**Microalgae Cultivation**

**List of equipment**

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| A. Cell isolation | | |
|  | 96-well plate (sterilized) | 1 |
|  | 48-well plate (sterilized) | 1 |
|  | Plankton net (10µm) | 1 |

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| B. Culture maintenance | | |
|  | Centrifuge tubes (50 mL) | 1 pack |
|  | Container (conical flask or fish tank) | 1 |
|  | Plastic/ glass bottle 1L (autoclavable) | 1 |
|  | 100 – 1000 µL pipette and pipette tips | 1 set |
|  | 20 – 200 µL pipette and pipette tips | 1 set |
|  | 0.5 – 10 µL pipette and pipette tips | 1 set |
|  | 0.22 µm springe filter and syringe | 9 sets |
|  | Growth chamber (if available) | 1 |
|  | pH meter (if available) | 1 |
|  | Biosafety cabinet (if available)/ Bunsen burner with heat-proof mat | 1 |
|  | Autoclave and Autoclave tape (if available) | 1 |

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| C. Algae observation | | |
|  | Cell counting chamber/ Hemocytometer | 1 |
|  | Glass slide and cover slide | 1 box |
|  | Microscope | 1 |

**Microalgae cultivation medium**

BG-11 for freshwater microalgae

Please refer to the following webpage for the preparation steps of BG-11 medium <https://utex.org/products/bg-11-medium>

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| # | Component | Amount | Stock Solution Concentration | Final Concentration |
| 1 | NaNO3 | 10 mL/L | 30 g/200 mL dH2O | 17.6 mM |
| 2 | K2HPO4 | 10 mL/L | 0.8 g/200 mL dH2O | 0.23 mM |
| 3 | MgSO4•7H2O | 10 mL/L | 1.5 g/200 mL dH2O | 0.3 mM |
| 4 | CaCl2•2H2O | 10 mL/L | 0.72 g/200 mL dH2O | 0.24 mM |
| 5 | Citric Acid•H2O | 10 mL/L | 0.12 g/200 mL dH2O | 0.031 mM |
| 6 | Ferric Ammonium Citrate | 10 mL/L | 0.12 g/200 mL dH2O | 0.021 mM |
| 7 | Na2EDTA•2H2O | 10 mL/L | 0.02 g/200 mL dH2O | 0.0027 mM |
| 8 | Na2CO3 | 10 mL/L | 0.4 g/200 mL dH2O | 0.19 mM |
| 9 | BG-11 Trace Metals Solution | 1 mL/L |  |  |
| 10 | Na2S2O3 · 5H2O (agar media only, sterile) | 1 mL/L | 49.8 g/200 mL dH2O | 1 mM |

BG-11 Trace Metals Solution Recipe (1 L)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| # | Component | Amount | Stock Solution Concentration | Final Concentration |
| 1 | H3BO3 | 2.86 g/L |  | 46 mM |
| 2 | MnCl2**•**4H2O | 1.81 g/L |  | 9 mM |
| 3 | ZnSO4**•**7H2O | 0.22 g/L |  | 0.77 mM |
| 4 | Na2MoO4**•**2H2O | 0.39 g/L |  | 1.6 mM |
| 5 | CuSO4**•**5H2O | 0.079 g/L |  | 0.3 mM |
| 6 | Co(NO3)2**•**6H2O | 49.4 mg/L |  | 0.17 mM |