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Preparation of aqueous extracts of plants

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ABSTRACT

Aqueous extracts of plants are a simple, economical and eco-friendly alternative to use as a source of antifungal activity. Here is a protocol for extracting any type of plant material (leaves) with water using a simple blender to grind the dried leaves with water and then a series of centrifuges to eliminate the solid waste, finally a series of filtrations to have an aqueous extract sterile. This aqueous extract can be stored at 4 ° C and depending on the plant the activity can be maintained for a fixed period of time. After this process the aqueous extract is ready to be used in bioassays of antifungal activity.

GUIDELINES

- 1.- Falcon tubes are reused (clean)
- 2.- Eppendorf tubes are reused (clean)
- 3.- Filter holder (swinnex)
- 4.- Durapore, Membrane filters from Millipore (25 mm)
  - 0.65 µm DV
  - 0.45 µm HV
  - 0.22 µm GV
- 5.- Stove with 50 ° C temperature capacity

MATERIALS

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Water refers to sterilized deionized water **Contributed by users**

SAFETY WARNINGS

Carry out all the steps without stopping

OPEN ACCESS

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BEFORE START INSTRUCTIONS

Last Modified: Mar 28, 2019

Sterilize: water, filter holder (swinnex) prepared with the 0.22 µm GV

PROTOCOL integer ID:
15126

Keywords: Plant fungi, dried
leaves, extract activity

Aqueous extract preparation from leaves

- 1 -Collection and preparation of leaves for drying
  1. Collect fresh leaves from the field
  2. In the lab wash them with tap water
  3. Remove excess water with a kitchen centrifuge
- 2 -Drying of leaves
  1. Distribute the leaves in cardboard boxes
  2. Put them at 50 °C in a stove for 2 -3 days
  3. Store them in plastic bags until use
- 3
  1. Blend in a laboratory blender at the maximum speed
    - 10 g dry leaves
    - 00:01:30 every 30 sec stir with a spatula
- 4
  2. Add
    - 100 mL sterile distilled water
    - 00:01:30 mix everything
- 5
  3. Pour the mixture into 50 mL falcon tubes and centrifuge
    - 00:30:00 at 3220 g
    - 20 °C
- 6
  4. Take the supernatant and pour it into a container, take 1800 µL in 2 mL eppendorf tubes, use the necessary tubes
  5. centrifuge
    - 00:30:00 at 20817 g, room temperature
- 7
  6. Take the supernatant of all the tubes and pour it into a container

7. Filter the aqueous extract with the membrane of 0.65 μm contained in a swinnex
8. Take the previous filtering and filter it with the membrane of 0.45 μm contained in a swinnex

- 8** 9. In a laminar flow hood, sterilize the aqueous extract by filtration using a membrane of 0.22 μm contained in a swinnex
10. Store the aqueous extract in a sterile 50 mL falcon tube in the dark at 4 ° C until its use.