BG-11 Medium for Freshwater Cyanobacteria

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Abstract

This medium is used successfully for most cyanobacteria. Vitamin B_{12} may be added for those species that require it. Use f/2 vitamin solution.

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Guidelines

STOCK	STOCK SOLUTION	ml/Litre
$NaNO_3$	150 g/L	10 ml
$K_2HPO_4 \cdot 3H_2O$ or $*K_2HPO_4$	40 g/L or *30 g/L	1 ml
$MgSO_4 \cdot 7H_2O$	75 g/L	1 ml
$CaCl_2 \cdot 2H_2O$	36 g/L	1 ml
Citric Acid combined with Ferric Ammonium Citrate	6 g/L	1 ml
EDTA	1 g/L	1 ml
Na_2CO_3	20 g/L	1 ml
Trace Metal Solution	See below	1 ml

Adjust pH to approximately 7.5. (Initial pH is approximately 8.5.) When making solid media, you can add agar directly to medium or make double strength medium and double strength agar solution, then after autoclaving combine the two. OPTION: 0.5 g/L of HEPES buffer can be added to the final medium as a buffer. $FeCl_3$ and EDTA added in a 1:1 ratio may be substituted.

Trace Metal Solution:

Substance	g/Litre
H_3BO_3	2.86 g
$MnCl_2 \cdot 4H_2O$	1.81 g
$ZnSO_4 \cdot 7H_2O$	0.222 g
$NaMoO_4 \cdot 5H_2O$	0.390 g
$CuSO_4 \cdot 5H_2O$	0.079 g
$Co(NO_3)_2 \cdot 6H_2O$	0.0494 g

Dissolve each of the above substances separately prior to adding the next on the list.

Rippka, R., J. Deruelles, J. Waterbury, M. Herdman and R. Stanier. 1979. Generic assignments, strain

histories and properties of pure cultures of cyanobacteria. J. Gen. Microbiol. 111: 1-61

Protocol