

Media for marine and brackish water microalgae

BESM

Make diluted seawater by mixing 27.5 mL seawater and 70 mL distilled water. Make ESM medium by using this diluted seawater instead of original seawater.

ESM

NaNO ₃	12 mg
K ₂ HPO ₄	0.5 mg
Vitamin B ₁₂	0.1 µg
Biotin	0.1 µg
Thiamine HCl	10 µg
Fe - EDTA	25.9 µg
Mn - EDTA	33.2 µg
Tris (hydroxymethyl) aminomethane	100 mg
Soil extract ¹⁾	2.5 mL
Seawater	97.5 mL
pH 8.0	

Add 1.5 g agar to 100 mL of medium to give a solid medium.

- 1) The amount of soil extract depends on the quality of the soil. In the NIES-Collection, soil extract was reduced from 5 mL to 2.5 mL after 2002.

Reference

Okaichi, T., Nishio, S., Imatomi, Y. 1982 Collection and mass culture [Shiryô no saisyu to baiyô]. In *Toxic phytoplankton - Occurrence, mode of action, and toxins* [Yûdoku Purankuton -Hassei, Sayôkikô, Dokuseibun], Ed. by Jpn. Fish. Soc., Kôseisyu-Kôseikaku, Tokyo, p. 22-34 (in Japanese without English title).

Soil extract

To 1000 mL distilled water add 200 mL of soil (soil from undisturbed deciduous woodland is best) and heat by autoclaving for 1 h at 105°C. When cool, heat by autoclaving for 1 h at 105°C again. Pass the supernatant through a GF/C filter and Celite, and then pass the filtrate through a GF/F filter. Adjust to 1000 mL by adding distilled water. Dispense 10 mL of the final filtrate into each test tube and sterilize by autoclaving for 20 min at 121°C. Keep in a cool place.

Reference

Provasoli, L., McLaughlin, J. J. A., Droop, M. R. 1957 The development of artificial media for marine algae. *Arch. Mikrobiol.*, **25**, 392-428.