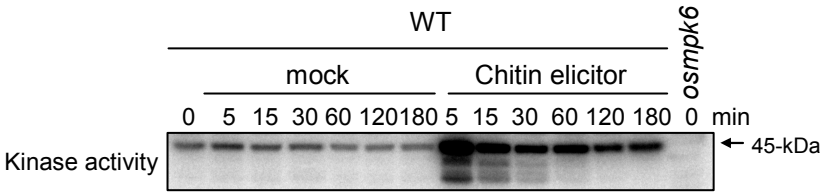


Figure S1 MBP kinase activities in elicitor-treated and mock-treated WT cells.

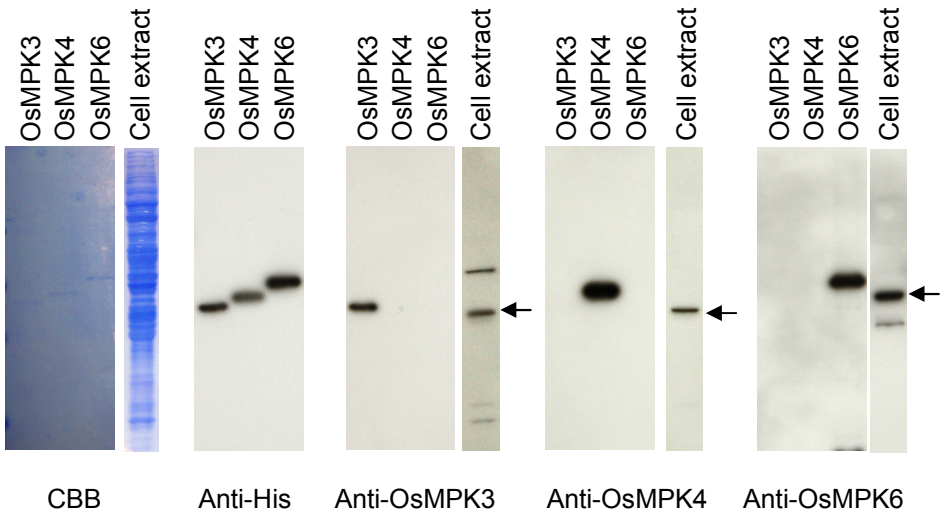


Figure S2 Immuno-blots using MAPK specific antibodies.

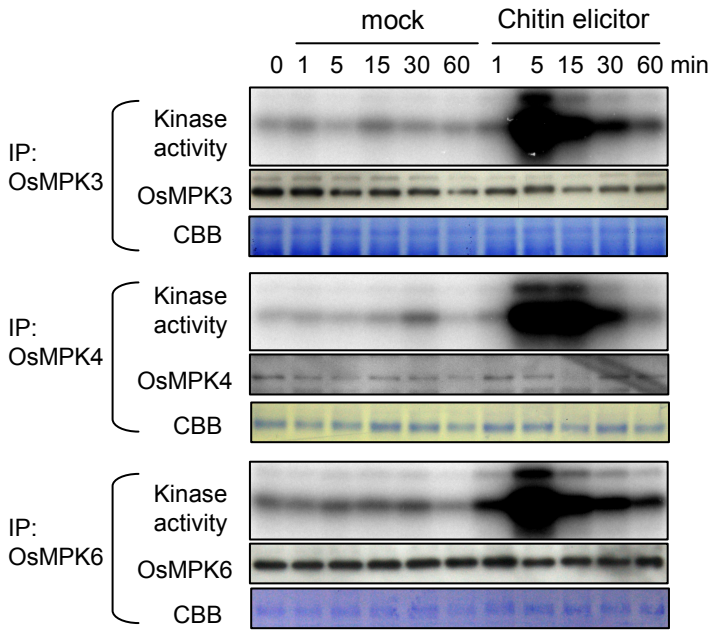


Figure S3 MBP kinase activities of OsMPK3, OsMPK4, and OsMPK6 in elicitor-treated and mock-treated WT cells.

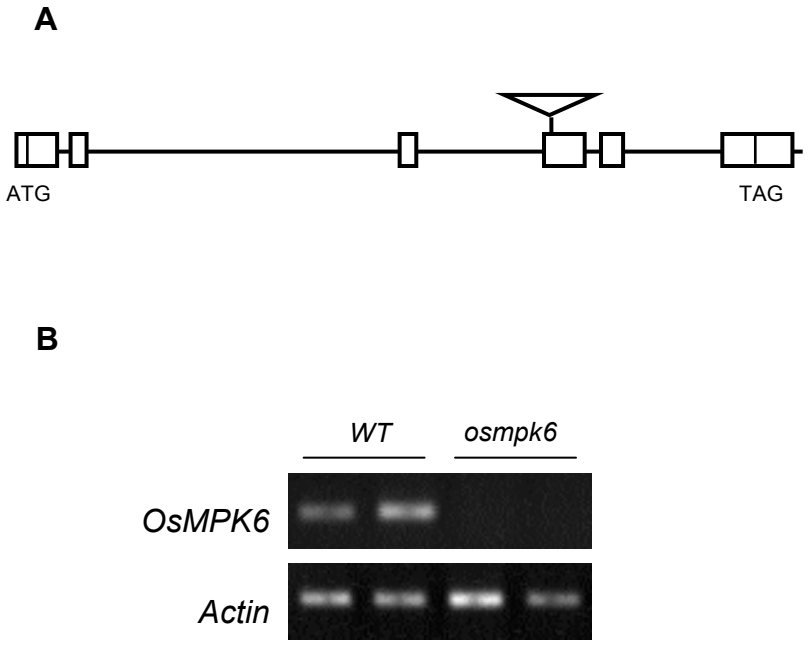


Figure S4 Position of the *Tos17* insertion in the *OsMPK6* locus and *OsMPK6* expression in *osmpk6* cells.

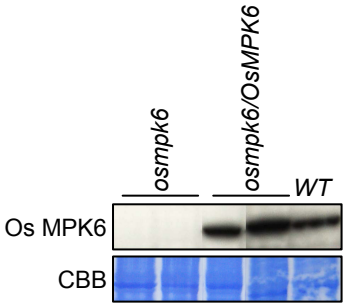
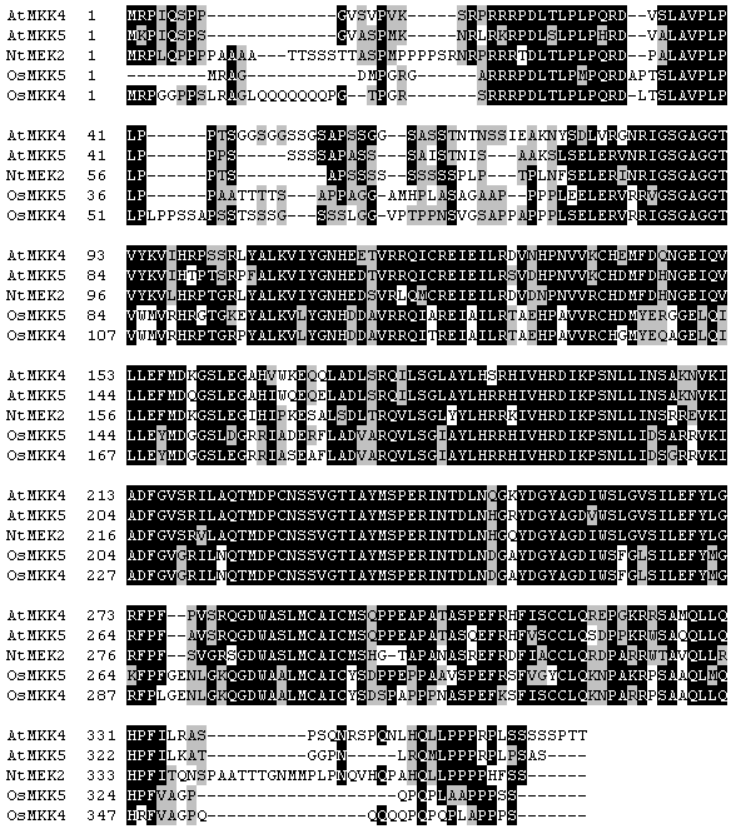


Figure S5 Accumulation of OsMPK6 protein in *osmpk6/OsMPK6* lines used for the phytoalexin measurement.

(a)



(b)

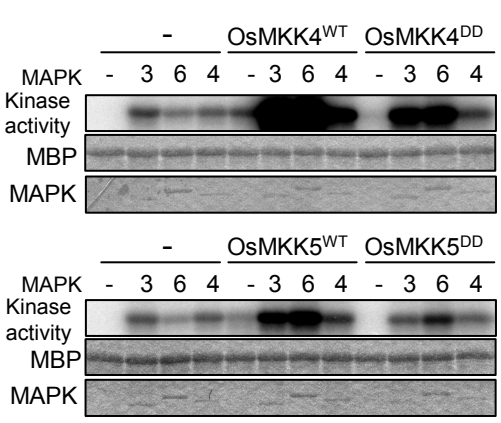


Figure S6 OsMKK4 and OsMKK5 are similar to AtMKK4, AtMKK5 and NtMEK2 and activate OsMPK3, OsMPK4 and OsMPK6 *in vitro*.

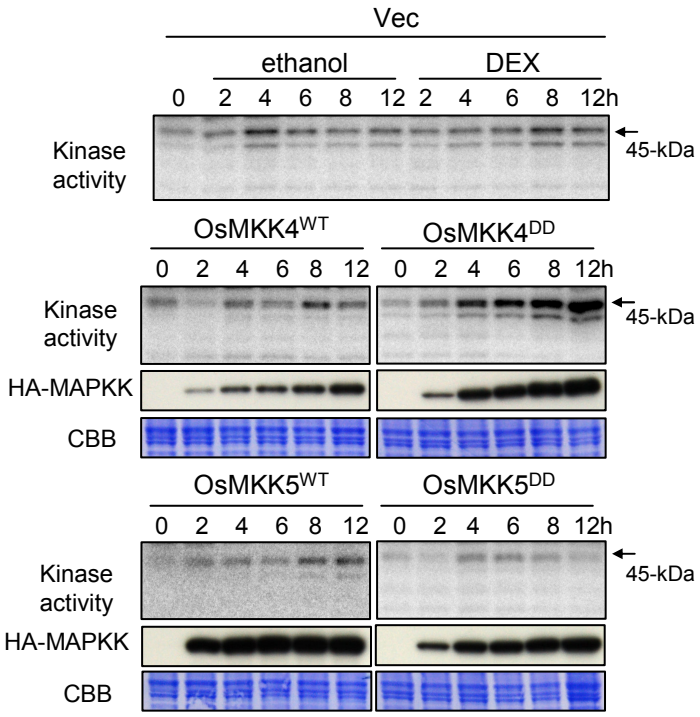


Figure S7 *In vivo* activation of OsMPK3 and OsMPK6 by constitutively active OsMKK4.

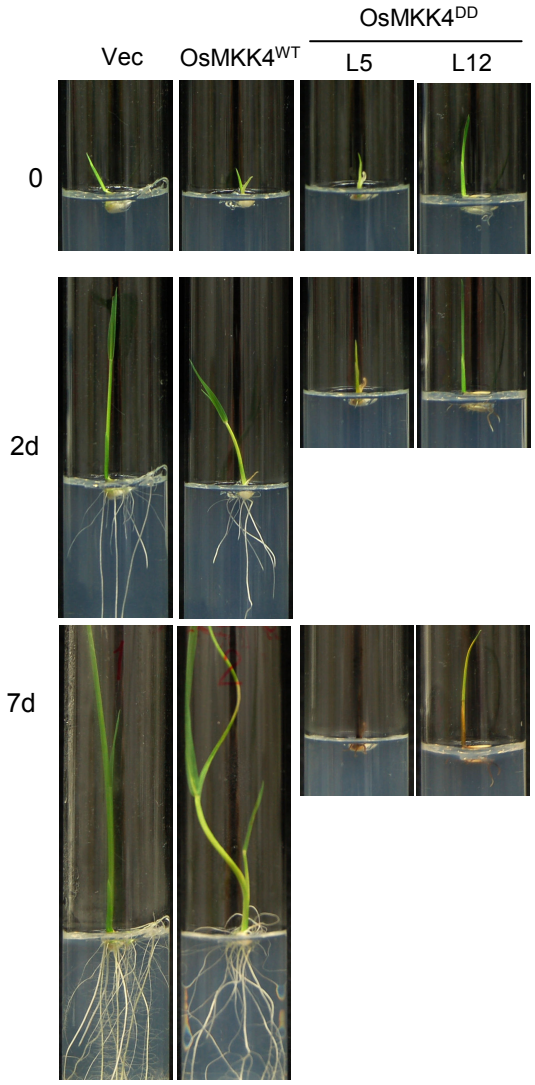


Figure S8 Phenotypes of seedlings expressing *OsMKK4^{DD}* or *OsMKK4^{WT}*.

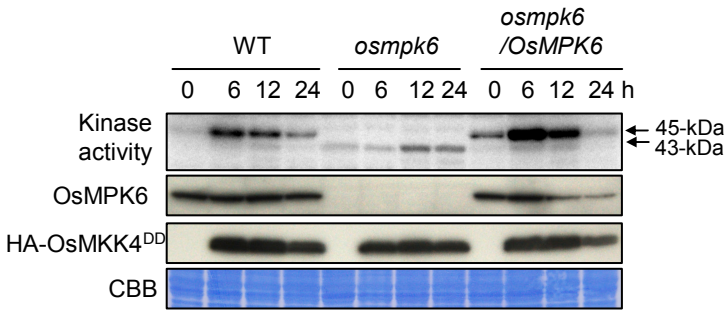


Figure S9 Activation of kinases by the expression of OsM*KK4*^{DD} in WT*,* *osmpk6,* and *osmpk6/OsMPK6* cells.

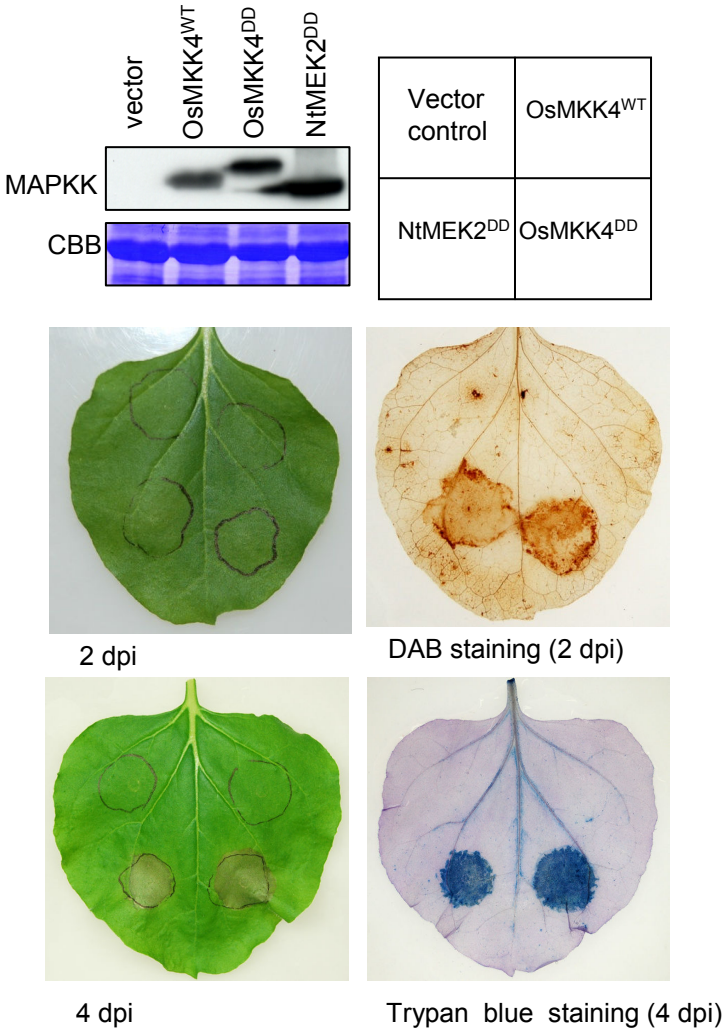


Figure S10 ROS and cell death assays in *Nicotiana benthamiana*.

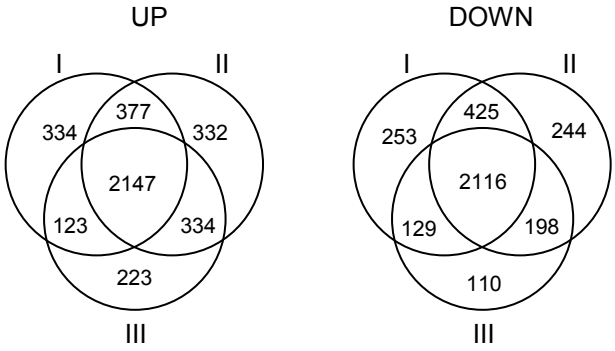


Figure S11 Summary of the genes regulated by OsMKK4^{DD}.

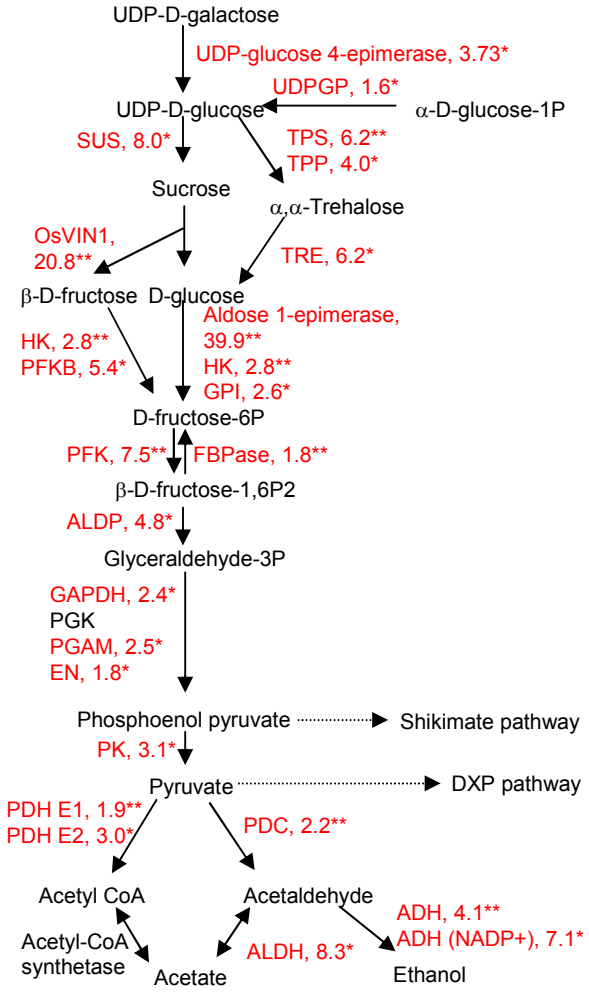


Figure S12 Regulation of sugar metabolism pathway genes by OsMKK4^{DD}.

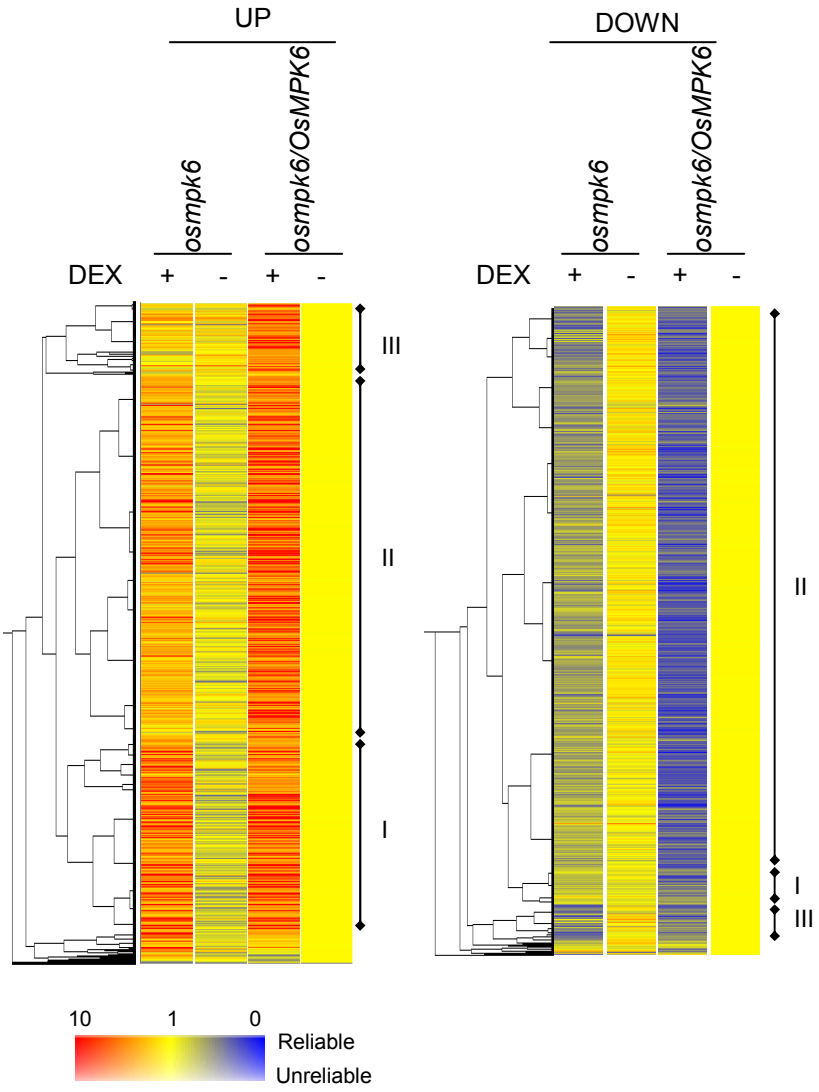


Figure S13 Gene regulation in *osmpk6* cells expressing *OsMKK4*^{DD}.

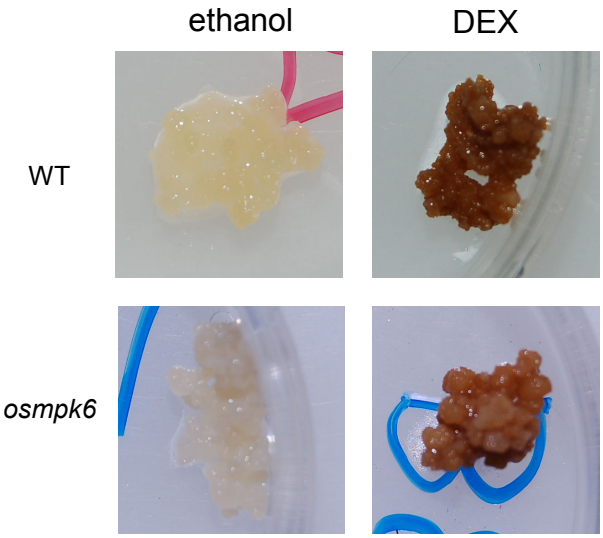


Figure S14 Appearance of cells after OsMKK4^{DD} induction.