Jun 12, 2019

K and K+Si medium

Roscoff Culture Collection[1]

[1]CNRS-Sorbonne Université, Station Biologique, Place G. Tessier 29680 Roscoff FRANCE

Working dx.doi.org/10.17504/protocols.io.s34egqw

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Daniel Vaulot
Station Biologique, Roscoff, France

ABSTRACT

Medium to grow most phytoplankton species in small eukaryotes (Mamiellophyceae, Pelagophyceae etc...).
When using for diatoms and coccolithophorids add silica (Si).

Reference

Keller, M.D., Selvin, R.C., Claus, W. & Guillard, R.R.L. 1987. Media for the culture of oceanic ultraphytoplankton. J. Phycol. 23:633–8.

1 Filter 1L of old seawater of at least two months on prefilter and filter 0,2 microns

2 Heat seawater during 20min at 100°C

3 Under hood, to seawater, add these nutriments that have been autoclaved (excepted vitamin) :

Quantity	*Compound*	*Stock Solution*
1.0 mL	Sodium Nitrate ($NaNO_3$)	75.0 g/L of H_2O
1.0 mL	Ammonium Chloride (NH_4Cl)	2.68 g/L of H_2O
1.0 mL	Na2-Glycérophosphate ($C_3H_7O_6PNa_2$, 5 à 6 H_2O)	3.06 g/L of H_2O
1.0 mL	TRIS-Base (pH7.2)	121.1g/L of H_2O
1.0 mL	K Trace Metal Solution	(see recipe below)
0.1 mL	f/2 Vitamin Solution	(see recipe below)
For K+Si	**Add**	
1.0 mL	Sodium Metasilicate Nonahydrate ($Na_2SiO_3.9H_2O$)	30 g/L of H_2O

4 Filter the medium on 0.2 µm.

5 **K Trace Metal Solution**

- To 900 mL of H_2O add :

Quantity	*Compound*	*Stock Solution*
41,6g	EDTA Disodium Salt Dihydrate ($Na_2EDTA.2H_2O$)	
3,15g	Hexahydrated ferric chloride ($FeCl_3.6H_2O$)	1,5 cc (liquide)
1.0 ml	Sodium Molybdate Dihydrate ($Na_2MoO_4.2H_2O$)	6,3 g/L of H_2O
1.0 ml	Zinc Sulfate Heptahydrate ($ZnSO_4.7H_2O$)	22.0g/L of H_2O
1.0 ml	Cobalt Chloride Hexahydrate ($CoCl_2.6H_2O$)	10.0g/L of H_2O
1.0 ml	Manganese (II) chloride, tetrahydrate ($MnCl_2.4H_2O$)	180.0g/L of H_2O
1.0 ml	Copper(II) sulfate pentahydrate (Cu $SO_4.5H_2O$)	4.9g/L of H_2O
1.0 ml	Selenous acid (H_2SeO_3)	1,29g/L of H_2O

- Make final volume up to 1.0L using H2O. Heat to dissolve

6 f/2 Vitamin solution

- In 100mL of distilled water, dissolve 0,05g of biotin (vit. H) and 0,05g of cyanocobalamin (vit. B_{12}) = solution A
- In 0,5mL of solution A, add 0,05g of thiamine HCl (vit. B_1) and complete final volume to 50mL of distilled water
- Filter sterilize on Millipore 0,22µm
- Store in refrigerator or freezer