

Vacuum-Forced Agroinfiltration for *In planta* Transformation of Recalcitrant Plants: Cacao as a Case Study

 Hilda E. Hernández-Delgado¹, Jesús Alejandro Zamora-Briseño², Luis Joel Figueroa-Yáñez³, Rafael Urrea-López¹

¹Unidad de Biotecnología Vegetal, Centro de Investigación Y Asistencia en Tecnología Y Diseño del Estado de Jalisco (CIATEJ) ²Red de Estudios Moleculares Avanzados, Instituto de Ecología ³Unidad de Biotecnología Industrial, Centro de Investigación Y Asistencia en Tecnología Y Diseño del Estado de Jalisco (CIATEJ)

Corresponding Author

Rafael Urrea-López

rurrea@ciatej.mx

Citation

Hernández-Delgado, H.E., Zamora-Briseño, J.A., Figueroa-Yáñez, L.J., Urrea-López, R. Vacuum-Forced Agroinfiltration for *In planta* Transformation of Recalcitrant Plants: Cacao as a Case Study. *J. Vis. Exp.* (201), e66024, doi:10.3791/66024 (2023).

Date Published

November 17, 2023

DOI

10.3791/66024

URL

jove.com/video/66024

Materials

Name	Company	Catalog Number	Comments
35S: <i>RUBY</i> plasmid	Addgene	160908	http://n2t.net/addgene:160908 ; RRID:Addgene_160908
1 mm electroporation cuvette	Thermo Fisher Scientific	FB101	Fisherbrand Electroporation Cuvettes Plus
Desiccator	Bel-Art SP SCIENCEWARWE	F42400-2121	
Freeze dryer	LABCONCO	700402040	
K ₂ HPO ₄	Sigma Aldrich	P8281-500G	For YM medium add 0.38 g/L
LBA4404 ElectroCompetent Agrobacterium	Intact Genomics USA	1285-12	https://intactgenomics.com/product/lba4404-electrocompetent-agrobacterium/
Mannitol	Sigma Aldrich	63560-250G-F	For YM medium add 10 g/L
MES	Sigma Aldrich	PHG0003	(For LB, YM and resuspension medium) add 1.95 g/L (10mM)
MgCl ₂	Sigma Aldrich	M8266	For resuspension medium add 0.952 g/L (10 mM)
MgSO ₄ ·7H ₂ O	Sigma Aldrich	63138-1KG	For YM medium add 0.204 g/L
MicroPulser Electroporation Apparatus	Biorad	165-2100	
NaCl	Karal	60552	For LB medium add 5 g/L; For YM medium add 0.1 g/L
NanoDrop One Microvolume UV-Vis Spectrophotometer	Thermo Fisher Scientific	13-400-518	
President Silicone Impression material	COLTENE	60019938	
Rifampicin	Gold-Bio	R-120-1	(100 mg/mL)
Silicone Impression material gun	Andent	TBT06	
Spectinomycin	Gold-Bio	S-140-SL10	(100 mg/mL)

Streptomycin	Gold-Bio	S-150-SL10	(100 mg/mL)
Tryptone enzymatic digest from casein	Sigma Aldrich	95039-1KG-F	For LB medium add 10 g/L
Yeast extract	MCD LAB	9031	For LB medium add 5 g/L; For YM medium add 0.4 g/L