Chu’s Medium No. 10

M697

Intended Use:

Recommended for culturing Blue-Green algae.

Composition**

Ingredients	Milligrams / Litre
Calcium nitrate	40.000
Magnesium sulphate	25.000
Dipotassium hydrogen phosphate	5.000
Sodium carbonate	20.000
Sodium silicate	25.000
Iron (II) chloride	8.000

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 123 mg in 1000 ml purified / distilled water. Heat if necessary to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C. Mix well and dispense as desired.

Principle And Interpretation

Soil algae are ubiquitous in nature wherever moisture and sunlight are available. They are visible to the unaided eye in the form of a green slum on the surfaces of soils. Morphologically, they may be unicellular or filamentous and belong to the families Chlorophyceae (green algae) and Cyanophyceae (blue-green algae) (4)

Cyanobacteria is a phylum (or “division”) of bacteria that obtain their energy through photosynthesis. They are often still referred to as blue-green algae, although they are in fact prokaryotes like bacteria. They are a major primary producer of the planetary ocean. They are found in almost every conceivable habitat, from oceans to fresh water to bare rock to soil. Chu's Medium No. 10 is formulated as per Chu for cultivation of blue green algae (1).

Calcium nitrate serves as inorganic nitrogen source and other inorganic salts supply the necessary growth requirements.

Type of specimen

Soil from weed samples from aquatic environment.

Specimen Collection and Handling:

For soil from weed samples from aquatic environment, follow appropriate techniques for sample collection, processing as per guidelines and local standards.(4)

After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions :

Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/ face protection Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations :

1.Due to nutritional variations certain strains may show poor growth.

Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

Quality Control

Appearance
White to light yellow homogeneous free flowing powder

Colour and Clarity of prepared medium
Colourless clear solution

Cultural Response
Cultural characteristics observed under tungsten lamp, after an incubation at 25-30°C for 10-15 days.

Organism	Growth
Anabena cylindrica	good
Anacystis nidulans ATCC 27344	good
Plectonema boryanum ATCC 18200	good

Storage and Shelf Life

Store between 10-30°C in a tightly closed container and the prepared medium at 15-25°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to prevent lump formation due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use.
Product performance is best if used within stated expiry period.

Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with sample must be decontaminated and disposed of in accordance with current laboratory techniques (2,3).

Reference

1. Chu S. P., 1942, J. Ecol., 30, 284-325.
2. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
3. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.
4. Subba Rao N. S., 1997, Oxford and IBH Publishing Co., India.

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Disclaimer :

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