2xYT MEDIUM (7281)

Intended Use
2xYT Medium is used for the cultivation of recombinant strains of *Escherichia coli*.

Product Summary and Explanation
2xYT (Yeast Extract Tryptone) Medium is nutritionally rich and developed for growth of recombinant strains of *E. coli*. This formulation is also suitable for the growth and maintenance of M13 phages and other fibrous bacteriophages for sequencing and phage display research.[1,2,3] 2xYT Medium is formulated with nitrogen and vitamins that allow bacteriophage to reproduce in large quantities without fatiguing the host. *E. coli* grows faster in this enriched medium because it provides amino acids, nucleotide precursors, vitamins and other metabolites that the cell would otherwise have to synthesize.[2]

Principles of the Procedure
The nitrogen, amino acids, and carbon sources are provided by Enzymatic Digest of Casein. Vitamins and certain trace elements are contained in Yeast Extract. Sodium ions for transport and osmotic balance are provided by Sodium Chloride.

Formula / Liter
Enzymatic Digest of Casein ..... 16 g
Yeast Extract..... 10 g
Sodium Chloride ..... 5 g
Final pH: 7.0 ± 0.2 at 25°C
Formula may be adjusted and/or supplemented as required to meet performance specifications.

Precautions
1. For Laboratory Use.
2. IRRITANT. Irritating to eyes, respiratory system, and skin.

Directions
1. Dissolve 31 g of the medium in one liter of purified water.
2. Mix thoroughly.
3. Autoclave at 121°C for 15 minutes.

Quality Control Specifications
Dehydrated Appearance: Powder is homogeneous, free flowing, and light beige to light yellow beige.

Prepared Appearance: Prepared medium is clear, with no to light precipitate and pale to light yellow.

Expected Cultural Response: Cultural response in 2xYT Medium at 35 ± 2°C and examined for growth after 18 - 24 hours incubation.

Microorganism	Approx. Inoculum (CFU)	Expected Results
Escherichia coli ATCC® 23724	10 - 300	Good to excellent growth
Escherichia coli ATCC® 33526	10 - 300	Good to excellent growth
Escherichia coli ATCC® 53868	10 - 300	Good to excellent growth

The organisms listed are the minimum that should be used for quality control testing.

Test Procedure
Consult appropriate references for recommended test procedures.[1,2,3]

Results
After sufficient incubation, the medium should show growth as evidenced by turbidity.

Storage
Store sealed bottle containing the dehydrated medium at 2 - 30°C. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light by keeping container tightly closed.

Expiration
Refer to expiration date stamped on the container. The dehydrated medium should be discarded if not free flowing, or if appearance has changed from the original color. Expiry applies to medium in its intact container when stored as directed.

Limitation of the Procedure
Due to nutritional variation, some strains may be encountered that grow poorly or fail to grow on this medium.

Packaging

2xYT Medium	**Code No.**	**7281A**	**500 g**
		7281B	**2 kg**
		7281C	**10 kg**

References

1. **Sambrook J., E. F. Fritsch, and T. Maniatis.** 1989. Molecular cloning: a laboratory manual, 2nd ed. Cold Spring Harbor Laboratory, Cold Spring Harbor, N.Y.
2. **Ausubel, F. M., R. Brent, R. E. Kingston, D. D. Moore, J. G. Seidman, J. A. Smith, and K. Struhl.** 1994. Current protocols in molecular biology, vol. 1. Current Protocols, New York, N.Y.
3. **Davis, L. G., M. D. Dibner, and J. F. Battery.** 1986. Basic methods in molecular biology. Elsevier, New York, N.Y.

Technical Information
Contact Acumedia Manufacturers, Inc. for Technical Service or questions involving dehydrated culture media preparation or performance at (517)372-9200 or fax us at (517)372-2006.

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