

Trypticasein Dextrose Medium

Cat. 1003

For the differentiation of aerobic and anaerobic microorganisms, based on dextrose fermentation and motility.

Practical information

Applications	Categories
Differentiation	Mesophilic aerobic
Differentiation	Anaerobes

Industry: General cultivation

Principles and uses

Trypticasein Dextrose Medium is a semi-solid medium used to differentiate organisms based on dextrose fermentation and motility.

Casein peptone provides nitrogen, vitamins, minerals and amino acids essential for growth. Dextrose is the fermentable carbohydrate providing carbon and energy. When the dextrose is fermented, the acid production is demonstrated by a reaction of the Bromothymol blue pH indicator changing color from purple to yellow (acid). The presence of gas is observed by the formation of bubbles in the agar or foam on the surface of the tube. Motility is seen by the diffusion away from the line of inoculation (positive) and the medium becomes cloudy. Non-motile organisms only grow along the inoculation line.

Formula in g/L

Dextrose	5	Bromthymol blue	0,01
Bacteriological agar	3,5	Casein peptone	20

Preparation

Suspend 28,5 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. Dispense into tubes, filling to half capacity. Sterilize in autoclave at 118-121 °C for 15 minutes. Cool to 45-50 °C and tighten caps to prevent dehydration.

Instructions for use

Inoculate by stabbing the medium. Reactions are generally complete after incubation at 35±2 °C for 18-24 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/clear green	Green-beige	7,3±0,2

Microbiological test

Incubation conditions: (35±2 °C / 18-24 h).

Microorganisms	Specification	Characteristic reaction
Escherichia coli ATCC 25922	Good growth	Motility (+), yellow colonies
Staphylococcus aureus ATCC 25923	Good growth	Motility (-), yellow colonies

Storage

Temp. Min.: 2 °C

Temp. Max.:25 °C

Bibliography

Recommended Methods for the Microbiological Examination of Foods APHA Inc., New York. Compendium of Methods for the Microbiological examination of food. 3rd edition APHA 1992. Standard Methods for the Examination of Dairy Products. 1 1th Edition. APHA., Inc. New York, 1960. Greenberg and Cooper Can. Med. Assn. J. 83:143. 1960. Wetmore and Gochenour J. Bact. 72:79, 1956.