO/DIS 6888.
7. Tardio and Baer, 1971, J. Assoc. Off. Anal. Chem., 54:728.
8. Baer, 1971, J. Assoc. Off. Anal. Chem., 54:732.
9. Assoc. off. Anal. Chem., 1971, 54:401.
10. Horwitz (Ed.), 2000, Official methods of analysis of AOAC International, 17th Ed., Vol. I., AOAC International, Gaithersburg, MD.
11. The United States Pharmacopoeia, 2008, USP31, The United States Pharmacopoeial Convention. Rockville, MD.

12. ISO 6888-1:1999; Microbiology of food and animal feeding stuffs -- Horizontal method for the enumeration of coagulase-positive staphylococci (Staphylococcus aureus and other species) -- Part 1: Technique using Baird-Parker agar medium.



NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**

Revision: 21st March. 2022