

Modified Terrific Broth

#GCM08.0500 (500g)
(FOR RESEARCH ONLY)



Product: Dehydrated powder for the preparation of nutritionally rich liquid medium (broth), to be used with glycerol, for the growth and maintenance of recombinant strains of *Escherichia coli* in molecular biology studies.

Quantity: 500g

Formulation (g/L)

Tryptone:	12.00	Yeast Extract:	24.00
K ₂ HPO ₄	9.40	KH ₂ PO ₄	2.20
Final pH (25°C):	7.2 ± 0.2		

Appearance: Beige powder. Autoclaved medium should be amber, slightly opalescent

Storage: 2°C – 25°C. When not in use, keep container closed to avoid hydration.

QC: Each lot is tested by inoculating freshly prepared medium with a single colony of *Escherichia coli* ATCC 23724 and observation after incubation at 35 ± 2°C for 18 – 24h.

Bibliography:

Sambrook, Fritsch and Maniatis (1989) In Molecular cloning: a laboratory manual, 2nd ed., Cold Spring Harbor Laboratory Press, Cold Spring Harbor, NY.

Preparation:

Add 50.8g of the dehydrated medium to 900 ml of distilled water. Mix well and add 4 ml of glycerol. Adjust final volume to 1 liter. Dissolve by heating with regular agitation. Boil for 1 minute in order to dissolve completely. Dispense in appropriate containers and sterilize by autoclaving at 121°C for 15 to 20 minutes. Store at 2°C to 8°C

Supplements (Optional):

Modified Terrific Broth is a rich growth medium, which contains all the nutritional requirements for *E.coli* to support a high cell density and maintaining growth in the logarithmic phase for an extended period of time, resulting in larger yields of plasmid DNA and heterologous proteins. Tryptone and Yeast Extract are the sources for carbon, nitrogen, vitamins, minerals, and amino acids essential for growth, whereas the potassium phosphate buffer system acts to prevent cell death. Glycerol serves an additional source for carbon as well as a source for carbohydrates with the advantage over glucose that it is not fermented into acetic acid. Moreover, in many protein expression experiments, glucose acts as a repressor. Other supplements, including antibiotics, can be added. As many are heat-sensitive, they cannot be autoclaved and should be filter-sterilized prior to adding to the medium it has cooled down.