

BG11 Medium (modified)

Kuhl, A. & Lorenzen, H. (1964): Handling and culturing of Chlorella. - In: Preston, D.M. (ed.): *Methods of cell physiology*, Vol. 1: p. 159-187, Academic Press, London.

Rippka, R. & Herdman, H. (1992): *Pasteur Culture Collection of Cyanobacteria Catalogue & Taxonomic Handbook*. 1. Catalogue of Strains. Institut Pasteur, Paris

Stanier, R.Y., Kunisawa, R., Mandel, M. & Cohen-Bazire, G. (1974): Purification and properties of unicellular blue-green algae (order Chroococcales). - *Bacteriological Reviews* 35(2): 171-205.

For 1000 mL final culture medium add the following quantities (Volume) of stock solutions (SL) prepared at the given concentrations to 850 mL dd-H₂O. Add **one component after the other until each one has completely mixed** and finally fill up to 1000 mL.

All stock solutions should be stored unsterilised at 4 °C. Store sterile-filtered vitamin mix (SL 11) at -20 °C.

Stock Solution (SL)	Volume	Component	Concentration in SL	Conc. in final Medium
SL 1	60 mL	NaNO ₃	2.50 g · 100 mL ⁻¹	1.76 · 10 ⁻² M
SL 2	10 mL	MgSO ₄ · 7H ₂ O	0.75 g · 100 mL ⁻¹	3.04 · 10 ⁻⁴ M
SL 3	20 mL	Na ₂ CO ₃	0.10 g · 100 mL ⁻¹	1.89 · 10 ⁻⁴ M
SL 4	5.3 mL	K ₂ HPO ₄	0.75 g · 100 mL ⁻¹	2.28 · 10 ⁻⁴ M
SL 5	14 mL	CaCl ₂ · 2H ₂ O	0.25 g · 100 mL ⁻¹	2.38 · 10 ⁻⁴ M
SL 6	6 mL	citric acid	0.10 g · 100 mL ⁻¹	3.12 · 10 ⁻⁵ M
SL 7	10 mL	ferric ammonium citrate	0.06 g · 100 mL ⁻¹	2.26 · 10 ⁻⁵ M
SL 8	10 mL	Na ₂ EDTA · 2H ₂ O	0.01 g · 100 mL ⁻¹	2.69 · 10 ⁻⁶ M
micronutrient solution (from Kuhl and Lorenzen 1964)	1 mL	H ₃ BO ₃	61.0 mg · 1 L ⁻¹	9.87 · 10 ⁻⁷ M
		MnSO ₄ · H ₂ O	169.0 mg · 1 L ⁻¹	1.00 · 10 ⁻⁶ M
		ZnSO ₄ · 7H ₂ O	287.0 mg · 1 L ⁻¹	9.98 · 10 ⁻⁷ M
		CuSO ₄ · 5H ₂ O	2.5 mg · 1 L ⁻¹	1.00 · 10 ⁻⁸ M
		(NH ₄) ₆ Mo ₇ O ₂₄ · 4H ₂ O	12.5 mg · 1 L ⁻¹	1.01 · 10 ⁻⁸ M

Adjust to final pH of 8.4 and autoclave (20 min at 121 °C).

The addition a vitamin mix is advised as some algal species need one or two of the vitamins contained in the mix.

SL 11	1 mL	Vit. B ₁ (Thiamine HCl)	0.1 g · 100 mL ⁻¹	2.96 · 10 ⁻⁶ M
Vitamin mix		Vit. H (Biotin)	0.025 mg · 100 mL ⁻¹	1.02 · 10 ⁻⁹ M
		Vit. B ₁₂ (Cyanocobalamin)	0.015 mg · 100 mL ⁻¹	1.11 · 10 ⁻¹⁰ M

For storage acidify to a pH of 4.5-5.0 and autoclave, or dispense aseptically through 0.2 µm sterile filters in plastic containers (reaction vials, cryovials, polycarbonate tubes) in 1 mL aliquots and **add aseptically to prepared medium after autoclaving and cooling**. Store at -20 °C.

For stock cultures on agar slants add 1.0-1.3 % Agar (e.g. purified high strength, 1000 g · cm⁻²) to prepared medium before autoclaving.