

## 2xYT Agar

Cat. 1167

Medium for fibrous bacteriophages

### Practical information

Applications	Categories
Preparation and recovery of competent cells	Escherichia coli

Industry: Molecular biology

### Principles and uses

2xYT Agar is a nutritionally rich growth medium recommended for the optimal growth of recombinant strains of *E. coli* on agar plates. This medium is also used for propagation of M13 bacteriophage or other fibrous bacteriophages for sequencing and phage display.

Bacteriophages are viruses that can only infect and replicate within bacteria. In many cases, these are very specific relationships. Somatic coliphages specifically infect *Escherichia coli* and in water indicate contamination by human or animal faeces or by wastewater containing such material.

Tryptone and yeast extract are the sources for carbon, nitrogen, vitamins, minerals, and amino acids essential for growth, as well as growth factors that allow phages to reproduce without weakening the host cells. Sodium chloride supplies essential electrolytes for transport and osmotic balance. Many supplements, including antibiotics, are heat-sensitive and cannot be autoclaved. These should be filter-sterilized and added to the medium after it has cooled down and prior to solidification. *Escherichia coli* growth faster on the enrichment medium as provide aminoacid, nucleotide precursors, vitamins and other metabolite which in another way it should be synthesized by the cell.

### Formula in g/L

Bacteriological agar	15	Sodium chloride	5
Tryptone	16	Yeast extract	10

### Preparation

Suspend 46 grams of 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, mix well and dispense into plates.

### Instructions for use

Inoculate and incubate at a temperature of 35±2 °C for 18-24 hours.

### 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	7,0±0,2

### Microbiological test

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

Microrganisms	Specification
<i>Escherichia coli</i> ATCC 23724	Good growth
<i>Escherichia coli</i> ATCC 33694	Good growth
<i>Escherichia coli</i> ATCC 33849	Good growth

## Storage

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Temp. Min.:2 °C  
Temp. Max.:25 °C

## Bibliography

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Flint, et al. (2003) In Principles of Virology: Molecular Biology, Pathogenesis, and Control of Animal Viruses. 2nd ed. ASM Press, Washington DC. Sambrook and Russell (2006) In The condensed protocols from Molecular cloning: a laboratory manual, 1st ed., Cold Spring Harbor Laboratory Press, Cold Spring Harbor, NY.