

Baird-Parker Agar (NCM0024)

Intended Use

Baird-Parker Agar is used for detection and enumeration of *Staphylococcus aureus* in foods and is not intended for use in the diagnosis of disease or other conditions in humans.

Description

Baird-Parker Agar was first described in 1962. It is a selective medium for the isolation and presumptive identification of coagulase-positive staphylococci. This medium is used extensively for detecting *Staphylococcus aureus* in foods, dairy products, and other materials. Coagulase-positive staphylococci can grow and reproduce in cosmetic products. These products are tested for the presence of coagulase-positive staphylococci using standard microbiological methods.

Typical Formulation

Enzymatic Digest of Casein	10.0 g/L
Beef Extract	5.0 g/L
Yeast Extract	1.0 g/L
Lithium Chloride	5.0 g/L
Glycine	12.0 g/L
Sodium Pyruvate	10.0 g/L
Agar	*17.0 g/L

*15-20 g according to gel strength

pH: 7.0 ± 0.2 at 25°C

Formula may be adjusted and/or supplemented as required to meet performance specifications.

Supplementation**

NCM4086 Egg Yolk Tellurite (BAM)

**Refer to Technical Specification Sheet for above supplement.

Precautions

Refer to SDS

Preparation

1. Suspend 60 grams of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.
4. After cooling to 45 – 50°C, add 50 mL of NCM4086, Egg Yolk Tellurite (BAM).
5. Mix thoroughly before dispensing.

Test Procedure

1. Prepare dilutions of test samples as indicated by references.
2. Transfer 1 mL of the sample to each of 3 Baird Parker Agar plates, distribute over the surface using a sterile, bent glass rod.
3. Allow inoculum to be absorbed by the medium before inverting the plates.
4. Incubate at 35 - 37°C for 45 - 48 hours.
5. Examine plates having 20 - 200 colonies, counting colonies typical of *Staphylococcus aureus*.

Technical Specification Sheet



Quality Control Specifications

Dehydrated Appearance: Powder is homogeneous, free flowing, and beige.

Prepared Appearance (Plain): Prepared medium is trace to slightly hazy and light amber.

Prepared Appearance (with Egg Yolk Tellurite): Prepared medium is canary yellow and opaque.

Expected Cultural Response: Cultural response on Baird Parker Agar with NCM4086 Egg Yolk Tellurite (BAM) at 33-38°C after 24 - 48 hours incubation in an aerobic atmosphere.

Microorganism	Approx. Inoculum (CFU)	Expected Results	
		Recovery	Reaction
<i>Enterococcus faecalis</i> ATCC® 29212	4 Quad Streak	Growth	Black colonies suppressed, no halo
<i>Escherichia coli</i> ATCC® 25922	10 ⁵	Complete Inhibition	----
<i>Escherichia coli</i> ATCC® 8739	10 ⁵	Complete Inhibition	----
<i>Proteus mirabilis</i> ATCC® 12453	4 Quad Streak	Growth	Black colonies, no halo
<i>Staphylococcus aureus</i> ATCC® 25923	10 – 300	>50%	Black colonies with a clear halo
<i>Staphylococcus aureus</i> ATCC® 6538	10 – 300	>50%	Black colonies with a clear halo
<i>Staphylococcus epidermidis</i> ATCC® 12228	4 Quad Streak	Growth	Grey to Black colonies, suppressed, no halo
<i>Staphylococcus saprophyticus</i> ATCC® 15305	4 Quad Streak	Growth	Grey to Black colonies, suppressed, no halo

The organisms listed are the minimum that should be used for quality control testing.

Results

Coagulase-positive staphylococci produce black, shiny, convex colonies with entire margins and clear zones, with or without an opaque zone. Coagulase-negative staphylococci produce poor or no growth. If growth occurs, colonies are black; clear or opaque zones are rare. The majority of other organisms are inhibited or grow poorly. If growth appears, colonies are light brown-black, with no clear or opaque zones.

Expiration

Refer to expiration date stamped on the container. The dehydrated medium should be discarded if not free flowing, or if the appearance has changed from the original color. Expiry applies to medium in its intact container when stored as directed.

Limitation of the Procedure

Due to nutritional variation, some strains may grow poorly or fail to grow on this medium.

Storage

Store dehydrated culture media at 2 – 30°C away from direct sunlight. Once opened and recapped, place the container in a low humidity environment at the same storage temperature. Protect from moisture and light by keeping container tightly closed.



References

1. Baird-Parker, A. C. 1962. An improved diagnostic and selective medium for isolating coagulase-positive staphylococci. J. Appl. Bacteriol. 25:12-19.
2. Vanderzant, C., and D. F. Splittstoesser (eds.). 2015. Compendium of methods for the microbiological examination of food. 4th ed. American Public Health Association, Washington, D.C.
3. Marshall, R. T. (ed.). 2004. Standard methods for the microbiological examination of dairy products, 17th ed. American Public Health Association, Washington, D.C.
4. www.fda.gov/Food/ScienceResearch/LaboratoryMethods/BacteriologicalAnalyticalManualBAM/default.htm.
5. Cunniff, P. (ed.). 2016. Official Methods of Analysis AOAC International, 20th ed. AOAC International, Gaithersburg, MD.
6. United States Pharmacopeial Convention. 2007. The United States pharmacopeia, 31st ed., Amended Chapters 61, 62, 111. The United States Pharmacopeial Convention, Rockville, MD.