

2016-07-14

BW Medium

by MZCH

Composition of BW Medium.

	stock solutions (1 L)		volume of stock for 1 L nutrient solution [mL]	final concentration [mmol/L]
	[mmol/L]	[g/L]		
KNO₃	1000	101.11	2	2
MgSO₄·7H₂O	81	20	2	0.16
K₂HPO₄	57.4	10	1	0.057
micronutrient solution¹			5	
soil extract²			30	
vitamin solution³			0.025	
North Sea water			455	
ddH₂O⁴			504.975	

Adjust pH to 5.6.

¹micronutrient solution stock (200x, 1 L):

	stock [mmol/L]	stock [g/L]
Co(NO₃)₂·6H₂O	0.0034	0.001
CuSO₄·5H₂O	0.00002	0.000005
FeSO₄·7H₂O	25.18	7
H₃BO₃	0.16	0.01
MnSO₄·4H₂O	0.009	0.002
Na₂MoO₄·2H₂O	0.004	0.001
EDTA (Titrplex®II)	1.37	0.4
Na₂EDTA·2H₂O (Titrplex®III)	10.75	4
ZnSO₄·7H₂O	0.0035	0.001
ddH₂O⁴, ad 1 L		

²preparation of soil extract:

Weigh 50 g of unfertilized acre soil in a 1 L Erlenmeyer flask. Add 625 mL of dest. H₂O. Heat the soil solution and keep at 100 °C for 5 minutes. Place a piece of pleated filter paper on top of a second 1 L Erlenmeyer flask and fill a spatula tip of CaCO₃ on the filter. Filter the soil extract (if necessary overnight) and then stir for 15 min. The extract is then centrifuged for 15 minutes at 2500 g and 20 °C. Transfer and aliquot the supernatant into 50 mL Falcon tubes.

Store at -20 °C.

The volume of the added soil extract should be adapted to the nutrient requirements of the cultured strains.

³vitamin solution stock:

Add 20 mg cyanocobalamin (B12) to 100 ml of ddH₂O⁴. Then add 25 µl of the vitamin solution to the autoclaved and cooled-down medium via sterile filtration.

⁴ddH₂O double distilled water

Another example for brackish water medium is published as MKN medium in :

Watanabe, M.M. & Nozaki, H. (1994) NIES-Collection. List of strains, microalgae and protozoa 4, pp. 127. The National Institute for Environmental Studies, Japan.

See also NIES website

Microbial Culture Collection at the NIES, Japan <http://mcc.nies.go.jp/>