2016-07-14

EST Medium

Pers. comm. Mix
Modified by MZCH

Composition of EST 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
$CaCl_2 \cdot 6H_2O$	22.82	5	0.1	0.002
$FeCl_3$	6.16	1	1.5	0.009
$MgSO_4 \cdot 7H_2O$	40.57	10	1	0.04
$(NH_4)_2HPO_4$	151.45	20	2	0.303
$Na_2EDTA \cdot 2H_2O$ (Titriplex® III)	26.86	10	1	0.027
micronutrient solution[1]			2.5	
soil extract[2]			100	
NP-H_2O[3]			889.9	

Adjust **pH** to **6**.

[1]**micronutrient solution stock** (400x, 1 L)

	stock [mmol/L]	stock [g/L]
$CuSO_4 \cdot 5H_2O$	0.016	0.004
$Co(NO_3)_2 \cdot 6H_2O$	0.137	0.04
H_3BO_3	6.47	0.4
$MnSO_4 \cdot 4H_2O$	0.36	0.08
$Na_2MoO_4 \cdot 2H_2O$	0.165	0.04
$ZnSO_4 \cdot 7H_2O$	1.39	0.4
ddH_2O[4], ad 1 L		

[2]preparation 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 $CaCO_3$ 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.

[3]NP-H_2O nanopure water, Purelab Pulse (ELGA Lab water, Celle, Germany)

[4]ddH_2O double distilled water

Reference

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