BAIRD PARKER AGAR BASE ISO

ABBP-0EP-500

- **Principle**

Bair Parker Agar Base is used for the isolation and enumeration of coagulase-positive staphylococci in food and other materials. Its formula is described in ISO 6888-1 normative.

Casein pancreatic digest, beef extract and yeast extract provide nitrogen, vitamins, minerals and amino acids essential for growth. Lithium chloride, trypsin inhibitor and potassium tellurite inhibit the accompanying flora, and glycine and sodium pyruvate facilitate the staphylococci growth. Bacteriological agar is the solidifying agent.

The ISO 6888-1 Standard recommends adding Egg Yolk Tellurite Emulsion Supplement (EYTS-00P-100) to Baird Parker Agar Base to make the complete medium Baird Parker Agar, used for the general count of coagulase-positive staphylococci in products intended for human or animal feed, through the counting of colonies obtained in a solid medium. The identity of Staphylococcus aureus isolated on Baird Parker Agar must be confirmed with a coagulase reaction.

In Baird-Parker Agar the characteristic colonies are black or grey, shiny and convex and surrounded by a clear area. After 24 h of incubation an opalescent ring may appear in the clear area. Non-characteristic colonies may be bright black or grey, with or without a narrow white border, without a clear area or opalescent ring.

In Rabbit Plasma Fibrinogen Agar, staphylococcus colonies are small, black or grey, even white, surrounded by a halo of precipitation indicating the coagulase activity. At the start of incubation, Proteus colonies can present similar physical characteristics to coagulase-positive Staphylococcus aureus colonies. However, after 24 or 48 hours of incubation, they can acquire a brown colour that expands and invades the plate, and which allows them to be distinguished from staphylococcus.

- **Regulatory compliance**

This product is manufactured under a quality management system in accordance with ISO 9001 and ISO 13485, and its formulation and quality control comply with applicable international standards, such as ISO 11133, where relevant.

For this specific medium, compliance is also established with the relevant requirements of ISO 22718 and ISO 6888.

- **Composition**

Ingredients	**g/L**
Bacteriological agar	20.00
Glycine	12.00
Beef extract	5.00
Sodium pyruvate	10.00
Yeast extract	1.00
Lithium chloride	5.00

- **Preparation**

Suspend 63 grams of the medium in 1 litre of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Sterilize in autoclave at 121 °C for 15 minutes. Cool to 45-50 °C. Aseptically add 5 ml of Tellurite Egg Yolk Emulsion (EYTS-00P-100) per 100 ml of base medium. Homogenize gently and dispense into Petri dishes.

- **Applications and use**

Enumeration of coagulase-positive staphylococci by the technique using Baird-Parker Agar:

- Inoculate 0.1 ml of the liquid sample or 0.1 ml the initial suspension. Inoculate also the first decimal dilution.
- Spread the inoculum over the plate surface as quick as possible.
- Incubate the plates at a temperature of 35-37 °C for 24±2 hours, then reincubate for a further 24±2 hours at the same temperature.
- Examine the characteristics colonies at the 24 hours and 48 hours.
- Select a defined number of characteristic colonies to confirm in tubes of Brain Heart Infusion and incubate at 35-37 °C for 24±12 h.
- Add 0.1 ml of the culture obtained to 0.3 ml of the rabbit plasma and incubate at 35-37 °C.
- Observe the coagulation of the plasma at the 4-6 hours. If the assay is negative continue incubating for 24 hours.
- Coagulation of half of the volume of the plasma is considered a positive result.

- **Quality control**

Solubility	w/o rests
Appearance	Fine powder
Colour of the dehydrated medium	Light toasted
Colour of the prepared medium	Yellow opalescent
Final pH (25°C)	7.2±0.2

- **Microbiological test**

According to ISO 11133:

- Incubation conditions: Productivity, Specificity (24±2-48±2 h/ 37±1 °C) / Selectivity (48±2 h / 37±1 °C).
- Inoculation conditions: Productivity quantitative (100±20. Min.50 CFU) / Selectivity (10^4-10^6 CFU) / Specificity (10^3-10^4 CFU).
- Reference media: TSA.

Microorganisms	Specification (Baird-Parker)	Specification (RPFA)	Characteristic reaction (Baird-Parker)	Characteristic reaction (RPFA)
Staphylococcus epidermidis ATCC 12228	Growth	Growth	Black or grey colonies without egg yolk clearing reaction	Black or grey colonies without opacity halo

Staphylococcus saprophyticus ATCC 15305	Growth	Growth	Black or grey colonies without egg yolk clearing reaction	Black or grey colonies without opacity halo
Escherichia coli ATCC 25922	Total inhibition (0)	Total inhibition (0)	-	-
Staphylococcus aureus ATCC 25923	Good growth >50%	Good growth >50%	Black or grey colonies with clear halo (egg yolk clearing reaction)	Black or grey colonies with opacity halo
Staphylococcus aureus ATCC 6538	Good growth >50%	Good growth >50%	Black or grey colonies with clear halo (egg yolk clearing reaction)	Black or grey colonies with opacity halo

- **Storage**

The product is highly hygroscopic; keep the container always closed and store it properly as per the conditions mentioned on the label. The declared expiry is valid only when stored as per the conditions mentioned on the label. Temp. Min.:2 °C Temp. Max.:25 °C.

Note: Sterilize media immediately after reconstitution.

- **Bibliography**

Baird-Parker. I App. Bact. 25:12. 1962. Baird-Parker. J. Ann. Micromiol. 30:409, 1963.

Sharp, Neave and Reider. J. App. Bact. 28:390. 1962. Baird-Parker and Devenport J. App. Bact. 28:390. 1965.Tardio and Bact. J. AOAC. 54:728, 1971.

- **Product use limitation**

This product is developed, designed and supplied exclusively for research use only. It is not intended for diagnostic applications or drug development, and it is not suitable for administration to humans or animals.