



MOPS EZ Rich Defined Media Kit

PRODUCT NUMBER: M2105

KIT COMPONENTS:

Part #	Description	Storage Conditions	Quantity*
M2101	10X MOPS Buffer	Frozen $-20^{\circ}\text{C}^{\dagger}$	5 x 100 mL
M2102	0.132 M Potassium Phosphate Dibasic Solution (K_2HPO_4)	2–30°C	50 mL
M2103	10X ACGU Solution	Frozen [†]	5 x 100 mL
M2104	5X Supplement EZ	Frozen [†]	5 x 200 mL
G0520	20% Glucose Solution	2–30°C	100 mL

*Each kit makes a total of 5 L of MOPS EZ Rich Defined Media.

[†]Avoid temperatures below -20°C . Excessive freezing will cause precipitation within the frozen components of this kit. Products can experience temperatures significantly below the set point when placed directly in front of the cold air stream within the freezer; therefore, avoid placement of products in this air stream.

APPLICATION:

MOPS EZ Rich Defined Media is a general growth media that was originally designed for *E. coli*, *Salmonella spp.*, and other enterobacteria. This formulation is a modification of Neidhardt supplemented MOPS defined media¹.

INFORMATION:

- EZ Rich Defined Medium is a chemically defined media.
- All solutions are provided sterile and should not be autoclaved. If treatment to destroy potential viruses is necessary, we recommend heating to 60–80°C for 5 minutes.
- A 20% solution of glucose (part # G0520) is supplied as the carbon source. However, additional carbon sources (e.g., glycerol, arabinose, mix of lactose/glucose/glycerol) are available separately.
- MOPS Minimal Media and other MOPS EZ Rich Defined Media that are missing specific amino acid(s) or ammonium chloride also are available separately.



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INSTRUCTIONS:

- Thaw frozen components overnight in the refrigerator (2–8°C) and mix well by inverting 5 times before combining with room-temperature components to create the defined media.

Component	Amount
10X MOPS Modified Rich Buffer	100 mL
0.132 M Potassium Phosphate Dibasic Solution (K ₂ HPO ₄)	10 mL
10X ACGU	100 mL
5X Supplement EZ	200 mL
20% Glucose Solution	10 mL
Sterile filtered water*	580 mL
TOTAL	1000 mL

*Sterile filtered water is not included in the kit but may be ordered separately.

- If needed, adjust the amount of water to account for any customized addition of carbon source or other supplement(s).
- The 1X media can be stored in the refrigerator (2–8°C) for up to two weeks without loss in performance. Do not freeze 1X media.

FORMULATION DETAILS:

10X MOPS Buffer (M2101)	10X Concentration	1X Concentration
MOPS	400 mM	40 mM
Tricine (MW 179.2)	40 mM	4 mM
Iron Sulfate	0.1 mM	0.01 mM
Ammonium Chloride	95 mM	9.5 mM
Potassium Sulfate	2.76 mM	0.276 mM
Calcium Chloride	5 μM	0.5 μM
Magnesium Chloride	52.5 mM	0.525 mM
Sodium Chloride	500 mM	50 mM
Ammonium Molybdate	2.92 x 10 ⁻⁶ mM	2.92 x 10 ⁻⁷ mM
Boric Acid	4.00 x 10 ⁻⁴ mM	4.00 x 10 ⁻⁵ mM
Cobalt Chloride	3.02 x 10 ⁻⁵ mM	3.02 x 10 ⁻⁶ mM
Cupric Sulfate	9.62 x 10 ⁻⁶ mM	9.62 x 10 ⁻⁷ mM
Manganese Chloride	8.08 x 10 ⁻⁵ mM	8.08 x 10 ⁻⁶ mM
Zinc Sulfate	9.74 x 10 ⁻⁶ mM	9.74 x 10 ⁻⁷ mM
10X ACGU Solution (M2103)	10X Concentration	1X Concentration
Potassium Hydroxide	15 mM	1.5 mM
Adenine	1.99 mM	0.199 mM
Cytosine	1.99 mM	0.199 mM
Uracil	1.99 mM	0.199 mM
Guanine	1.99 mM	0.199 mM

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FORMULATION DETAILS, CONTINUED:

5X Supplement EZ (M2104)	5X Concentration	1X Concentration
L-Alanine	4.0 mM	0.8 mM
L-Arginine HCl	26 mM	5.2 mM
L-Asparagine	2.0 mM	0.4 mM
L-Aspartic Acid, Potassium Salt	2.0 mM	0.4 mM
L-Glutamic Acid, Potassium Salt	3.0 mM	0.6 mM
L-Glutamine	3.0 mM	0.6 mM
L-Glycine	4.0 mM	0.8 mM
L-Histidine HCl H ₂ O	1.0 mM	0.2 mM
L-Isoleucine	2.0 mM	0.4 mM
L-Proline	2.0 mM	0.4 mM
L-Serine	50 mM	10 mM
L-Threonine	2.0 mM	0.4 mM
L-Tryptophan	0.5 mM	0.1 mM
L-Valine	3.0 mM	0.6 mM
L-Leucine	4.0 mM	0.8 mM
L-Lysine HCl	2.0 mM	0.4 mM
L-Methionine	1.0 mM	0.2 mM
L-Phenylalanine	2.0 mM	0.4 mM
L-Cysteine HCl	0.5 mM	0.1 mM
L-Tyrosine	1.0 mM	0.2 mM
Thiamine HCl	0.05 mM	0.01 mM
Calcium Pantothenate	0.05 mM	0.01 mM
para-Amino Benzoic Acid	0.05 mM	0.01 mM
para-Hydroxy Benzoic Acid	0.05 mM	0.01 mM
2,3-diHydroxy Benzoic Acid	0.05 mM	0.01 mM

REFERENCES:

1. Neidhardt FC, Bloch PL, and Smith DF. (1974) Culture medium for enterobacteria. J Bacteriol 119:736–747.

Questions?

We're here to help. Get in touch with us at info@teknova.com or call 1.800.209.4488.