

E31:ANT

Medium

1:1 mixture

See separate recipes. Autoclave separately. Mix aseptically when cool.

E31 (E31 Medium)

Marine algae

Medium

This medium is made up in 2 parts which are autoclaved separately at 15 psi and mixed aseptically (1:1), when cool. This avoids precipitation.

Part 1	for 1 litre final medium
Soil extract (SE1 - see recipe overleaf)	50.0 ml
KNO ₃	0.1 g
K ₂ HPO ₄	0.01 g
MgSO ₄ .7H ₂ O	0.01 g
Cyanocobalamin (Vitamin B ₁₂)	100.0 ng
Thiamine HCl (Vitamin B ₁)	50.0 µg
Biotin	100.0 ng

Make up to 500 ml with distilled water.

Part 2

Filtered natural seawater *	500.0 ml
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* Alternatively, use 17.5g of "Ultramarine Synthetica" sea salts** in 500ml of distilled water

Supply

** Waterlife Research Industries Ltd., 476 Bath Road, Longford West Drayton, Middlesex, England, UB7 OED. Tel (01753) 685696

SE1 (Soil Extract1)

Used in media for marine algae

Preparing the soil

Site selection for a good soil is very important and for most purposes a soil from undisturbed deciduous woodland is best. Sites to avoid are those showing obvious signs of man's activity and particular care should be taken to avoid areas where fertilizers, crop sprays or other toxic chemicals may have been used.

A rich loam with good crumb structure should be sought. Stones, roots and larger invertebrates should be removed during an initial sieving through a 1 cm mesh. The sieved soil should be spread to air dry and hand picked for smaller invertebrates and roots. It should be turned periodically and picked over again. When dry it may be sieved through a finer mesh (2-4 mm) or stored as it is prior to use.

Medium

Soil is prepared as above. Air-dried soil and twice its volume of supernatant distilled water are autoclaved together at 15 psi for 2 hours and left to cool. The supernatant is then decanted and filtered through Whatman No 1 filter paper, then distributed to containers in volumes suitable for making up batches of media. The aliquots and their containers are autoclaved for an appropriate length of time (e.g. 1 litre or less for 15 minutes) and are then kept in a cool place (e.g. a refrigerator) until required.

ANT (Antia's Media)

Stock	per 1000 cm³
(1) Trace metals stock solution (chelated):	
EDTA.Na ₂ .2H ₂ O	3.24 g
FeCl ₃ .6H ₂ O	1.08 g
MnSO ₄ .4H ₂ O	0.450 g
ZnSO ₄ .7H ₂ O	0.230 g
Na ₂ MoO ₄ .2H ₂ O	0.097 g
CuSO ₄ .5H ₂ O	0.01 g
CoSO ₄ .7H ₂ O	0.0056 g

Make up to 1 litre with distilled water and adjust pH to 7.6 - 7.8 with dilute HCl or NaOH. Store frozen.

Medium	per 1000 cm³
KNO ₃	0.05 g
NaH ₂ PO ₄ .2H ₂ O	0.0078 g
Tris [tris(hydroxymethyl)aminomethane]	1.0 g
Glycine	0.3 g
Trace metals stock solution (chelated) (1)	2.5 ml
Thiamine HCl	500.0 µg
Cyanocobalamin (Vitamin B ₁₂)	2.0 µg
Biotin	1.0 µg
Filtered natural seawater	800.0 ml

Make up to 1 litre with distilled water and autoclave at 15 psi. Final pH should be 7.6 - 7.8.

References

- Antia NJ & Kalmakoff J (1965) Fish. Res. Bd Can., Manuscr. Rep. Ser. (Oceanogr. Limnol.) No. 203
 Antia NJ, Cheng JY & Taylor FJR (1969) Proc. Int. Seaweed Symp. **6**, 17-29