2× Yeast Extract Tryptone (2×YT) Medium

Intended Use
2×YT Medium is used for cultivating recombinant strains of *Escherichia coli*.

Summary and Explanation
2×YT Medium is a nutritionally rich growth medium designed for growth of recombinant strains of *Escherichia coli*. This medium is also used for propagation of M13 bacteriophage for sequencing and phage display research.[1-3] The components of 2×YT Medium provide nitrogen and growth factors that allow bacteriophage to reproduce in large quantities without exhausting the host. *E. coli* grows more rapidly in this rich 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
Peptone and yeast extract provide the necessary nutrients and cofactors required for excellent growth of *E. coli*. Sodium chloride is included to provide a suitable osmotic environment.

Formula
Difco™ 2×YT Medium

Approximate Formula* Per Liter		
Pancreatic Digest of Casein	16.0	g
Yeast Extract	10.0	g
Sodium Chloride	5.0	g

**Adjusted and/or supplemented as required to meet performance criteria.*

Directions for Preparation from Dehydrated Product
1. Suspend 31 g of the powder in 1 L of purified water. Mix thoroughly.
2. Heat with frequent agitation and boil when necessary for 1 minute to completely dissolve the powder.
3. Autoclave at 121°C for 15 minutes.
4. Test samples of the finished product for performance using stable, typical control cultures.

User Quality Control
Identity Specifications
Difco™ 2×YT Medium

Dehydrated Appearance:	Light beige, free-flowing, homogeneous.
Solution:	3.1% solution, soluble in purified water. Solution is light to medium amber, clear.
Prepared Appearance:	Light to medium amber, clear.
Reaction of 3.1% Solution at 25°C:	pH 7.0 ± 0.2

Cultural Response
Difco™ 2×YT Medium

Prepare the medium per label directions. Inoculate and incubate at 35 ± 2°C for 18-24 hours.

ORGANISM	ATCC™	INOCULUM CFU	RECOVERY
Escherichia coli (C600)	23724	10^2-3×10^2	Good

Procedure
Consult appropriate references for recommended test procedures.[1-3]

Expected Results
Growth is evident in the form of turbidity.

References

1. Sambrook, Fritsch and Maniatis. 1989. Molecular cloning: a laboratory manual, 2nd ed. Cold Spring Harbor Laboratory, Cold Spring Harbor, N.Y.
2. Ausubel, Brent, Kingston, Moore, Seidman, Smith and Struhl. 1994. Current protocols in molecular biology, vol 1. Current Protocols, New York, N.Y.
3. Davis, Dibner and Battey. 1986. Basic methods in molecular biology. Elsevier, New York, N.Y.

Availability
Difco™ 2×YT Medium

Cat. No.	244020	Dehydrated – 500 g
	244010	Dehydrated – 2 kg