

Materials List for:

Agrobacterium-Mediated Immature Embryo Transformation of Recalcitrant Maize Inbred Lines Using Morphogenic Genes

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Materials

Name	Company	Catalog Number	Comments
2,4-D	Millipore Sigma	D7299	
6-Benzylaminopurine (BAP)	Millipore Sigma	B3408	
Acetosyringone	Millipore Sigma	D134406	
Agar	Millipore Sigma	A7921	
Aluminum foil			To cover the flask
Ammonium Sulfate	Millipore Sigma	A4418	
Analytical balance			To weigh small quantities of chemicals
Autoclave	Primus (Omaha, NE)	PSS5-K	To autoclave media and tools
Bacterial culture loop (10 µl)	Fisher scientific	22-363-597	Collects Agrobacterium from plate to transfer to liquid
Bactoagar	BD bioscience	214030	
Beakers (1 L, 2 L, 4 L)			To mix the chemicals for media
Benomyl	Millipore Sigma	#45339	
Bleach (8.25% Sodium Hypochlorite)	Clorox		For seed sterilization
Boric Acid	Millipore Sigma	B6768	
Calcium Chloride Dihydrate	Millipore Sigma	C7902	
Carbenicillin	Millipore Sigma	C3416	
Casein Hydrolysate	Phytotech	C184	
Cefotaxime	Phytotech	C380	
Conical tube (50 mL)	Fisher scientific	06-443-19	Contain liquid medium and Agro suspension
Cuvette (Semi-micro)	Fisher scientific	14955127	To hold liquid for measuring OD
Dicamba	Phytotech	D159	
Digital hygrometer			Checking temperature and humidity for heat treatment
EDTA, Disodium Salt, Dihydrate	Millipore Sigma	324503	
Eppendorf tube (2.0 mL)	ThermoFischer Scientific	AM12475	
Eriksson's Vitamins	Phytotech	E330	1000x in liquid
Ethanol (70%)			Sterilizing tools and surfaces
Ferrous Sulfate Heptahydrate	Millipore Sigma	F8263	

Fertilizer, Osmocote Plus 15-9-12	ICL Specialty Fertilizers (Dublin, OH)	A903206	Fertilizer
Flask (2 L)	Pyrex	10-090E	To autoclave media and tools
Flats (Standard 1020, open w/ holes, 11"W x 21.37"L x 2.44"D)	Hummert International (Earth City, Mo)	11300000	Tray to hold soil and pot insert, fits Humidome
Forceps (fine-tipped and large)			Fine for handling embryos; larger for large plant materials and use as ear holders
Gentamicin	Gold Biotechnologies	G-400	
Glass bottle (1 L)	Pyrex	06-414-1D	To autoclave medium
Graduated cylinder			To adjust volume of media
Imazapyr	Millipore Sigma	37877	
Incubator, 20 °C	Percival Scientific	Model I-36NL	To grow mother plate and incubate embryos during Agro infection
Incubator, 27 °C	Percival Scientific	Model I-36NL	To grow co-cultivation plate and maize embryo culture
Incubator, 45 °C			Heat shock treatment
Insert TO Standard, pots	Hummert International (Earth City, Mo)	11030000	For transplanting plants from rooting to soil, fits flat and Humidome
Laminar flow hood			Maintains sterile conditions
L-proline	Phytotech	P698	
Magnesium Sulfate Heptahydrate	Millipore Sigma	M1880	
Maize inbred seed B73	U.S National Plant Germplasm	id=47638	
Maize inbred seed Mo17	U.S National Plant Germplasm	id=15785	
Maize inbred seed W22	U.S National Plant Germplasm	id=61755	
Manganese Sulfate Monohydrate	Millipore Sigma	M7899	
Milli-Q Water purification systems	Millipore sigma	MILLIQ	For tissue culture grade water
MS Basal Medium	Millipore Sigma	M5519	
MS Basal Salt Mixture	Millipore Sigma	M5524	
N6 Basal Salt Mixture	Millipore Sigma	C1416	
Paperclips, non-skid			Holding on tassel bags
Peptone	BD bioscience	211677	
Petri dish (100x15 mm)	Fisher scientific	FB0875713	For bacteria culture medium
Petri dish (100x25 mm)	Fisher scientific	FB0875711	For the plant tissue culture medium
pH meter	Fisher scientific	AB150	To adjust pH of media
Pipette (1 mL)	ThermoFischer Scientific	4641100N	
Plastic Boxes	The Container Store	10048430	For tissue culture storage and incubation
Plastic humidity dome (Humi-Dome)	Hummert International (Earth City, Mo)	14385100	Plastic cover for soil flat
Potassium Iodide	Millipore Sigma	793582	
Potassium Nitrate	Millipore Sigma	P8291	
Potassium Phosphate Monobasic	Millipore Sigma	P5655	
Scale			To weigh chemicals for media
Scalpel Blade (No. 11, 4 cm)	Thermo Scientific	3120030	remove the top of the kernel crowns for embryo dissection
Scalpel handle			Holding scalpel blades
Schenk & Hildebrandt Vitamin (S&H vitamin)	Phytotech	S826	100x powder

Scissors			Cutting ear shoots
Shoot bag (Canvasback- semi-transparent)	Seedburo (Des Plaines, IL)	S26	Semi-transparent bag to cover ear shoots
Silver Nitrate	Millipore Sigma	S7276	
Sodium Molybdate Dihydrate	Millipore Sigma	M1651	
Soiless substrate LC1	SunGro Horticulture (Agawam, Ma)	#521	For growing maize plants
Spatula (Double Ended Micro-Tapered)	Fischer Scientific	2140110	Dissecting embryos from kernels
Spatula (with spoon)	Fisher scientific	14-375-10	To measure chemicals for media
Spectinomycin	Millipore Sigma	S4014	
Spectrophotometer (Genesys 10S UV-Vis)	Thermo Scientific	840-300000	Measure OD of Agro suspension
Stirring bar	Fisher scientific	14-513-67	To mix media
Stirring hotplates			To mix media
Syringe (without needle, 60 mL)	Fisher scientific	14-823-43	For filter sterilization
Syringe filter (0.22 µm)	Fisher scientific	09-720-004	For filter sterilization
Tassel bag (Canvasback- brown)	Seedburo (Des Plaines, IL)	T514	Bag to cover tassels of non-transgenic plants
Tassel bag (Canvasback-green stripe)	Seedburo (Des Plaines, IL)	T514G	Bag to cover tassels of transgenic plants
Thiamine HCl	Phytotech	T390	
Thidiazuron	Phytotech	T888	
Thymidine	Millipore Sigma	T1895	
Timentin	Phytotech	T869	
Tween 20	Fisher Scientific	Cas #9005-64-5	surfactant
Vortex Genie 2	Scientific Industries	SI0236	Homogenizes liquids (Agro suspension)
Water bath (large - Precision model 186)	Fisher scientific	any that can fit 4+ 2L flasks and reach 55 °C	Keeps autoclaved media at optimal temperature
Weigh dish	Fisher scientific	08-732-112	To measure chemicals for media
Weighing paper	Fisher scientific	09-898-12A	To measure chemicals for media
Yeast Extract	Fisher Scientific	BP14222	
Zeatin	Millipore Sigma	Z0164	