

2016-07-14

ESTpH4 Medium

Pers. comm. Mix
Modified by MZCH

Composition of ESTpH4 Medium.

	stock solutions (1 L)		volume of stock for 1 L nutrient solution	final concentration
	[mmol/L]	[g/L]	[mL]	[mmol/L]
KNO ₃	1000	101.11	2	2
CaCl ₂ ·6H ₂ O	22.82	5	0.1	0.002
FeCl ₃	6.16	1	1.5	0.009
MgSO ₄ ·7H ₂ O	40.57	10	1	0.04
(NH ₄) ₂ HPO ₄	151.45	20	2	0.303
Na ₂ EDTA·2H ₂ O (Titriplex® III)	26.86	10	1	0.027
micronutrient solution ¹			2.5	
soil extract ²			100	
NP-H ₂ O ³			889.9	
Adjust pH to 4				

¹micronutrient solution stock (400x, 1 L)

	stock [mmol/L]	stock [g/L]
CuSO ₄ ·5H ₂ O	0.016	0.004
Co(NO ₃) ₂ ·6H ₂ O	0.137	0.04
H ₃ BO ₃	6.47	0.4
MnSO ₄ ·4H ₂ O	0.36	0.08
Na ₂ MoO ₄ ·2H ₂ O	0.165	0.04
ZnSO ₄ ·7H ₂ O	1.39	0.4
ddH ₂ O ⁴ , ad 1 L		

²preparation of soil extract:

Weigh 50 g of beech forest soil in a 1 L Erlenmeyer flask. Add 625 mL of dest. H₂O. Heat the

soil solution and keep at 100 °C for 5 minutes. Place a piece of pleated filter paper on top of a second 1 L Erlenmeyer flask and fill a spatula tip of CaCO_3 on the filter. Filter the soil extract (if necessary overnight) and then stir for 15 min. The extract is then centrifuged for 15 minutes at 2500 g and 20 °C. Transfer and aliquot the supernatant into 50 mL Falcon tubes. Store at -20°C.

The volume of the added soil extract should be adapted to the nutrient requirements of the cultured strains.

³NP-H₂O nanopure water, Purelab Pulse (ELGA Lab water, Celle, Germany)

⁴ddH₂O double distilled water

Reference

Pers. Comm. Marianne Mix (Univ. Hamburg).