Bristol's Modified Medium

Kristel Sanchez[1]

[1]University of Michigan - Ann Arbor

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Duffy Lab, EEB, University of Michigan

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Kristel Sanchez 2022. Bristol's Modified Medium. **protocols.io** https://protocols.io/view/bristol-s-modified-medium-b5mqq45w

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Bristol's Modified Medium

Author: Kristel Sánchez

This recipe is based on Flinn Scientific, Inc Bristol's Modified Medium (BMM) recipe.

Summary

This recipe is used to culture algae of the genus *Ulothrix* in the lab. However, in can be used to grow other organisms such as cyanobacteria, chrysophyta, euglenophyta and other green algae.

Materials

A	B	C
Apparatus & Equipment	**Labware**	**Reagents**
Autoclave	500 mL polyethylene bottles	Sodium nitrate, NaNO3
Aluminum foil	Graduated cylinder	Calcium chloride, CaCl2•2H2O
Autoclave tape	500 mL beakers	Magnesium Sulfate, MgSO4•7H2O
Analytical balance	Stirring magnet	Potassium phosphate dibasic, K2HPO4
Weight boats or paper	5L glass aspirator bottle	Potassium phosphate monobasic, KH2PO4
	Rubber cap for 5L	Sodium chloride, NaCl
	Rubber hose	UTEX GR+/NH4 Medium soil water
	spatula	Iron (III) chloride, FeCl3

Primary Stock Solutions

These solutions are prepared by dissolving the prescribed amount of chemical into 400mL of MilliQ water. Store these solutions in polyethylene bottles at 4°C.

A	B	C	D
Compound	**Symbol**	**Grams (g)**	**Final concentration mg/L**
Sodium nitrate	**NaNO3**	10	0.025
Calcium chloride	**CaCl2•2H2O**	1	0.0025
Magnesium sulfate	**MgSO4•7H2O**	3	0.0075
Potassium phosphate dibasic	**K2HPO4**	3	0.0075
Potassium phosphate monobasic	**KH2PO4**	7	0.0175
Sodium chloride	**NaCl**	1	0.0025

1% Iron chloride solution

Combine 1g of iron (III) chloride in 100mL of MilliQ water. Store in polyethylene bottle at 4°C.

Final solution

Obtain an aspirator bottle that has a rubber hose and clamp already attached to it and add 1000 mL of

MilliQ water. Next, add 50 mL of each primary stock solution into the aspirator media culture bottle. Add five drops of 1% iron (III) chloride solution and 200mL of soil water. Fill the bottler until the 5L mark with MilliQ water. Place the rubber stopper laterally (so it does not completely plug the top opening of the aspirator bottle) and completely cover the top with aluminum foil. Cover the end of the rubber hose with aluminum foil (or connect it to the second aspirator bottle if setting up a new culture).Autoclave the mixture by selecting program number 2 in the autoclaves found in the 4 or 5^{th}floor of the BSB building (or at 121 °C for 15 min). Once autoclave program has run, remove the bottles carefully from autoclave using the autoclave gloves. Let the liquid and bottles to cool down before using.