

M63 Medium Broth

Code	Description	Size
J910-100G	M63 Medium Broth	100 grams
J910-500G	M63 Medium Broth	500 grams

General Information

M63 is a low osmolarity minimal medium used for cultivation of *Escherichia coli*. It contains salts that supply nitrogen, phosphorus, and trace metals that the bacteria would need for growth. M63 Medium Broth should also be supplemented with glycerol to provide a carbon energy source and with magnesium sulfate to provide magnesium ions that are essential for the enzymatic reaction of DNA replication.

Formulation	Quantity Per Liter
Ammonium Sulfate	2 g/L
Potassium Phosphate, Monobasic	13.6 g/L
Ferrous Sulfate, Heptahydrate	0.5 mg/L

Storage/Stability

Store M63 Medium Broth powder at room temperature (18 to 26°C). Store prepared medium cold (2 to 8°C).

Product Use Limitations

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

Required Materials Not Supplied

20% glycerol, sterile
1 M MgSO₄, sterile
Potassium hydroxide (for pH adjustment)

Protocol/Procedure

M63 Medium Broth preparation

1. Suspend 15.6 grams of M63 Medium Broth powder in 0.9 L of purified water.
2. Allow the powder to dissolve with gentle stirring and heating, if necessary.
3. Adjust pH to 7.0 using potassium hydroxide.
4. Bring volume to 1 L with purified water.
5. Autoclave for 15 minutes at 15 psi at 121°C. **Note:** *Alternatively, medium may be sterile-filtered.*
6. Allow the solution to cool to 50°C or below before adding supplemental components and antibiotic.
7. Add 10 mL of sterile 20% glycerol and 1 mL of sterile 1 M MgSO₄ per liter of medium.

Frequently Asked Questions

Can the M63 Medium Broth powder be used to prepare M63 Medium agar?

- To prepare M63 Medium agar, add 20 g of agar together with the 15.6 g of M63 Medium Broth in step 1 above.

Can the M63 Medium Broth be supplemented with a different carbon source?

- A typical alternative carbon source is 2% glucose (final concentration). Other sugars may also be considered.

What should be added to make a complete medium?

- The most common supplements for preparing complete medium using the M63 Medium Broth base are:
 - 0.1 mL of 0.5% vitamin B1 (thiamine)
 - 5 mL of 20% casamino acids or L- amino acids up to 40 µg/mL or DL- amino acids up to 80 µg/mL
 - Selective agent (antibiotic)



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