

# San Francisco Base Medium Modified

Cat. 1413

Recommended for the growth of *Lactobacillus*

## Practical information

Applications	Categories
Growth	Lactobacilli
Selective isolation	Lactobacilli

Industry: Food / Dairy products

## Principles and uses

San Francisco Base Medium Modified is a medium described by Vogel et al. for the identification of *Lactobacilli* from sourdough in 1994. Picozzi et al. modified this medium by adding 150 ml of a fresh yeast extract solution instead of rye or wheat flour and baker's yeast components since these made the agar plates turbid and spongy.

Tryptone and beef extract provide nitrogen, vitamins, minerals and aminoacids essential for growth. Glucose, fructose and maltose are the fermentable carbohydrates providing carbon and energy. Yeast extract is a source of vitamins, particularly of the B-group. Sodium gluconate has been added as a stabilizing agent. Sodium acetate is added as a carbon source. Ammonium citrate at a low pH inhibits most microorganisms, including streptococci and molds, and limits swarming, but allows the growth of *lactobacilli*. Dipotassium acid phosphate is a buffer. Sulphate salts are ions required in a big variation of enzymatic reactions. L-cysteine hydrochloride is the reducing agent. Bacteriological agar is the solidifying agent.

## Formula in g/L

Glucose	7	Bacteriological agar	15
Dipotassium phosphate	2,5	L-Cysteine hydrochloride	0,5
Magnesium sulfate	0,2	Maltose	7
Manganase sulfate	0,05	Beef extract	2
Sodium acetate	5	Tryptone	10
Tween 80	1	Yeast extract	7
Fructose	7	Diammonium citrate	5
Sodium gluconate	2	Ferric sulphate	0,01

Typical formula g/L \* Adjusted and/or supplemented as required to meet performance criteria.

## Preparation

Suspend 71,26 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 if desired add more quantity of yeast extract to enhance bacterial growth.

## Instructions for use

Inoculate and incubate at 37±2 °C and observe after 48 hours.

## Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25°C)
w/o rests	Fine powder	Beige	Amber, slightly opalescent	5,4±0,2

## Microbiological test

Incubation conditions: (37±2 °C / 48 h).

#### Microorganisms

Escherichia coli ATCC 25922  
Pseudomonas aeruginosa ATCC 27853  
Lactocaseibacillus casei ATCC 393  
Lactobacillus acidophilus ATCC 4356

#### Specification

Moderate/good growth  
Null/light growth  
Good growth  
Good growth

## Storage

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Temp. Min.:2 °C  
Temp. Max.:25 °C

## Bibliography

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Vogel et al. (1994). Identification of Lactobacilli from Sourdough and Description of Lactobacillus pontis sp. nov. International Journal of Systematic Bacteriology. April . 1994, p. 223-229.  
Picozzi et al (2005) Comparison of cultural media for the enumeration of sourdough lactic acid bacteria. Annals of Microbiology, 55 (4) 317-320.