

4XYT Growth Medium

Intended Use

4XYT Growth Medium is an optimized formulation for the growth and maintenance of M13 phage or other filamentous ss DNA bacteriophages.

Summary

4XYT Growth Medium is an optimized formulation for the growth and maintenance of M13 phage or other filamentous ss DNA bacteriophages. This media is 4 times richer than the YT media. This media was originally formulated as a nutritionally enriched growth medium for growth of recombinant strains of *Escherichia coli* and can also be used for propagation of M13 bacteriophage. It permits larger quantity of phage production without exhausting the host.

Principle

Yeast extract and tryptone provide all the required amino acids, nucleotide precursors, vitamins and other metabolites and as a result the cells grow faster in this medium. Sodium chloride provides sodium ions for transport and osmotic balance.

Formula*

Ingredients	g/L
Tryptone	32.0
Yeast Extract	20.0
Sodium Chloride	5.0
Final pH (at 25°C)	7.4 ± 0.2

*Adjusted to suit performance parameters

Storage and Stability

Store dehydrated medium below 30°C in tightly closed container and the prepared medium at 2°C-8°C. Avoid freezing and overheating. Use before expiry date on the label. Once opened keep powdered medium closed to avoid hydration.

Specimen Collection and Handling

Ensure that all samples are properly labelled. Follow appropriate techniques for handling samples as per established guidelines. Some samples may require special handling, such as immediate refrigeration or protection from light, follow the standard procedure. The samples must be stored and tested within the permissible time duration. After use, contaminated materials must be sterilized by autoclaving before discarding.

Directions

1. Suspend 57.00 g of the powder in 1000 mL distilled water.
2. Heat to boiling to dissolve the powder completely.
3. Sterilize by autoclaving at 121°C (15 psi) for 15 minutes as per validated cycle.

Quality Control

Dehydrated Appearance: Cream to yellow homogeneous free flowing powder.

Prepared Appearance: Light yellow to amber coloured, clear solution without any precipitate.

Growth Promotion Test: Growth promotion is carried out in accordance with the harmonized method of USP/EP/JP and growth is observed after an incubation at 30°C-35°C for 18 to 48 hours.

Growth Promoting Properties: The test results observed are within the specified temperature and shortest period of time specified in the test, inoculating ≤ 100 cfu of appropriate microorganism at 30°C-35°C for 18 hours.

Organism (ATCC)	Growth
<i>Escherichia coli</i> (23724)	Good
<i>Escherichia coli</i> (25922)	Good
<i>Escherichia coli</i> DH5alpha (MTCC 1652)	Good

Performance and Evaluation

Performance of the product is dependent on following parameters as per product label claim:

1. Directions
2. Storage
3. Expiry

Warranty

This product is designed to perform as described on the label and package insert. The manufacturer disclaims any implied warranty of use and sale for any other purpose.

Reference

1. Difco manual 11th ed., Sparks, MD (1998), 22-23
2. Assubel, F.M., R. Brent, R.E. Kingston, D.D. Moore, J.G. Seidman, J.A. Smith and K. Struhl, Current protocols in molecular biology, vol. 1, Current Protocols, New York, (1994)
3. Davis, L.G., M.D. Dibner and J.F. Battey, Basic methods in molecular biology, Elsevier, New York, (1986).
4. Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.

Product Presentation:

Cat. No.	Product Description	Pack Size
201270060500	Dehydrated Culture Media	500 g

Disclaimer

Information provided is based on our inhouse technical data on file, it is recommended that user should validate at his end for suitable use of the product.
