

Table S1. Primers used in the study

Primer	Primer sequence (5'–3')*
PaPR4-a-F	ATGATTACGCCAAGCTTGC
PaPR4-a-R	TTAACAACCCACGAATTGATAGTC
PaPR4-b-F	ATGGCTTCCAAAGTTGCAG
PaPR4-b-R	TTAACAATCAACAAAGGTGTATGTAGT
PaPR4-a-Fq	AGGAGTTGCGATAATGGCCG
PaPR4-a-Rq	CTCACATTGGACGCTTGCTG
PaPR4-b-Fq	TCCGCCAATAATTACGCCCT
PaPR4-b-Rq	CACTTAAGCACTTCCCCGCAC
EF-F	AACTGGAGAAGGAACCCAAG
EF-R	AACGACCCAATGGAGGATAC
TIF-F	GGTCTTTCCCCTCATCAA
TIF-R	GAGGATGGTTTTGTAGCC
EcoRI-PaPR4-a-F	AGGCCATGGCTGATATCGGATCC <u>GAAATTC</u> CAGCAAGCGTCCAATGTGA
EcoRI-PaPR4-a-R	CGCAAGCTTGTGCGACGGAGCTC <u>GAAATTC</u> TTAACAACCCACGAATTGATAGTC
EcoRI-PaPR4-b-F	AGGCCATGGCTGATATCGGATCC <u>GAAATTC</u> CAGACGCAGAGCAATACAT
EcoRI-PaPR4-b-R	CGCAAGCTTGTGCGACGGAGCTC <u>GAAATTC</u> TTAACAATCAACAAAGGTGTATGTAGT
T7-F	TAATACGACTCACTATAGG
T7-R	GCTAGTTATTGCTCAGCG
EGFP-PaPR4-a-F	GTCCCGGGGCGGTACCCGGGATCCATGATTACGCCAAGCTTGC
EGFP-PaPR4-a-R	GGCGCGCCGGGCCCTCTAGAGGATCCTTAACAACCCACGAATTGATAGTC
EGFP-PaPR4-b-F	GTCCCGGGGCGGTACCCGGGATCCATGGCTTCCAAAGTTGCAG
EGFP-PaPR4-b-R	GGCGCGCCGGGCCCTCTAGAGGATCCTTAACAATCAACAAAGGTGTATGTAGT
BamHI- <i>yz</i> -F	ATCACTCTCGGCATGGAC
BamHI- <i>yz</i> -R	GATTCTGGTGTGTGCGCA
OE-PaPR4-a-F	CGAGAATTCGAGCTCGGTACCCGGGATGATTACGCCAAGCTTGC
OE-PaPR4-a-R	AGGTCGACTCTAGAGGATCCCGGGTTAACAACCCACGAATTGATAGTC
OE-PaPR4-b-F	CGAGAATTCGAGCTCGGTACCCGGGATGGCTTCCAAAGTTGCAG
OE-PaPR4-b-R	AGGTCGACTCTAGAGGATCCCGGGTTAACAATCAACAAAGGTGTATGTAGT
35S-F	GACGCACAATCCCACTATCC
NOST-R	AGACCGGCAACAGGATTCAATC
PP2A-F	GACCCTGATGTTGATGTTTCGCT
PP2A-R	GAGGGATTTGAAGAGAGATTTC
F-BOX-F	GGCACTCACAACGTCTATTTC
F-BOX-R	ACCTGGGAGGCATCCTGCTTAT

* The restriction sites for vector construction are underlined.

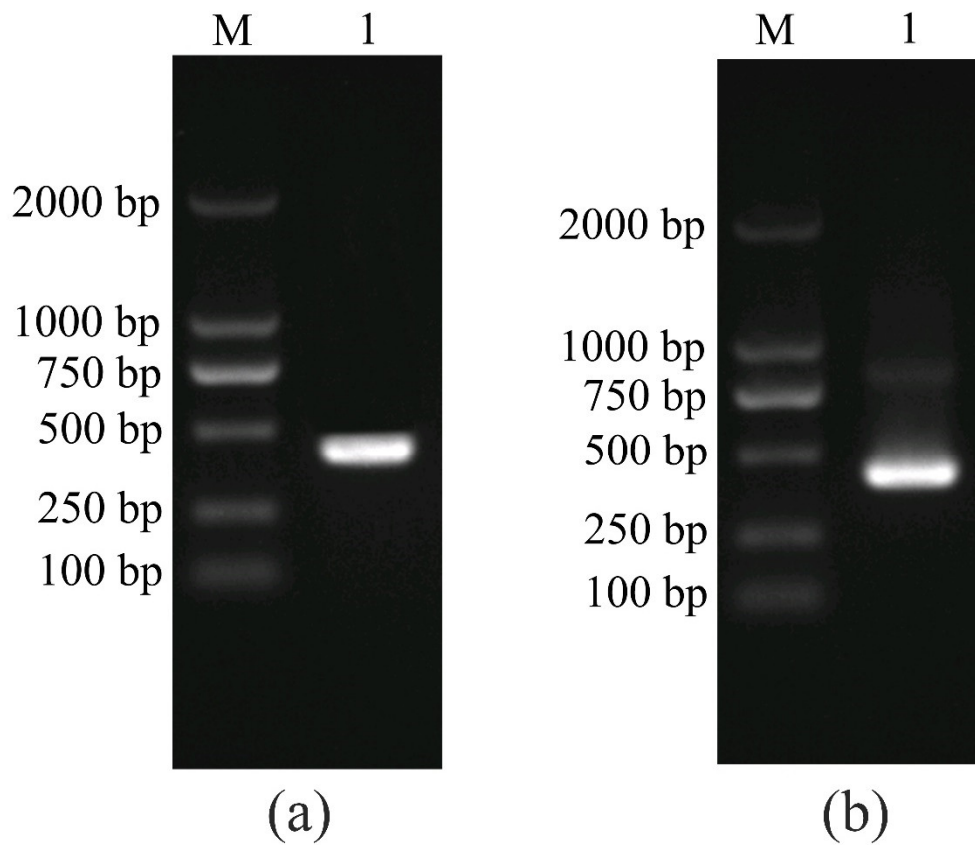


Figure S1. Electrophoretogram of target fragment clones. M: DL2000 DNA marker; (a): PaPR4-a target segment; (b): PaPR4-b target segment.

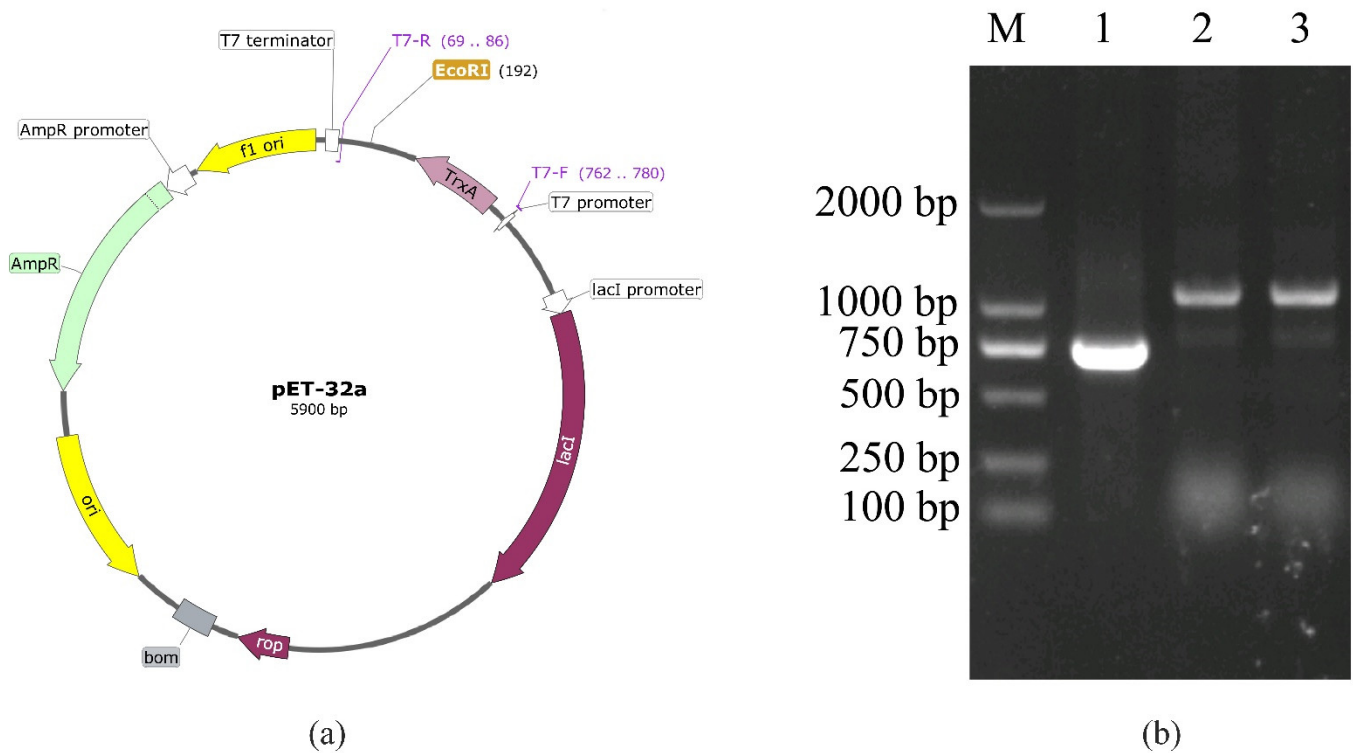


Figure S2. Plasmid map of pET-32a and the results of identification studies. (a): Plasmid map of pET-32a; (b): M: DL2000 DNA marker; lane 1: PCR amplification product of the empty pET-32a vector; lane 2: PCR amplification product of the pET-32a and PaPR4-a recombinant plasmids; lane 3: PCR amplification product of the pET-32a and PaPR4-b recombinant plasmids.

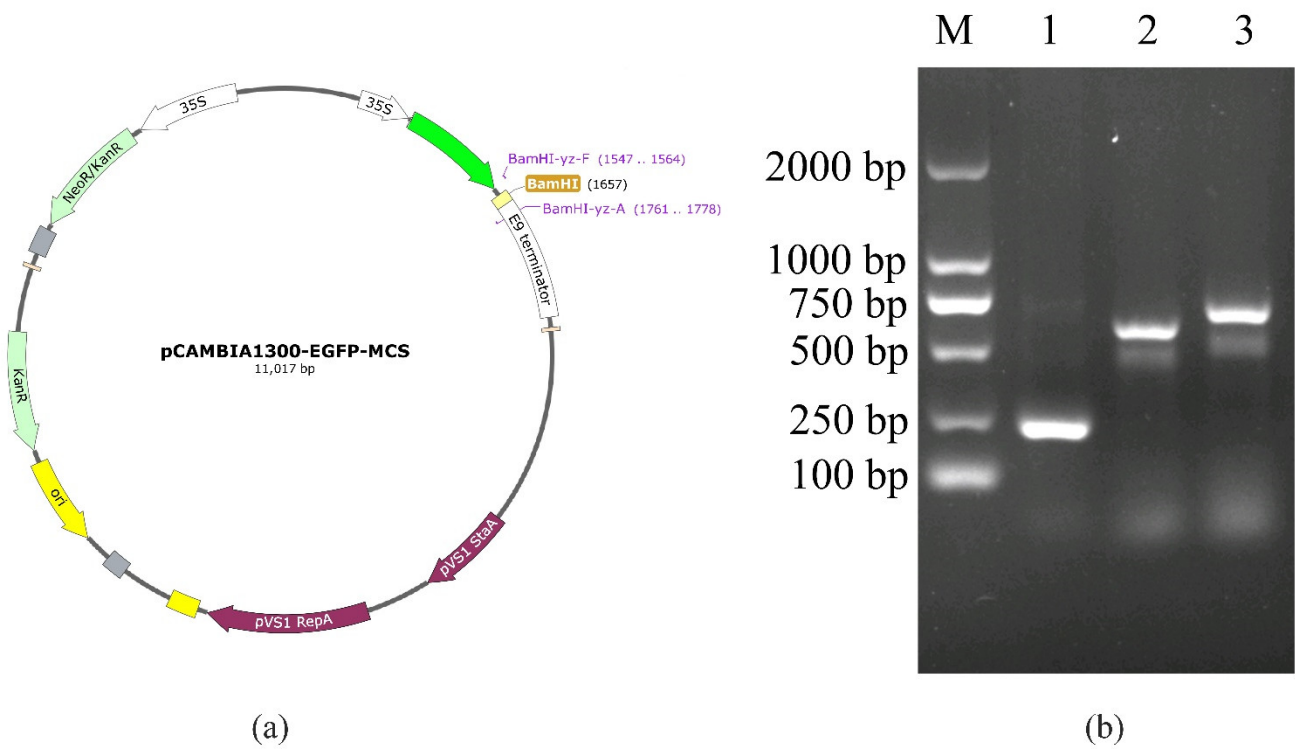


Figure S3. Plasmid map of pCambia1300-EGFP-MCS and the results of identification studies. (a): Plasmid map of pCambia1300-EGFP-MCS; (b): M: DL2000 DNA marker; lane 1: PCR amplification product of the empty pCambia1300-EGFP-MCS vector; lane 2: PCR amplification product of the EGFP-PaPR4-a recombinant plasmid; lane 3: PCR amplification product of the EGFP-PaPR4-b recombinant plasmid.

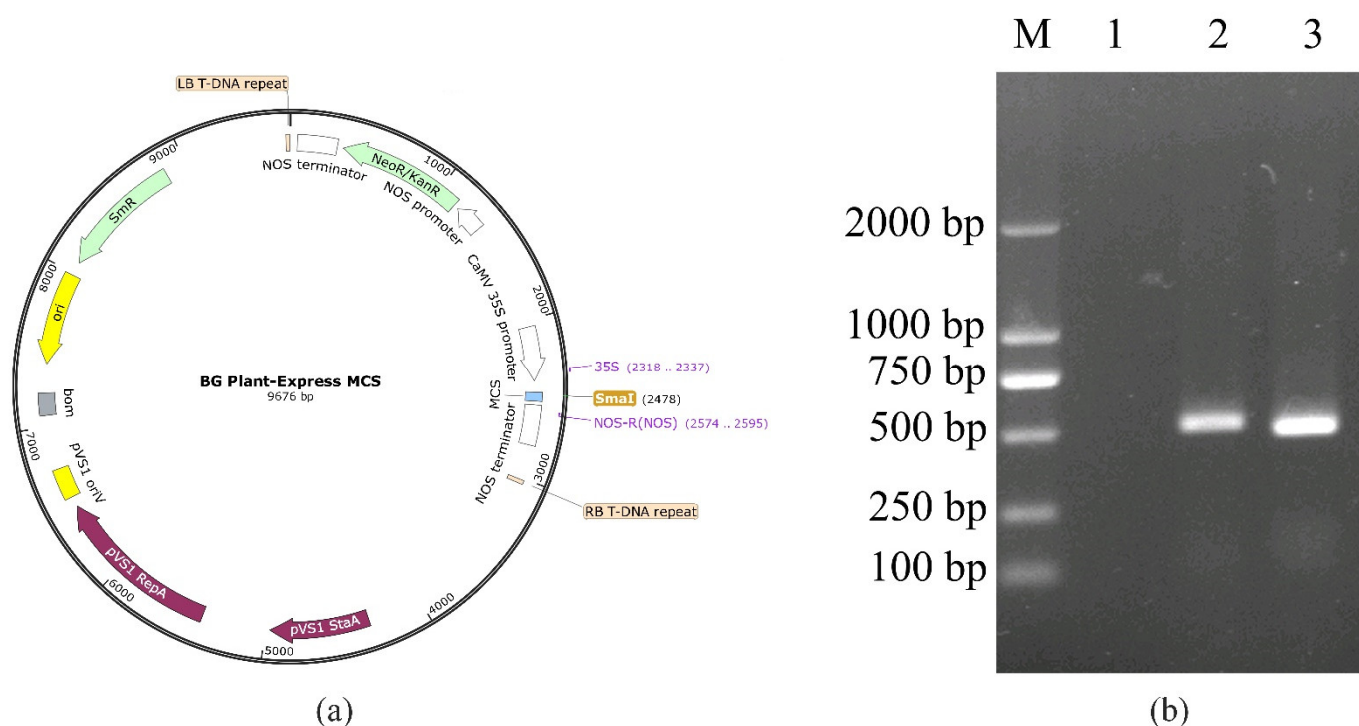


Figure S4. Plasmid map of BG Plant-Express MCS and the results of identification of transgenic tobacco plants studies. (a): Plasmid map of BG Plant-Express MCS; (b): M: DL2000 DNA marker; lane 1: PCR amplification product of wild type tobacco; lane 2: PCR amplification product of the PaPR4-a transgenic tobacco; lane 3: PCR amplification product of the PaPR4-b transgenic tobacco.

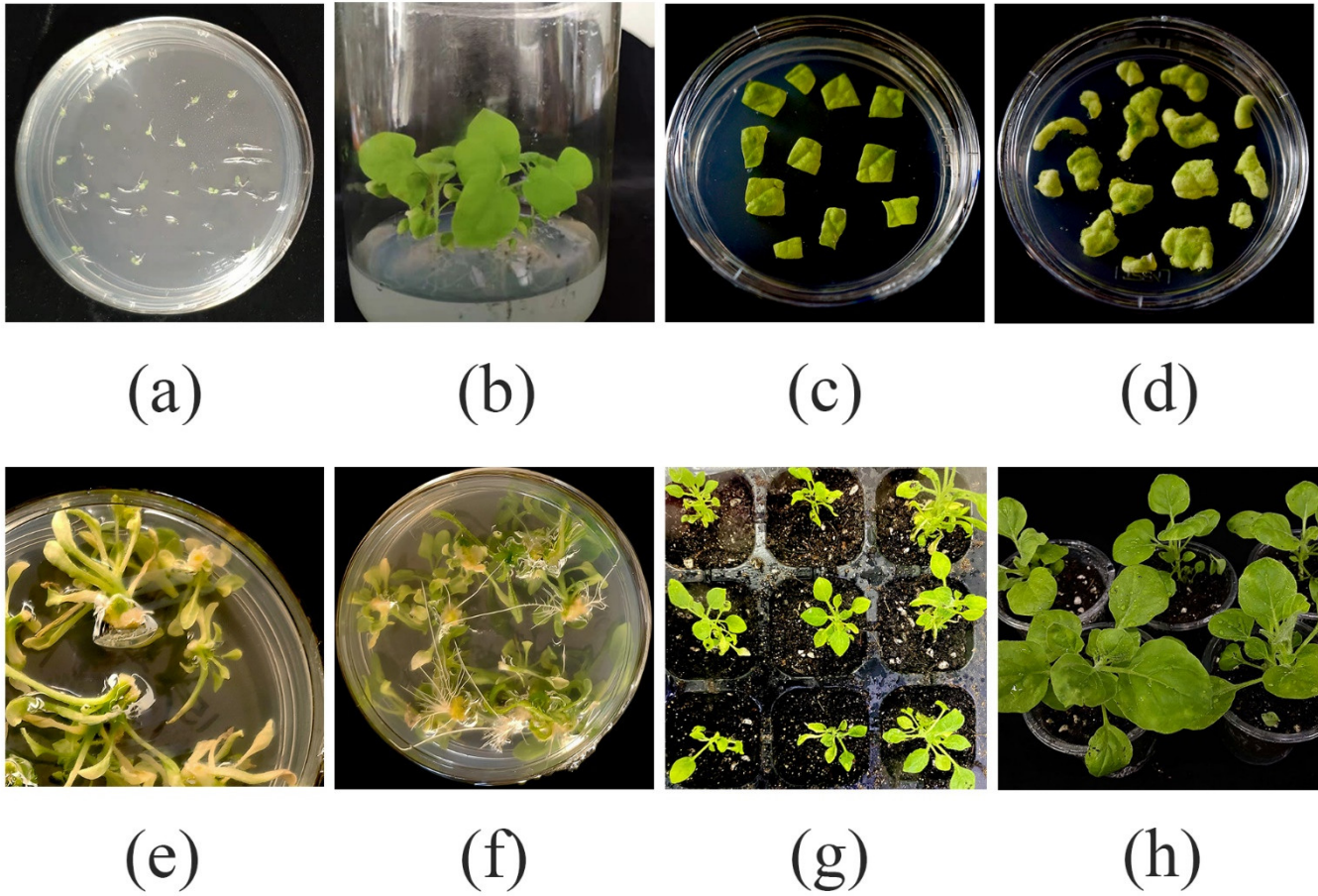


Figure S5. Genetic transformation of *Nicotiana benthamiana*. (a): sterilization and seeding of seeds; (b): preculture of seeds; (c): cutting of explants; (d): callus; (e): differentiation of buds; (f): differentiation of rooting; (g): acclimatization; (h): after transplanting.