

Table S1. Stock solutions preparation.

No	Chemicals	Amount	Storage	For 1 L media
BH3 Macronutrient			4 °C	20 ml
1	KCl	37.5 g/L		
2	MgSO ₄ ·7H ₂ O	9.25 g/L		
3	KH ₂ PO ₄	3.75 g/L		
4	K ₂ HPO ₄	0.5 g/L		
MT Macronutrient			4 °C	1 L media
1	KNO ₃	5.937 g/L		320 ml
2	NH ₄ NO ₃	5.156 g/L		
3	MgSO ₄ ·7H ₂ O	1.156 g/L		
4	KH ₂ PO ₄	0.469 g/L		
5	K ₂ HPO ₄	0.063 g/L		
MT Micronutrient			4 °C	1 L media
1	H ₃ BO ₃	1.24 g/L		5 ml
2	MnSO ₄ ·H ₂ O	3.36 g/L		
3	ZnSO ₄ ·7H ₂ O	1.72 g/L		
4	KI	0.166 g/L		
5	Na ₂ MoO ₄ ·2H ₂ O	0.05 g/L		
6	CuSO ₄ ·5H ₂ O	0.005 g/L		
7	CoCl ₂ ·6H ₂ O	0.005 g/L		
MT vitamin stock			4 °C	1 L media
1	Myoinositol	5 g/L		20 ml
2	Thiamine-HCl	0.5 g/L		
3	Pyridoxine-HCl	0.5 g/L		
4	Nicotinic acid	0.250 g/L		
5	Glycine	0.1 g/L		
MT calcium stock			4 °C	1 L media
1	CaCl ₂ ·2H ₂ O	29.33 g/L		15 ml
MT iron stock			4 °C	1 L media
1	Na ₂ EDTA	7.45 g/L		5 ml
2	FeSO ₄ ·7H ₂ O	5.57 g/L		
Kinetin (KIN)			4 °C	1 L media
1	Kinetin (KIN)	0.5 mg/mL		10 ml

Table S2. Media preparation

Media	Preparation steps
Embryonic callus induction media	1. EME– sucrose 0.15 M semisolid medium supplemented with Acetosyringone: 320 mL/L MT macronutrient stock, 5 mL/L MT micronutrient stock, 20 mL/L MT vitamin stock, 15 mL/L MT calcium stock, 5 mL/L MT iron stock, 50 g/L sucrose, 0.5 g/L malt extract, 8 g/L agar, pH 5.8; autoclave medium, add 1 mL/L acetosyringone stock solution to partially cooled medium and pour into 100 × 20 mm petri dishes, 35 mL per dish. 2. DOG semisolid medium: Same as EME 0.15 M semisolid medium plus 5 mg/L kinetin (5 mL kinetin stock solution); autoclave medium and pour into 100 × 20 mm petri dishes, 35 mL per dish. 3. H+H semisolid medium: 160 mL/L MT macronutrient stock, 20 mL/L BH3 macronutrient stock, 5 mL/L MT micronutrient stock, 20 mL/L MT vitamin stock, 15 mL/L MT calcium stock, 5 mL/L MT iron stock, 50 g/L sucrose, 0.5 g/L malt extract, 1.55 g/L glutamine, 8 g/L agar, pH 5.8; autoclave medium and pour into 100 × 20 mm petri dishes, 35 mL per dish.
Suspension cell culture maintenance media	H+H liquid medium: 160 mL/L MT macronutrient stock, 20 mL/L BH3 macronutrient stock, 5 mL/L MT micronutrient stock, 20 mL/L MT vitamin stock, 15 mL/L MT calcium stock, 5 mL/L MT iron stock, 35 g/L sucrose, 0.5 g/L malt extract, 1.55 g/L glutamine, pH 5.8; pour 500 mL aliquots into 1000 mL glass Erlenmeyer flasks, autoclave and store at room temperature.
Suspension cell regeneration media	1. EME– sucrose 0.15 M liquid medium: 320 mL/L MT macronutrient stock, 5 mL/L MT micronutrient stock, 20 mL/L MT vitamin stock, 15 mL/L MT calcium stock, 5 mL/L MT iron stock, 50 g/L sucrose, 0.5 g/L malt extract. Pour into 250 mL bottles before autoclaving. 2. EME– maltose 0.15 M semisolid medium supplemented with antibiotics: 320 mL/L MT macronutrient stock, 5 mL/L MT micronutrient stock, 20 mL/L MT vitamin stock, 15 mL/L MT calcium stock, 5 mL/L MT iron stock, 50 g/L maltose, 0.5 g/L malt extract, 8 g/L agar, pH 5.8; autoclave medium, add 1 mL/L timentin, 1 mL/L cefotaxime and 500 mg/L hygromycin stock solutions to partially cooled medium, and pour into 100 × 20 mm petri dishes, 35 mL per dish. 3. EME 1500 semisolid medium supplemented with antibiotics: 320 mL/L MT macronutrient stock, 5 mL/L MT micronutrient stock, 20 mL/L MT vitamin stock, 15 mL/L MT calcium stock, 5 mL/L MT iron stock, 50 g/L sucrose, 1.5 g/L malt extract, 8 g/L agar, pH 5.8; autoclave medium, add 0.5 mL/L timentin, 0.5 mL/L cefotaxime and 500 mg/L hygromycin stock solutions to partially cooled medium, and pour into 100 × 20 mm Petri dishes, 35 mL per dish. 4. B+ semisolid medium supplemented with antibiotics: 320 mL/L MT macronutrient stock, 5 mL/L MT micronutrient stock, 20 mL/L MT vitamin stock, 15 mL/L MT calcium stock, 5 mL/L MT iron stock, 25 g/L sucrose, 20 mL/L coconut water, 14.6 mg/L coumarin (10 mL coumarin stock), 0.02 mg/L NAA (200 µl NAA stock), 1 mg/L GA 3 (add 1 mL GA 3 stock solution after medium is autoclaved and cooled to 55 °C in water bath), 8 g/L agar, pH 5.8; autoclave medium, add 0.5 mL/L timentin stock solution to partially cooled medium and pour into 100 × 20 mm petri dishes, 35 mL per dish. 5. DBA3 semisolid medium supplemented with antibiotics: 320 mL/L MT macronutrient stock, 5 mL/L MT micronutrient stock, 20 mL/L MT vitamin stock, 15 mL/L MT calcium stock, 5 mL/L MT iron stock, 25 g/L sucrose, 1.5 g/L malt extract, 20 mL/L coconut water, 0.01 mg/L 2,4-D (100 µl 2,4-D stock solution), 3 mg/L BAP (3 mL BAP stock solution); 8 g/L agar, pH 5.8; autoclave medium, add 0.5 mL/L timentin stock solution to partially cooled medium and pour into 100 × 20 mm petri dishes, 35 mL per dish. 6. RMAN medium supplemented with antibiotics: 160 mL/L MT macronutrient stock, 2.5 mL/L MT micronutrient stock, 10 mL/L MT vitamin stock, 15 mL/L MT calcium stock, 5 mL/L MT iron stock, 25 g/L sucrose, 0.5 g/L activated charcoal, 8 g/L agar, 0.02 mg/L NAA (200 µl NAA stock solution), pH 5.8; autoclave medium, add 0.5 mL/L timentin stock solution to partially cooled medium and pour into sterile Magenta GA-7 boxes, 80 mL per box.