

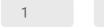


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# Bristol's Modified Medium

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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.

| Kristel Sanchez 2022. Bristol's Modified Medium. <b>protocols.io</b> 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** 



| Α                     | В                   | С                         |
|-----------------------|---------------------|---------------------------|
| Apparatus &           | Labware             | Reagents                  |
| Equipment             |                     |                           |
| Autoclave             | 500 mL polyethylene | Sodium nitrate, NaNO3     |
|                       | bottles             |                           |
| Aluminum foil         | Graduated           | Calcium                   |
|                       | cylinder            | chloride, CaCl2•2H2O      |
| Autoclave tape        | 500 mL beakers      | Magnesium Sulfate,        |
|                       |                     | MgS04•7H20                |
| Analytical balance    | Stirring            | Potassium                 |
|                       | magnet              | phosphate dibasic, K2HPO4 |
| Weight boats or paper | 5L glass aspirator  | Potassium phosphate       |
|                       | bottle              | monobasic, KH2PO4         |
|                       | Rubber cap          | Sodium                    |
|                       | for 5L              | 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.

| Α                                   | В          | С         | D                        |
|-------------------------------------|------------|-----------|--------------------------|
| Compound                            | Symbol     | Grams (g) | Final concentration mg/L |
| Sodium nitrate                      | NaNO3      | 10        | 0.025                    |
| Calcium chloride                    | CaCl2·2H2O | 1         | 0.0025                   |
| Magnesium<br>sulfate                | MgSO4•7H2O | 3         | 0.0075                   |
| Potassium<br>phosphate<br>dibasic   | K2HP04     | 3         | 0.0075                   |
| Potassium<br>phosphate<br>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<sup>th</sup>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.