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Cold Spring Harb Protoc; 2025; 10.1101/pdb.top108460

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Cold Spring Harb Protoc; 2025; 10.1101/pdb.top107757

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A Rapid *Agrobacterium*-Mediated Transformation Method Using Maize B104 Immature Embryos

Minjeong Kang, Mercy K. Azanu, Keunsub Lee, and Kan Wang

Cold Spring Harb Protoc; 2025; 10.1101/pdb.prot108595

***Agrobacterium*-Mediated Transformation of Tropical Maize Using Seedling Leaf Whorl Explants**

Mercy K. Azanu, Minjeong Kang, Keunsub Lee, and Kan Wang

Cold Spring Harb Protoc; 2025; 10.1101/pdb.prot108596

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Juan C. Almagro and Mary Ann Pohl

Cold Spring Harb Protoc; 2025; 10.1101/pdb.prot108614

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Juan C. Almagro and Mary Ann Pohl

Cold Spring Harb Protoc; 2025; 10.1101/pdb.prot108615

Semisynthetic Phage Display Library Construction: Generation of Single-Chain Variable Fragment Secondary Libraries

Juan C. Almagro and Mary Ann Pohl

Cold Spring Harb Protoc; 2025; 10.1101/pdb.prot108616

Cover Illustration: Maize (*Zea mays* L.) is an essential global crop and a major model organism for genetics research. Maize genetic transformation—first implemented in the 1990s—has become a key tool not only for maize functional genomics but also for introducing novel traits for crop improvement, which is key for meeting evolving agricultural needs in the face of ecological and climate change challenges. Conventional methods rely on *Agrobacterium*-mediated transformation of immature maize embryo explants, and the B104 inbred line is a popular genotype for transformation. In this issue, Kang et al. describe a rapid and robust *Agrobacterium*-mediated maize B104 transformation protocol that uses immature embryos as explants. The method offers several improvements over previous protocols, including a shorter time to obtain rooted transgenic plants, lower escape rates (i.e. frequency of nontransgenic generated plantlets), and the use of a new visible marker, *RUBY*, to easily monitor the transformation process and transgene segregation (doi:10.1101/pdb.prot108595). The cover image shows vigorously regenerating maize shoots on maturation medium, 5 weeks after *Agrobacterium*-mediated transformation of immature embryos. Image provided by the authors.

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