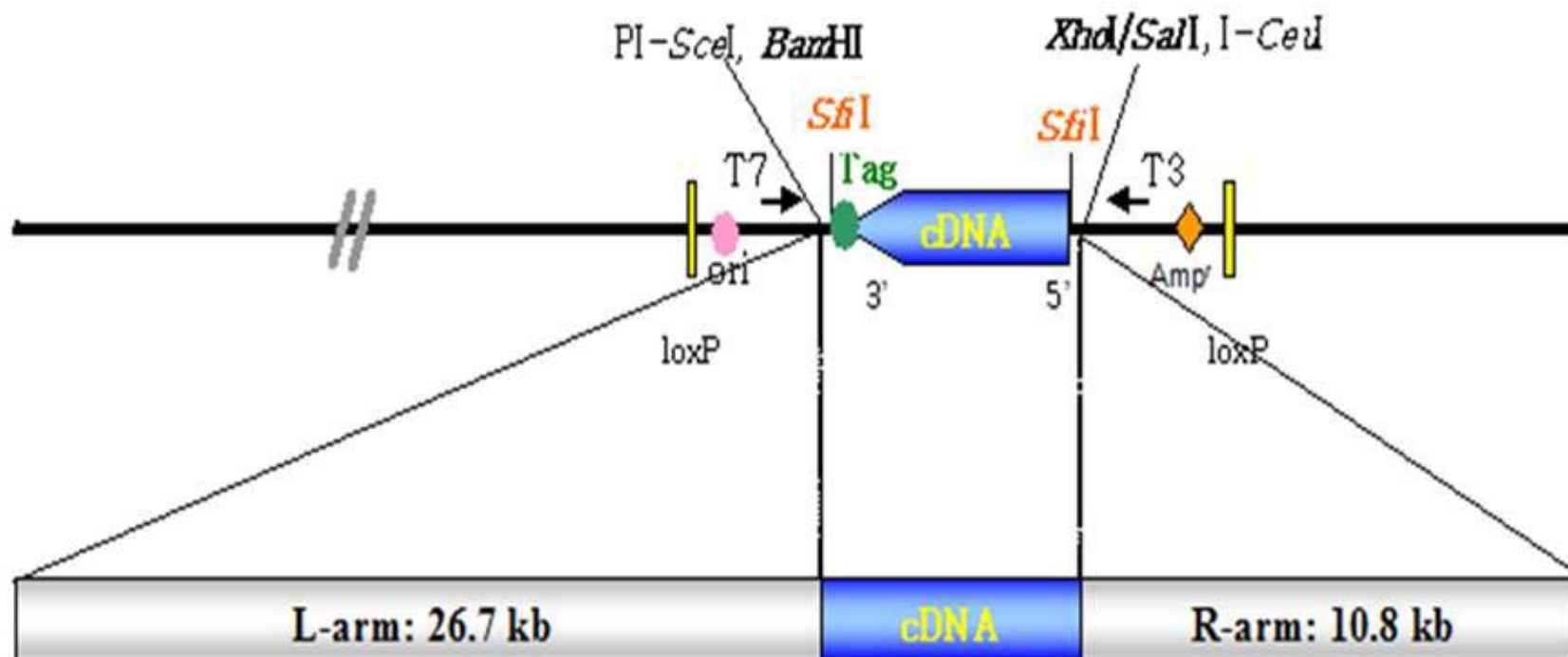


Supplemental Figure 1.



Supplemental Table 1. Composition of media used for tissue culture and transformation of rice

Medium	Composition
2N6 (Embryogenic callus induction)	4 g/L Chu (N ₆) medium (Micro and macro elements including vitamins) (Cat. No. C0204, Duchefa Biochemie B.V.), 0.3 g/L Casein hydrolysate, 0.5 g/L Glutamine, 0.5 g/L Proline, 30 g/L Sucrose, 2 mg/L 2.4-D, 2.5 g/L Gelrite (pH 5.8)
AB (Agrobacterium culture)	5 g/L Glucose, 15 g/L Bacto agar, 3 g/L K ₂ HPO ₄ , 1 g/L NaH ₂ PO ₄ , 1 g/L NH ₄ Cl, 0.3 g/L MgSO ₄ •7H ₂ O, 0.15 g/L KCl, 13.25 mg/L CaCl ₂ •2H ₂ O, 2.5 mg/L FeSO ₄ •7H ₂ O (pH 7.2)
AAM-AS (Agrobacterium suspension and infection)	0.12 g/L MgSO ₄ , 0.15 g/L CaCl ₂ •2H ₂ O, 0.15 g/L NaH ₂ PO ₄ •2H ₂ O, 3 g/L KCl, 0.5 g/L Casamino acid, 0.177 g/L L-Arginine, 0.04 g/L EDTA Ferric sodium, 7.6 mg/L MnSO ₄ •H ₂ O, 2 mg/L ZnSO ₄ •7H ₂ O, 0.025 mg/L CuSO ₄ •5H ₂ O, 0.025 mg/L CoCl ₂ •6H ₂ O, 0.75 mg/L KI, 3 mg/L H ₃ BO ₃ , 0.25 mg/L Na ₂ MoO ₄ •2H ₂ O, 0.75 mg/L Glycine, 0.09 g/L L-Glutamine, 0.03 g/L L-Aspartic acid, 0.01 g/L Myo-Inositol, 0.1 mg/L Nicotinic acid, 0.1 mg/L Pyridoxine HCl, 1 mg/L Thiamine HCl, 68.5 g/L Sucrose, 36 g/L D-Glucose, 20 mg/L Acetosyringone (pH 5.2)
2N6-AS (Co-culture)	4 g/L Chu (N ₆) medium (Micro and macro elements including vitamins) (Cat. No. C0204, Duchefa Biochemie B.V.), 0.3 g/L Casein hydrolysate, 0.5 g/L Glutamine, 0.5 g/L Proline, 30 g/L Sucrose, 10 g/L Glucose, 2 mg/L 2.4-D, 20 mg/L Acetosyringone, 0.15 g/L Dithiothreitol, 0.25 g/L Sodium thiosulfate, 5 mg/L Silver nitrate (pH 5.2)
N6D (Transgenic callus selection)	4 g/L Chu (N ₆) medium (Micro and macro elements including vitamins) (Cat. No. C0204, Duchefa Biochemie B.V.), 0.3 g/L Casein hydrolysate, 0.5 g/L Glutamine, 0.5 g/L Proline, 30 g/L Sucrose, 2 mg/L 2.4-D, 2.5 g/L Gelrite, 250 mg/L Cefotaxime, 50 mg/L Hygromycin (pH 5.8)
REIII (Shoot formation)	4.4 g/L MS medium including vitamins (Cat. No. M0222, Duchefa Biochemie B.V.), 0.5 mg/L NAA, 2 mg/L 6-BA, 20 g/L Sucrose, 30 g/L Sorbitol, 2 g/L Casamino acid, 250 mg/L Cefotaxime, 80 mg/L Hygromycin, 4 g/L Gelrite (pH 5.8)
HF (Root formation)	4.4 g/L MS medium including vitamins (Cat. No. M0222, Duchefa Biochemie B.V.), 30 g/L Sucrose, 7.5 g/L Plant agar, 250 mg/L Cefotaxime, 80 mg/L Hygromycin (pH 5.8)

Supplemental Table 2. Primers sequences used in the RT-PCR analysis and annotation of gene function by the NCBI database.

Gene	Forward Primer	Reverse primer	Gene Function
BR 2	5'-GTG TTG ACG GAC GTT GTG AC-3'	5'-CCG GGT CTA GAT CTG TTC CA-3'	cysteine protease I
BR 4	5'-TGC CGT TAT GCC ATT TAT GA-3'	5'-ATC AAG ACC CAT CTC GGT TG-3'	actin binding/depolymerizing factor 2
BR 7	5'-GCA TTT CCT AAA GCC ACC AA-3'	5'-CCA GGA GTA GGC TCG ATC TG-3'	dead box RNA helicase RH15 - like protein
BR 11	5'-AAC GAG AGA GGA GGG ATG AT-3'	5'-CCA GAG GAG CTT CAG GGT TG-3'	alcohol dehydrogenase 1
BR 15	5'-GCT TTG CGT GCC TTC TTA TC-3'	5'-GAA GAA CCC ACT TGG CAA AA-3'	udp-Glucose-4- epimerase 1
BR 22	5'-ACT TGG CGA GCT TGA CTC AT-3'	5'-GAG CAT TTC TCC TGC GTT TC-3'	hydrogen-transporting ATPase
BR 23	5'-AAT GCA CGG AAT AGA GG-3'	5'-CAG GTC CTC ATT ACC GGT GT-3'	endoplasmic reticulum auxin-binding protein 2 mRNA
BR 37	5'-ATCGGAGGCAGCAAGTCAAGCG-3'	5'-CTC CAT CGT AGC CTC CGT CAT-3'	cbl-interacting protein kinase 1
BR 39	5'-CAG GAA AAG AAG CGG ATG AG-3'	5'-AGT GTG CCT GTC ATC GTG AG-3'	carbon-monoxide oxygenase (ACYB-1)
BR 43	5'-AAC TCC AAG CGT TGG ATA TG-3'	5'-TCT CCA GGT TCG TTT GCT CT-3'	hypothetical protein
BR 47	5'-CTA ATG CTG ACG GTG GGT TT-3'	5'-ACG AAA AGG TCG AAA GCT GA-3'	unknown gene function
BR 61	5'-CCT CTG ATC CCA CCA CAC TT-3'	5'-TTA GGA GCA GCA CAC ACT GG-3'	rubredoxin family protein
BR 64	5'-AGA AGC TGA TGG CTC GGT TA-3'	5'-CCT CTT CTC GGC TGA ACA AC-3'	beta-Ig-H3 domain-containing protein (FLA18)
BR 68	5'-CTCTTACCGCCGCCACCATGT TT-3'	5'-AGG TGT CAA AAG TCG GGT TG-3'	unknown gene function
BR 72	5'-ACC AAA CAC TCA CCG GAG TC-3'	5'-ARC ACC ACC CGC AAG TAA AG-3'	unknown protein function
BR 74	5'-CGA TGT TCG ATG TCC TCC TT-3'	5'-GGC TCG ATC ATC GTC ATT CT-3'	haloacid dehalogenase-like hydrolase family protein
BR 91	5'-TGG AAG CTC TCT CGT GGA A-3'	5'-CTC GTC GGA CAT AAA TGG T-3'	unknown protein
BR 77	5'-CAT CTA CCG AGC AAC AGC AA-3'	5'-AAT GCC CAA TCC ATA CCA AA-3'	unknown (<i>Zea mays</i> clone 92871)
BR 119	5'-GTA TCA CTC TCG GGG TTC CA- 3'	5'-CCA AAC AAA TGG GAC AAT CC-3'	unknown gene function
BR 129	5'-GTG GAG GGA GTC AAC GAT GT-3'	5'-CCG AGT CCC TGC GAT ATT TA-3'	dimethylmenaquinone methyltransferase family protein
BR 192	5'-CAT AAG GTA CGC GAC GGT TT-3'	5'-ACT AAA GCA GCT TCG GTC CA-3'	glycosyltransferase family protein
BR 195	5'-CAC TGG AGT TGA CCC AAC-3'	5'-AAT GCT AAG GGC ACC AAC AC-3'	aspartate aminotransferase 2
BR 289	5'-TGA TCA GAT GGA GTG GTG GA-3'	5'-CTC CTC GCT TGT TGG AAG AC- 3'	plastid-lipid associated protein PAP / fibrillin family protein

Supplemental Table 3. Number of transgenic rice lines produced, confirmed gene inserts and its respective generation.

Generation*	Confirmed no. of gene inserts	No. of lines
T ₁	137	470
T ₂	88	408
T ₃	14	46
T ₄	11	226
Total	250	1,150