

2016-07-14

ESTdark0.5 Medium

Pers. comm. Mix
Modified by MZCH

Composition of ESTdark0.5 Medium.

	stock solutions (1 L)		volume of stock for 1 L nutrient solution [mL]	final concentration [mmol/L]
	[mmol/L]	[g/L]		
KNO_3	1000	101.11	1	1
$\text{CaCl}_2 \cdot 6\text{H}_2\text{O}$	22.82	5	0.05	0.001
FeCl_3	6.16	1	0.75	0.0045
$\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$	40.57	10	0.5	0.02
$(\text{NH}_4)_2\text{HPO}_4$	151.45	20	1	0.150
$\text{Na}_2\text{EDTA} \cdot 2\text{H}_2\text{O}$ (Titrplex® III) micronutrient solution ¹	26.86	10	0.5 2.5	0.0135
soil extract ²			150	
$\text{NP-H}_2\text{O}$ ³			843.7	

Adjust pH to 6.

¹micronutrient solution stock (400x, 1 L)

	stock [mmol/L]	stock [g/L]
$\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$	0.016	0.004
$\text{Co}(\text{NO}_3)_2 \cdot 6\text{H}_2\text{O}$	0.137	0.04
H_3BO_3	6.47	0.4
$\text{MnSO}_4 \cdot 4\text{H}_2\text{O}$	0.36	0.08
$\text{Na}_2\text{MoO}_4 \cdot 2\text{H}_2\text{O}$	0.165	0.04
$\text{ZnSO}_4 \cdot 7\text{H}_2\text{O}$	1.39	0.4
ddH_2O 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. H_2O . 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 CaCO₃ 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).