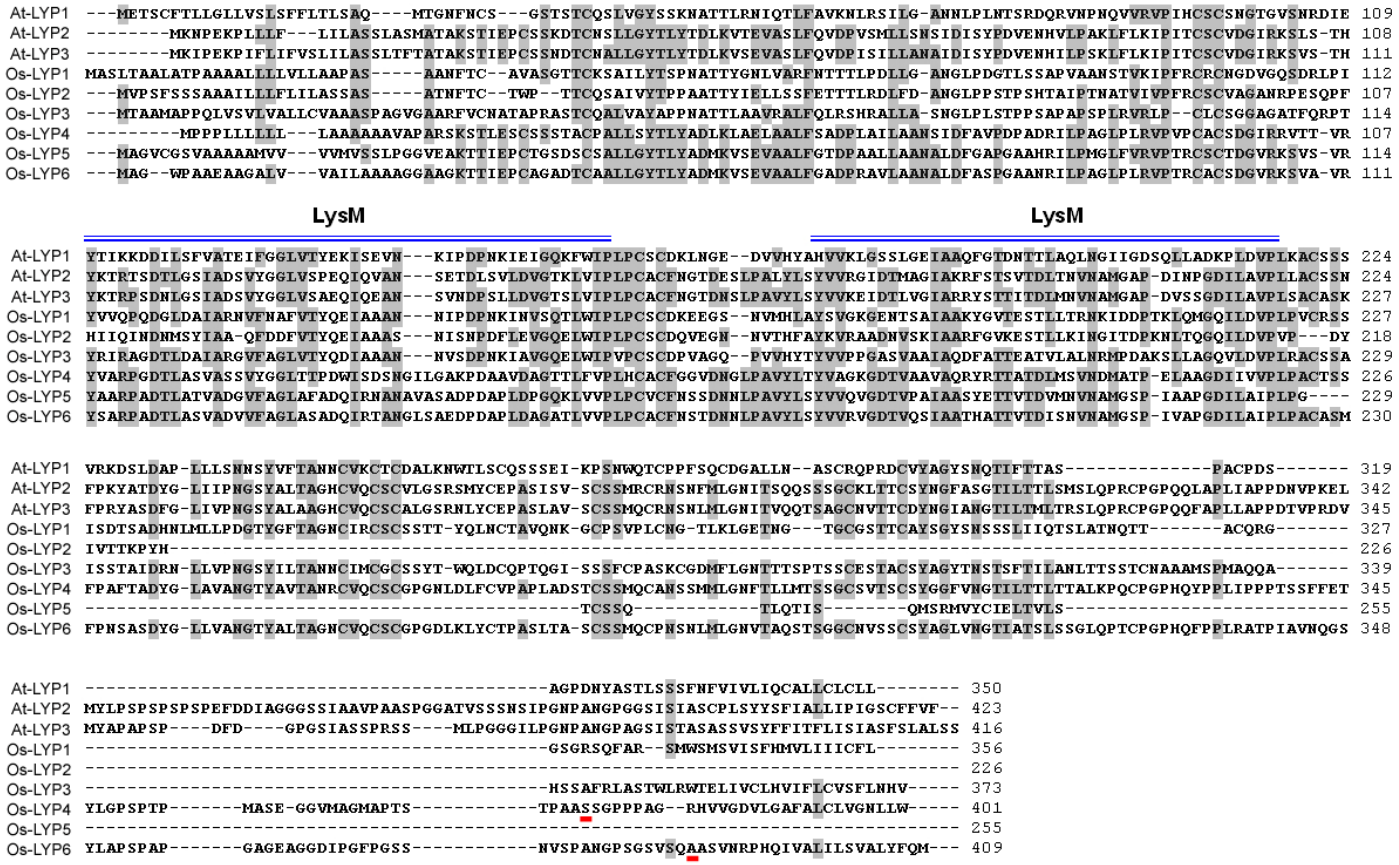
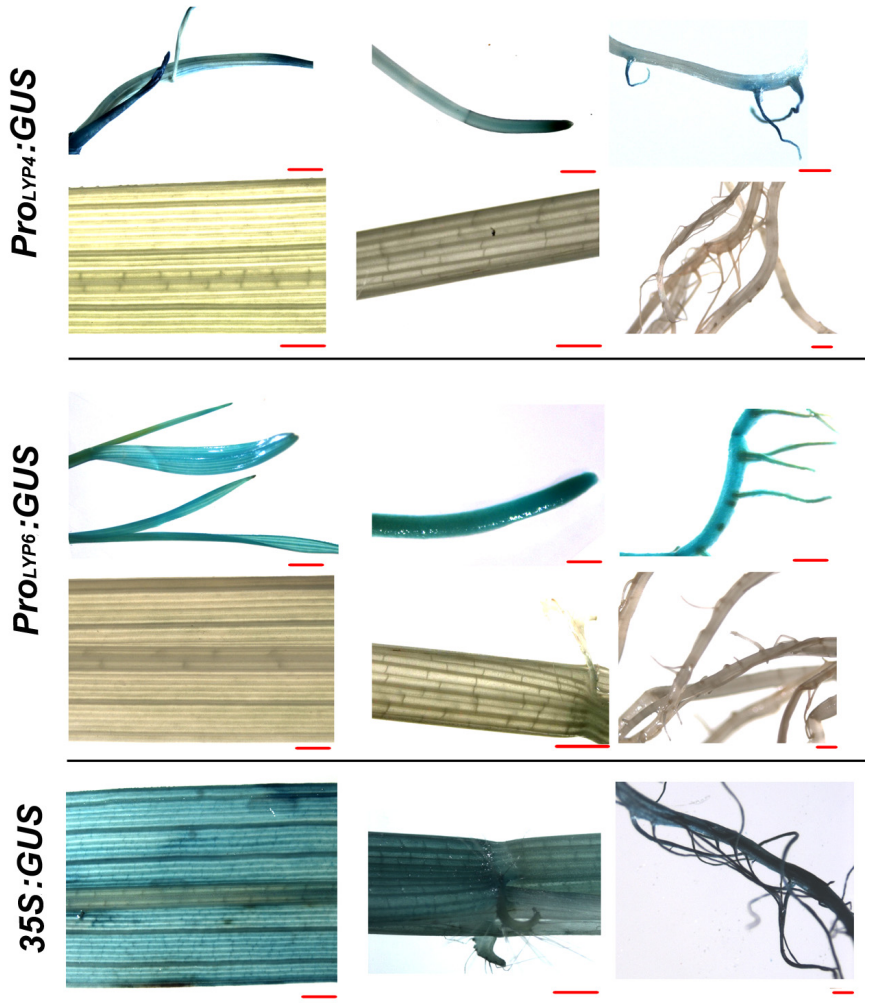


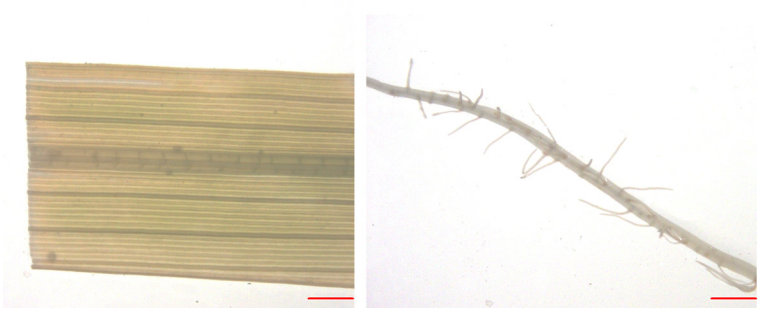
Supplemental Figure 1. Amino Acid Sequence Alignment of LYPs in Arabidopsis and Rice.

Full-length amino acid sequences encoded by At-*LYP1* (At2g17120), At-*LYP2* (At1g77630), At-*LYP3* (At1g21880), Os-*LYP1* (*CEBiP*, Os03g04110), Os-*LYP2* (Os11g34570), Os-*LYP3* (Os09g37600), Os-*LYP4* (Os09g27890), Os-*LYP5* (Os02g53000) and Os-*LYP6* (Os06g10660) were aligned using the ClustalW program. The two characteristic LysMs in these LYPs are indicated by blue lines, and the ω-sites of GPI anchor modification in Os-LYP4 and Os-LYP6 are indicated by red lines.



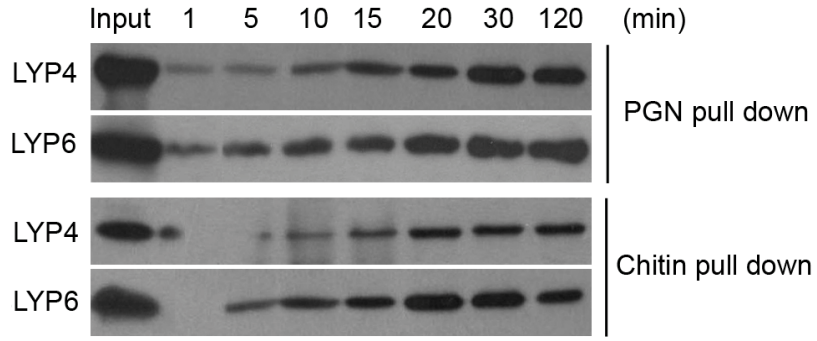
Supplemental Figure 2. *LYP4* and *LYP6* Are Strongly Expressed in Rice Young Tissues.

For the indicated *Promoter:GUS* transgenic rice, from top left to bottom right: young leaves from 4-day-old plant, the primary root of 4-day-old plant, and the secondary roots of 6-day-old plant, blades of 4th leaves at the 5-leaf stage, leaf sheath at the 5-leaf stage, mature roots at the 5-leaf stage. As a positive control, the GUS staining in mature rice tissues of *35S:GUS* (pCAMBIA1301) transgenic rice was conducted in parallel, from left to right: blades of 4th leaves at the 5-leaf stage, leaf sheath at the 5-leaf stage, mature roots at the 5-leaf stage. Scale bar= 1 mm.



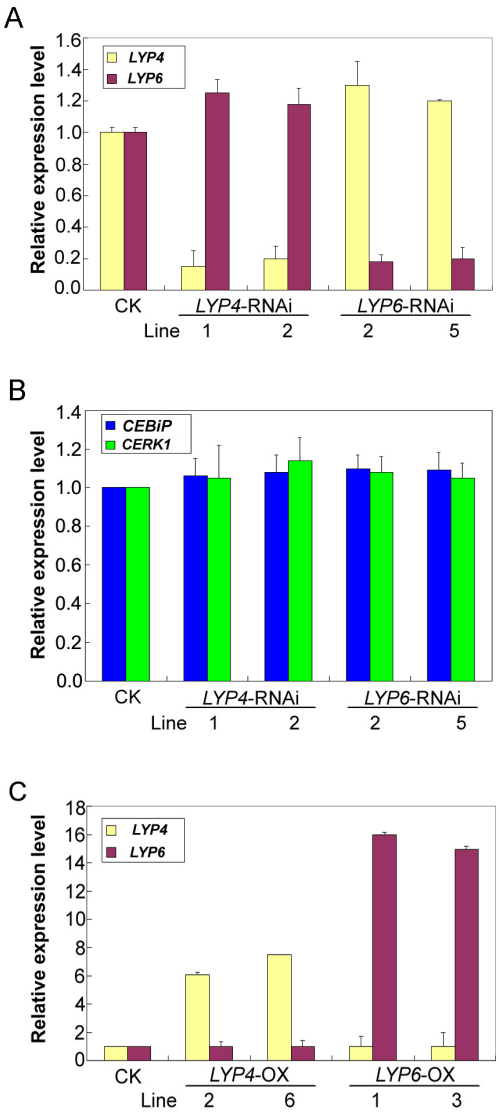
Supplemental Figure 3. No GUS Activity Is Induced by *X. oryzae* in pCAMBIA-1391Z Empty Vector Transgenic Rice.

Mature root (primary root in the 5-leaf stage) or leaf (the fourth leaf in the 5-leaf stage) from pCAMBIA-1391Z transgenic rice was immersed into *X. oryzae* suspension (10^5 cells/ml) for 2 hr before GUS staining. The pCAMBIA-1391Z binary plasmid is a promoter capture vector that contains an intact *GUS* gene without promoter. Scale bar = 1 mm.



Supplemental Figure 4. PGN and Chitin Binding Kinetic Analysis for LYP4 and LYP6.

50 μg of PGN_{Xoo} or commercial chitin beads (NEB) were used to pull down 1 μg purified 6His-tagged recombinant Os-LYP4 or Os-LYP6 protein in solution after a co-incubation for the indicated period. Note that progressively increasing amounts of LYP proteins were precipitated by either glycan until the binding was saturated in 30 min for PGN_{Xoo} or in 20 min for chitin. One of the three biological repeats with similar results is shown.



Supplemental Figure 5. Relative Expression Levels of *LYP4*, *LYP6*, *CEBiP* and *CERK1* in LYP RNAi or Over-expressing (OX) Transgenic Rice.

The transcripts of *LYP4* and *LYP6* (A) or *CEBiP* and *CERK1*(B) in different RNAi transgenic rice lines, or transcripts of *LYP4* and *LYP6* in different OX (C) transgenic rice lines were determined by qPCR. The expression level of *LYP4*, *LYP6*, *CEBiP* or *CERK1* in the empty vector transgenic rice (CK) was set as 1. The data represent means ± SD.

Supplemental Table 1 Primers used in this study

Name	Sequence
***LYP4, 6*-RNAi**	
LYP4-RiH1F	TCT AAGCTTCGA AGG AGG CGT CAT G
LYP4-RiP1R	ATA CTGCAG TGT GGG TGC CCT AAAA
LYP4-RiM2F	TCT ACG CGT CGA AGG AGG CGT CATG
LYP4-RiS2R	ATA GTCGAC TGT GGG TGC CCT AAAA
LYP6-RiH1F	TCT AAG CTT CAT TGT CGC ACC TGG T
LYP6-RiP1R	ATA CTG CAG ACT CTG CAC ACG AAT T
LYP6-RiM2F	TCT ACG CGT CAT TGT CGC ACC TGG T
LYP6-RiS2R	ATA GTC GAC ACT CTG CAC ACG AAT T
Promoter of *LYP4, 6*	
PLYP4-F	CCCAAGCTTGCTGCATAATCGTTGAC
PLYP4-R	CGGAATTCGGTGCTTGCGAGTATCTG
PLYP6-F	GAGGAATTCAaCCAACCTCTGCTTATTCACTG
PLYP6-R	CTGCAGATTGGATGGAGCTTCGAGGGGGT
Localization	
GFP-F	TCTGAA TTC AGA GCC ATG GGC AAA GGA GAA
GFP-R	TCT GTC GAC TTT GTA TAG TTC ATC CAT GCC
N-signal of LYP4-F	AATTCTAGAATGCCACCACCCTTGCTC
N-signal of LYP4-R	AATGGATCCGCAGGACTCCAGCGTCGAC
LYP4-F	CTCGAGTCCTCCTCTTCCACCGCCTGC
LYP4-R	ATTCTCGAGTTACCACAGCAGGTTGCC
N-signal of LYP6-F	TCTAGAATGGCGGGGTGGCCGGCG
N-signal of LYP6-R	GGATCCCCCCGCGCACGGCTCGAT
LYP6-F	GTCGACGCGGACACGTGCGCCGCG
LYP6-R	GGTACCTCACATCTGGAAGTACAA
q PCR	
Actin-F	AGGCTCCTCTCAACCCCAAG
Actin-R	TTTCCTGGTCATAGTCCAGG
LYP4-F	GCACAATTCTCACCACGTTAA
LYP4-R	AGTGAGTGGCAGACAAATCG
LYP6-F	ATTGCCACGTCGCTCTCCTC
LYP6-R	CAATACACACAGCCAGCAAC
MLO-F	GGCTTCTGGTACACCGGAGAA
MLO-R	TCCATTTCTTCATTTTGAGACG
Os-WRKY13F	AGCCCATCAAGGGCTCTCCCTAC
Os-WRKY13R	TCCGTCAGCCACCGGCTCAG
β-Glu-F	AGCCCGACATGACCGAAGT
β-Glu-R	TGGGCCGGGCCTAATCT
PAL1F	GGGCAACCCAGTGACCAA
PAL1R	CGATTGCCTCGTCGGTCTT
Protein expression	
HisLYP4-F	TCAGAATTCAAGTCGACGCTGGAGTCCTGCTC

HisLYP4-R	TATCTCGAGCGCCGCCGGGGTGCTCGTCGG
HisLYP6-F	ATTGAATTCATCGAGCCGTGCGCGGGGGGCG
HisLYP6-R	ATTCTCGAGGCCGTTTGCAGGAGAAACGTT
HisCERK1-F	GAATTCAGCGCCGGGTGCGACCTCGCG
HisCERK1-R	CTCGAGCCTGCTATAGCTCCTGCAGAA