

Table S1. Phosphorylation of LAZY4 proteins in plants or in *in vitro* kinase assays, related to Figures 5 and 6

| Peptides | Up-regulated upon gravistimulation | Phosphorylation sites | IP-MS | | | | in vitro kinase assay (MPK3) | | | | Included in | | |
|--|------------------------------------|-----------------------|-------|----|----|----|------------------------------|-----|-----|-----|-------------|-------|---------|
| | | | R1 | R2 | R3 | R4 | KR1 | KR2 | KR3 | KR4 | A5/D5 | A9/D9 | A13/D13 |
| QEITHRPSISSASSHPR | √ | T18 | | * | √ | √ | √ | √ | √ | √ | √ | √ | √ |
| | | S22 | | * | √ | √ | √ | √ | √ | √ | √ | √ | √ |
| | | S24 | | * | √ | √ | √ | √ | √ | √ | √ | √ | √ |
| | | S25 | | * | √ | √ | √ | √ | √ | √ | √ | √ | √ |
| | | S27 | | * | √ | * | √ | √ | √ | √ | √ | √ | √ |
| EEFNDWPHGLLAIGTFGNK/ EEFNDWPHGLLAIGTFGNKK | | T47 | | | | | √ | √ | √ | √ | | | √ |
| KQTPQTLDOEVIQETVSNLHV EGR | | T54 | | | | | √ | √ | √ | √ | | | √ |
| FLNCPSSLEVDR/ FLNCPSSLEVDRR | √ | S139 | √ | √ | √ | √ | √ | √ | √ | √ | | | √ |
| | | S140 | √ | √ | √ | √ | √ | √ | √ | √ | | | √ |
| ISNALCDEKEEDIER/ RISNALCDEKEEDIER | | S148 | √ | √ | √ | √ | √ | √ | | √ | | | √ |
| TISVILGR | | S164 | √ | √ | √ | √ | | √ | √ | √ | | | √ |
| MFVCTEGFSPVPRPILR | | S208 | | | | | | √ | √ | √ | √ | | √ |
| QQLSLKNEEEGR | √ | S258 | | * | * | √ | √ | | √ | √ | √ | | √ |

This table summarizes the mass spectrometry results of the IP-MS experiment shown in Figures 5A and 5B (four replicates: R1 to R4), and *in vitro* kinase assays shown in Figure 5E (four replicates: KR1 to KR4). The phosphorylation sites with explicit MS/MS spectra are labeled “√”, and possible phosphorylation sites are labeled “*”. In R1 to R4, MS1 area intensities of phosphorylated peptides were normalized by the total area intensity of phosphorylated and non-phosphorylated peptides. If max normalized MS1 intensity of a phosphorylated peptide in samples of gravistimulation was 5-fold greater than the control under vertical condition in at least two experimental replicates, the phosphorylation of the peptide is recorded as “up-regulated upon gravistimulation”. For LAZY4-A5/D5, A9/D9, and A13/D13 mutagenesis, selected amino acids were mutated to Ala (A) or Asp (D): A5/D5, the 5 phosphorylated amino acids identified in a phosphorylated peptide in domain I; A9/D9, the 9 total phosphorylated amino acids identified in domain I and III; A13/D13, all the 13 phosphorylated amino acids identified in plants and in *in vitro* kinase assays.