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by life technologies

M9 Minimal Salts (2X)

Description

M9 Minimal Salts (2X) solution is used in the preparation of M9 minimal media (a liquid growth media for bacterial culture). The composition of the M9 Minimal Salts include buffering agents, a nitrogen source and necessary ions critical to the completion of M9 minimal media. Complete M9 Minimal Media also requires a carbon source to support microbial growth. As a complete media, M9 minimal media is typically used to define the nutritional needs of auxotrophic bacteria such as mutant strains of Escherichia coli (*E. coli*). Auxotrophs, organisms having unique nutritional requirements due to mutation(s), will not be able to grow in M9 minimal media without additional supplements such as amino acids or other required nutrients.

Product	Catalog no.	Amount	Storage	Shelf life*
M9 Minimal Salts (2X)	A13744-01	1000 mL	15°C to 30°C	12 months

*Shelf life duration is determined from Date of Manufacture.

Product use

For Research Use Only. Not for use in diagnostic procedures.

Important information

M9 Minimal Salts (2X) solution (see **Formulation**) is not a complete medium and requires dilution and supplementation with a carbon source and other nutrients to support microbial growth.

Formulation

Disodium Phosphate Heptahydrate	25.6 g/L
Monopotassium Phosphate	6 g/L
Sodium Chloride	1 g/L
Ammonium Chloride	2 g/L

Final pH (2X solution): 6.6–7.0 at 25°C

Safety information

Read the Safety Data Sheets (SDSs) and follow the handling instructions. Wear appropriate protective eyewear, clothing, and gloves.

Prepare media

Use the following instructions for preparing complete M9 minimal medium as a starting point. Additional supplementation may be required depending on the nutritional needs of the specific microbe to be cultured.

1. Aseptically add 500 mL/L M9 Minimal Salts (2X) medium to a sterile container.
2. Aseptically add the following sterile solutions to the container:
   a. 20 mL of 20% D-Glucose solution
   b. 2 mL of 1.0 M $MgSO_4$ solution
   c. 0.1 mL of 1.0 M $CaCl_2$ solution

   Note: Additional supplements may include: casamino acids, unnatural amino acids, heavy isotope labeled amino acids, trace metals, thiamine, antibiotics, etc.
3. Adjust final volume to 1000 mL with sterile H_2O and mix until homogeneous.

   Note: Different carbon sources and pH adjustment can also be used to complete M9 minimal media. If necessary, sterilize the final formulation by sterile filtration.

Use

Consult appropriate references for recommended test procedures (see **References**).

Expected results

Growth should be evident by the appearance of turbidity.

User quality control

Prepare complete M9 minimal medium as described (see **Prepare media**). Inoculate and incubate cultures on a rotary shaker at 33°C to 37°C for 18–48 hours.

Organism	Inoculum CFU	Recovery
E. coli (BL21 (DE3))	30–300	Good to excellent

Related products

Product	Catalog no.
LB Broth (1X), liquid	10855
Terrific Broth, liquid	A13743

Explanation of symbols and warnings

The symbols present on the product label are explained below:

	LOT			REF
Manufacturer	Batch Code	Temperature Limitation	Use By:	Catalog number
				STERILE A
Consult instructions for use		Caution, consult accompanying documents		Sterilized using aseptic processing techniques

Limited product warranty

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References

1. Davis, L.G., M. D. Dibner and J.F. Battey. 1986. Basic methods in molecular biology. Elsevier, New York, NY.
2. Davis, R.W., et. al. 1980. Manual for genetic engineering: advanced bacterial genetics: 204. Cold Spring Harbor Laboratory, Cold Spring Harbor, NY.
3. 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.

For additional technical information such as Safety Data Sheets (SDS), Certificates of Analysis, visit www.lifetechnologies.com/support
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