

## King FG Agar

For the enumeration of psychotrophic microorganisms in foods.

### Practical information

Applications	Categories
Selective enumeration	Psychotrophic

Industry: Food

### Principles and uses

King FG Agar is used for the enumeration of psychotrophic microorganisms in foods and drinks.

Psychotrophic organisms are extremophile organisms that are capable of grow and reproduce in low temperatures ranging from 0 to 20 °C and are widespread in natural environments and in foods. Psychotrophic microorganisms are well-known for their degradative activities in foods. Some are pathogenic or toxinogenic for humans, animals or plants. Organisms in this group are Pseudomonas, Achromobacter, Alcaligenes, Flavobacterium, and Aeromonas, as well as other species of enterobacteriaceae from the genera: Escherichia, Proteus, Klebsiella, Enterobacter and Hafnia. These are all Gram-negative bacteria.

Peptone provides nitrogen, vitamins, minerals and amino acids essential for growth. Maltose is the fermentable carbohydrate that gives carbon and energy. Sodium chloride supplies essential electrolytes for transport and osmotic balance. Potassium phosphate and magnesium sulfate provide minerals and ions and act as a buffer. Bacteriological agar is the solidifying agent. Crystal violet inhibits Gram-positive bacteria.

### Formula in g/L

Bacteriological agar	15	Bacteriological peptone	20
Magnesium sulfate	0,75	Maltose	10
Potassium phosphate	1,5	Sodium chloride	5

### Preparation

Suspend 52,25 grams of the medium in one liter 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 and aseptically add 2 ml of sterile-filtered 0,05% crystal violet solution. Homogenize gently and dispense into Petri dishes.

### Instructions for use

Spread plate method (Digrafsky):

- In a Petri dish, add 12-15 ml of molten agar and let it solidify.
- Inoculate 0,1 ml of the initial suspension and/or diluted sample.
- Extend the inoculum with a sterile Digrafsky rod on the agar surface.
- Incubate the plates in an inverted position at a temperature of 17 °C for 4-5 days.

### Quality control

Solubility	Appearance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25°C)
w/o rests	Fine powder	Beige	Amber, slightly opalescent	7,0±0,2

### Microbiological test

Incubation conditions: (17 °C / 4-5 days).

## Microrganisms

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Proteus mirabilis ATCC 14273

Escherichia coli ATCC 25922

Pseudomonas spp

## Specification

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Good growth

Good growth

Good growth

## Storage

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Temp. Min.:2 °C

Temp. Max.:25 °C

## Bibliography

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Pascual Anderson – Metodología analítica para alimentación y bebidas - Diaz Santos, 1999.