# 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**
**Egg Yolk Tellurite (#7983 or X085)**
**Egg Yolk Emulsion (#7982)**
**Tellurite Supplement 1% Chapman (#7989)**
**Refer to Technical Specification Sheet for above supplements

## Precautions
Refer to SDS

## Preparation
1. Suspend 60 g 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 Egg Yolk Tellurite Supplement (#7983 or X085). Alternatively, add 50 mL of Egg Yolk Emulsion (#7982) and 10 mL of Tellurite Supplement (1%), (#7989).
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*.

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## 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 Supplement):** Prepared medium is canary yellow and opaque.

**Expected Cultural Response:** Cultural response on Baird Parker Agar with Egg Yolk Tellurite Supplement (# 7983 or X085) at 33-38°C after 24 - 48 hours incubation in an aerobic atmosphere.

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

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**References**

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