

## Terrific Broth, Powder

Code	Description	Size
J869-100G	<b>Terrific Broth, Powder</b>	100 grams
J869-500G	<b>Terrific Broth, Powder</b>	500 grams
J869-5KG	<b>Terrific Broth, Powder</b>	5 kilograms

### General Information

Terrific Broth was developed by Tartoff and Hobbs to increase plasmid yields in cultures of recombinant *Escherichia coli* up to 7-fold higher than those obtained using LB medium. It is an enriched medium containing high levels of tryptone and yeast extract, which provide amino acids, vitamins and trace elements necessary for high density growth. Glycerol is added as a carbohydrate source, while the potassium phosphate is present to both maintain optimal pH and serve as a source of potassium for cellular metabolism. Terrific Broth is ideal for culturing cells for nucleic acid purification and recombinant protein expression.

Formulation	grams/L
Tryptone	12
Yeast Extract	24
Potassium Phosphate, Dibasic	9.4
Potassium Phosphate, Monobasic	2.2
Final pH	7.0 (± 0.2 @ 25°C)

### Storage/Stability

Store Terrific Broth, Powder at room temperature (18 – 26°C). Store prepared medium cold (2 – 8°C).

### Product Use Limitations

For research use only. Not for therapeutic or diagnostic use.

## Required Materials Not Supplied

Glycerol  
Antibiotic (optional)

## Protocol/Procedure

### Terrific Broth preparation

1. Suspend 47.6 g of Terrific Broth, Powder and 4 mL of glycerol in 1 L of purified water and allow to dissolve.
2. Autoclave for 15 minutes at 15 psi at 121°C. **Note:** *Alternatively, medium may be sterile-filtered.*
3. Allow the solution to cool to 50°C or below before adding supplemental components and antibiotic.

## Frequently Asked Questions

### What is the typical OD<sub>600</sub> obtained for *E. coli* cultures grown in Terrific Broth?

- The OD<sub>600</sub> for *E. coli* grown in SOB Broth ranges from 5 to 8 when using standard conditions of 37°C with shaking at 250 rpm. Increased aeration of the cultures will increase the OD<sub>600</sub>. For Terrific Broth, a maximum OD<sub>600</sub> of 18 may be obtained when cells are grown with optimal aeration and added magnesium (see below).

### Which additive can further enhance the cell density of cultures grown in Terrific Broth?

- The addition of magnesium, by including 10 to 20 mM, MgSO<sub>4</sub>, MgCl<sub>2</sub>, or both, enhances the cell density that may be obtained when culturing in Terrific Broth. Increased aeration of the cultures will also improve yields.

### Can cells be grown in Terrific Broth before column-based plasmid purification?

- Many column-based protocols are designed for use with LB cultures, which reach lower cell densities. Refer to the manufacturer's recommendations to avoid overloading the columns, which will result in decreased plasmid yields.



## **For Technical Support**

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