



## Briggs Agar

M1891

Recommended for the cultivation of Lactobacilli from food and dairy products.

### Composition\*\*

| Ingredients                    | Gms / Litre |
|--------------------------------|-------------|
| Pancreatic digest of casein    | 8.000       |
| Peptic digest of animal tissue | 8.000       |
| Yeast extract                  | 6.000       |
| D-Glucose                      | 20.000      |
| Starch soluble                 | 0.500       |
| Tween 80                       | 1.000       |
| Sodium chloride                | 5.000       |
| Tomato juice (from 400 ml)     | 20.000      |
| Agar                           | 20.000      |
| Final pH ( at 25°C)            | 6.8±0.2     |

\*\*Formula adjusted, standardized to suit performance parameters

### Directions

Suspend 88.5 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Mix well and pour into sterile Petri plates.

### Principle And Interpretation

*Lactobacillus* species have very exacting nutritional requirements for amino acids and vitamins. This restricts them to nutritionally compete in the environment. *Lactobacillus* species grow poorly on non-selective media. Briggs, 1953 developed Briggs agar primarily for the cultivation of lactobacilli from milk and dairy products (1). It may be used for the enumeration of Lactic acid bacteria and has better productivity for some strains of *Lactobacillus delbrueckii* ssp. *bulgaricus* and *Lactococcus lactis* ssp. *lactis* (2).

Pancreatic digest of casein and peptic digest of animal tissue and yeast extract serves as a source of nitrogen, amino acids, vitamin B and other nutritional requirements. Glucose is the carbon source, starch as the carbohydrate source and Polysorbate 80 (Tween 80) acts as an emulsifier. Sodium chloride maintains the osmotic equilibrium of the medium. Tomato juice is added to create the proper acidic environment.

*Lactobacillus delbrueckii* ssp. *bulgaricus*, and *Lactobacillus lactis* ssp. *lactis* shows luxuriant growth.

### Quality Control

#### Appearance

Cream to light yellow homogeneous free flowing powder

#### Gelling

Firm, comparable with 2.0% Agar gel.

#### Colour and Clarity of prepared medium

Medium to dark amber coloured, clear to slightly opalescent gel, may have slight precipitate forms in Petri plates

#### Reaction

Reaction of 6.85% w/v aqueous solution at 25°C. pH : 6.8±0.2

#### pH

6.60-7.00

#### Cultural Response

Cultural characteristics observed after an incubation at 30°C for 2 days and 1 day at 22°C or at either 37°C or 42°C for 2 days under anaerobic or microaerobic conditions.

#### Cultural Response

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| Organism                                     | Inoculum (CFU) | Growth    | Recovery |
|--|----------------|-----------|----------|
| <b>Cultural Response</b>                     |                |           |          |
| <i>Lactobacillus bulgaricus</i> ATCC 11842   | 50-100         | luxuriant | >=50%    |
| <i>Streptococcus thermophilus</i> ATCC 14485 | 50-100         | luxuriant | >=50%    |
| <i>Lactobacillus lactis</i> ATCC 8000        | 50-100         | luxuriant | >=50%    |

### Storage and Shelf Life

Store between 2-8°C in tightly closed container. Use before expiry date on the label.

### Reference

1. Briggs, M.J. (1953) An improved medium for lactobacilli. J. dairy Res. 20, 36-40
2. Cox, C.P. and Briggs, M.J. (1954) Experiments on growth media for lactobacilli. J. Appl. Bacteriol. 17, 18-26.

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