



## K and K+Si medium

Roscoff Culture Collection<sup>1</sup>

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### 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.

### BEFORE STARTING

Please refer to our general recommendations to grow cultures :

<https://www.protocols.io/private/A48906DC1374AD6281495CB86A8F092F>

- 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 <sub>3</sub> )	75.0 g/L of H <sub>2</sub> O
1.0 mL	Ammonium Chloride (NH <sub>4</sub> Cl)	2.68 g/L of H <sub>2</sub> O
1.0 mL	Na <sub>2</sub> -Glycérophosphate (C <sub>3</sub> H <sub>7</sub> O <sub>6</sub> PNa <sub>2</sub> , 5 à 6 H <sub>2</sub> O)	3.06 g/L of H <sub>2</sub> O
1.0 mL	TRIS-Base (pH7.2)	121.1g/L of H <sub>2</sub> O
1.0 mL	K Trace Metal Solution	(see recipe below)
0.1 mL	f/2 Vitamin Solution	(see recipe below)
<b>For K+Si</b>	<b>Add</b>	
1.0 mL	Sodium Metasilicate Nonahydrate (Na <sub>2</sub> SiO <sub>3</sub> .9H <sub>2</sub> O)	30 g/L of H <sub>2</sub> O

- 4 Filter the medium on 0.2 µm.

### 5 K Trace Metal Solution

- To 900 mL of H<sub>2</sub>O add :

Quantity	Compound	Stock Solution
41,6g	EDTA Disodium Salt Dihydrate (Na <sub>2</sub> EDTA.2H <sub>2</sub> O)	
3,15g	Hexahydrated ferric chloride (FeCl <sub>3</sub> .6H <sub>2</sub> O)	1,5 cc (liquide)
1.0 ml	Sodium Molybdate Dihydrate (Na <sub>2</sub> MoO <sub>4</sub> .2H <sub>2</sub> O)	6,3 g/L of H <sub>2</sub> O
1.0 ml	Zinc Sulfate Heptahydrate (ZnSO <sub>4</sub> .7H <sub>2</sub> O)	22.0g/L of H <sub>2</sub> O
1.0 ml	Cobalt Chloride Hexahydrate (CoCl <sub>2</sub> .6H <sub>2</sub> O)	10.0g/L of H <sub>2</sub> O
1.0 ml	Manganese (II) chloride, tetrahydrate (MnCl <sub>2</sub> .4H <sub>2</sub> O)	180.0g/L of H <sub>2</sub> O
1.0 ml	Copper(II) sulfate pentahydrate (Cu SO <sub>4</sub> .5H <sub>2</sub> O)	4.9g/L of H <sub>2</sub> O
1.0 ml	Selenous acid (H <sub>2</sub> SeO <sub>3</sub> )	1,29g/L of H <sub>2</sub> O

- Make final volume up to 1.0L using H<sub>2</sub>O. 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<sub>12</sub>) = solution A
- In 0,5mL of solution A, add 0,05g of thiamine HCl (vit. B<sub>1</sub>) and complete final volume to 50mL of distilled water
- Filter sterilize on Millipore 0,22µm
- Store in refrigerator or freezer