73816 BG11-Broth (Blue Green Medium), 100 x concentrate, sterile

Application

Universal medium for the culture and maintenance of cyanobacteria. Used for studies of the photosystems, as well as to identify the primary targets of the photoprocess.

Composition (as prepared medium):

Ingredients	mg/l
Sodium nitrate	1500.0
Dipotassium hydrogen phosphate	31.4
Magnesium sulphate	36.0
Calcium chloride dihydrate	36.7
Sodium carbonate	20.0
Disodium magnesium EDTA	1.0
Citric acid	5.6
Ferric ammonium citrate	6.0

Store below 8°C, protected from direct light.

Directions

Dissolve the medium 1:100 with sterile water. It is recommended to adjust pH, under aseptic conditions, with 1M NaOH to 7.1. Add the desired sterilised trace element solution.

Typically used trace element solutions:

Trace metal mix A5+Co (Cat. No. 92949)

Ingredients	per Liter
H_3BO_3	2.86 g
$MnCl_2 \times 4H_2O$	1.81 g
$ZnSO_4 \times 7H_2O$	0.222 g
$Na_2 MoO_4 \times 2H_2O$	0.39 g
$CuSO_4 \times 5H_2O$	0.079 g
$Co(NO_3)_2 \times 6H_2O$	0.049 g

in distilled water

1 mL is used for 1 L media

Micronutrient solution (from Kuhl and Lorenzen 1964)

Ingredients	per Liter
H_3BO_3	61.0 mg
$MnSO_4 \times H_2O$	169.0 mg
$ZnSO_4 \times 7H_2O$	287.0 mg
$CuSO_4 \times 5 H_2O$	2.5 mg
$(NH_4)_6Mo_7O_{24} \times 4H_2O$	12.5 mg

in distilled water

1 mL is used for 1 L media

For marine species prepare additionally to trace metal mix A5+Co a solution of 10 g/L sodium chloride and 1 µg/L vitamin B_{12} (Cat. No. 95190). Add 20 ml of this solution (sterile-filtered) to 1 litre medium.

The cyanobacteria imperatively need light but the light-source should not be too strong. E.g. direct exposure to the sun will destroy them, but exposure to horticultural neon over 24 hours a day seems to be a good condition. If the light is a too strong it is possible to place greaseproof paper over the cultures. They proliferate well at the normal room temperature (~20°C).

References:
1. M.M. Allen, R.Y. Steiner, J. Gen. Microbiol. 51, 203 (1968)
2. P.R. Chitnis, et al., J. Biol. Chem. 266, 20146 (1991)
3. C. Lehel, et al, J. Biol. Chem. 268, 1799 (1993)
4. R.Y. Stanier, R. Kunisawa, M. Mandel, & Cohen-Bazire, G. Bacteriol. Rev. 35: 171-205 (1971)

Precautions and Disclaimer
This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.