Product :
BAIRD PARKER AGAR BASE

Also known as

BP Agar; Egg Yolk Tellurite Glycine Piruvate Agar; ETGP Agar

Specification

Selective culture medium for the screening of Staphylococci from a variety of samples, acc. to Pharmacopoeias, ISO and DIN standards.

Formula * in g/L

Tryptone	10,0	Agar	17,0
Sodium pyruvate	10,0		
Glycine	12,0	Final pH 7,2 ±0,2 at 25ºC	
Meat extract	5,0		
Lithium chloride	5,0		
Yeast extract	1,0		

* Adjusted and /or supplemented as required to meet performance criteria

Directions

Suspend 60 g in 950 mL of distilled water. Allow to soak and bring to the boil stirring constantly. Sterilize in the autoclave at 121°C for 15 minutes. Cool to 50ºC and add 50 mL of Egg Yolk Tellurite Sterile Emulsion (Art. No. 06-026 or 064-BA1018). Homogenize and distribute into plates. Once prepared, the medium must not be reheated nor sterilized again.

Description

Baird Parker Agar Base is recommended for the detection and enumeration of staphylococci in food and other material, since it allows a good differentiation of coagulase-positive strains. The growth of the accompanying bacteria is usually suppressed by the high concentration in lithium, glycine and pyruvate. Lithium and glycine enhances the growth of staphylococci. Occasionally the medium may grow some *Bacillus species*, yeast and very rarely, *Proteus*. The growth of *Proteus species* can be suppressed by adding 50 mg/L of sulphamethazine.
The presence of tellurite and egg yolk, which must be added to the medium after sterilisation, allows the differentiation of presumptive pathogenic staphylococcal colonies. There is a high correlation between the coagulase test and the presence of clear zones of lypolysis in this medium, which is due to the staphylococcal lecithinase. Studies show that almost 100% of coagulase-positive staphylococci are capable of reducing tellurite, which produces black colonies, whereas other staphylococci can not always do so.
When using sterile reagents other than Scharlau microbiology brand the prepare the medium by adding 50 mL sterile egg yolk and 10 mL of 1% potassium tellurite solution. Plates should be used on the same day of preparation or within 48 hours, to avoid the loss of definition in the precipitated zones. The medium base, without yolk or tellurite, is perfectly stable and therefore can be melted repeatedly.

Technique

The inoculation is carried out by spreading 0.5 ml of sample over each plate with a Drigalsky loop. After 18-24 hours of incubation at 35ºC, select the colonies which are black, shiny and convex with regular margins surrounded by a clear zone. These can be presumptly identified as coagulase-positive *Staphylococcus aureus*.

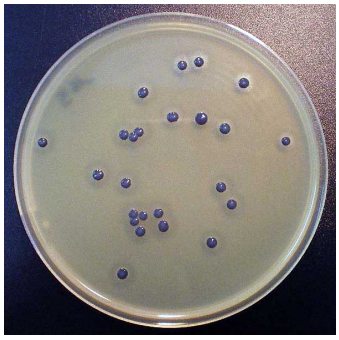
Colonial appearance after 24 hours at 35°C:
- *Staphylococcus aureus*: Black, shiny, convex, regular margins, 1.0-.1.5 mm diameter, surrounded by a clear zone of lipolysis 2-5 mm in width. Wide opaque zones of precipitate extending into the cleared medium may occur after 48 hours.
- Other species of *Staphylococcus*: Black, usually dull, with regular margins. Sometimes brown with zones of clearing but these present as wide opaque zones.
- *Micrococcus* spp: Brown, very small and without clearing zones.
- *Bacillus* spp: Various shades of brown, big. May produce clearing zones after 48 hours.
- Yeasts: White, big and smooth.

Quality control

Incubation temperature: 37°C ±1.0 **Incubation time:** 24-48 ± 2 h

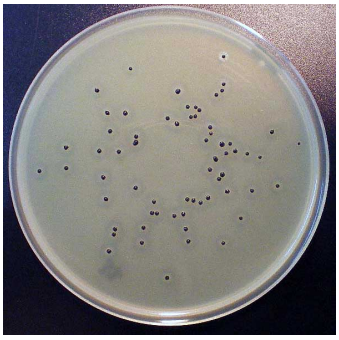
Inoculum: Practical range 100±20 CFU. Min. 50 CFU (Productivity) / 10^4-10^6 CFU (Selectivity) / 10^3-10^4CFU (Specificity) according to ISO 11133:2014.

Microorganism	Growth	Remarks
Escherichia coli ATCC® 8739	Inhibited	Selectivity
Staphylococcus aureus ATCC® 25923	Productivity > 0.50	Black colonies; Lecithinase (+)
Staphylococcus aureus ATCC® 6538	Productivity > 0.50	Black colonies; Lecithinase (+)
Staphylococcus epidermidis ATCC® 12228	Poor to good (Specificity)	Black colonies; Lecithinase (-)
Staphylococcus saprophyticus ATCC® 15305	Poor to good (Specificity)	Black colonies; Lecithinase (-)



Staphylococcus aureus ATCC 25923

Staphylococcus aureus ATCC 25923
(Lecithinase Halos)



Staphylococcus aureus ATCC 6538

References

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· BAIRD-PARKER, A.C. (1962) An improved diagnostic and selective medium for isolating coagulase-positive staphylococci. J. Appl. Bact. 25:12.
· COLIPA (1997) Guidelines on Microbial Quality Management (MQM). Brussels.
· DOWNES, F.P. & K. ITO (2001) Compendium of Methods for the Microbiological Examination of Foods. 4th ed. APHA. Washington. USA.
· EUROPEAN PHARMACOPOEIA (2007) 5thed. Suppl. 5.6 § 2.6.13 Microbiological examination of non-sterile products. EDQM. Council of Europe. Strasbourg.
· FIL-IDF 60:2001 Standard. Lait et produits à base de lait - Detection des staphylocoques à coagulase positive - Technique du nombre le plus probable. Brussels.
· ISO 5944:2001 Standard. Milk and Milk based products - Detection of coagulase positive staphylococci - MPN Technique. Geneva.
· ISO 6888-1:1999 Standard. Microbiology of food and animal feeding stuffs - Horizontal method for the enumeration of coagulase-positive staphylococci - Part 1 Technique using Baird-Parker Agar medium. Geneva.
. ISO 11133:2014. Microbiology of food, animal feed and water. Preparation, production, storage and performance testing of culture media.
· ISO 22718:2006 Standard. Cosmetics - Detection of *Staphylococcus aureus*.
· USP 31 - NF 26 (2008) <61> Microbial Limit Tests. US Phamacopoeial Conv. Inc. Rockville. MD. USA.
· ZANGERL, P. & H. ASPERGER (2003) Media used in the detection and enumeration of *Staphylococcus aureus*. In Handbook.

Storage

For laboratory use only. Keep tightly closed, away from bright light, in a cool dry place (+4 ºC to 30 ºC).

Packaging