

Auxin maintains root SCN identity through MPK3/6-mediated WOX5 homeostasis in QC

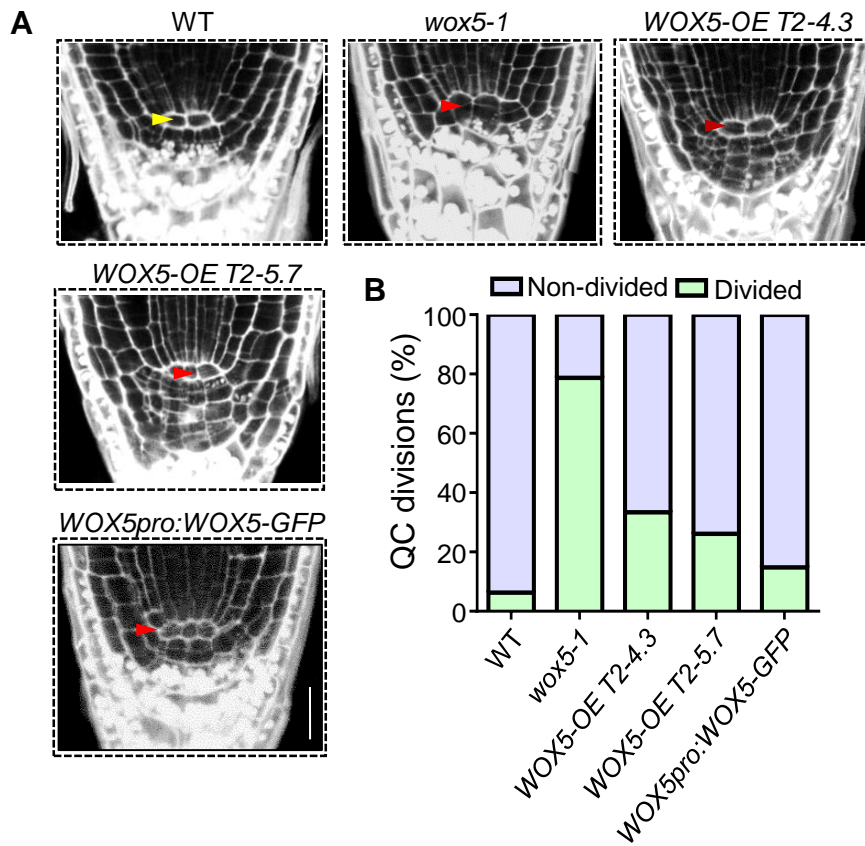


Figure 1. QC identity requires an optimal WOX5 level

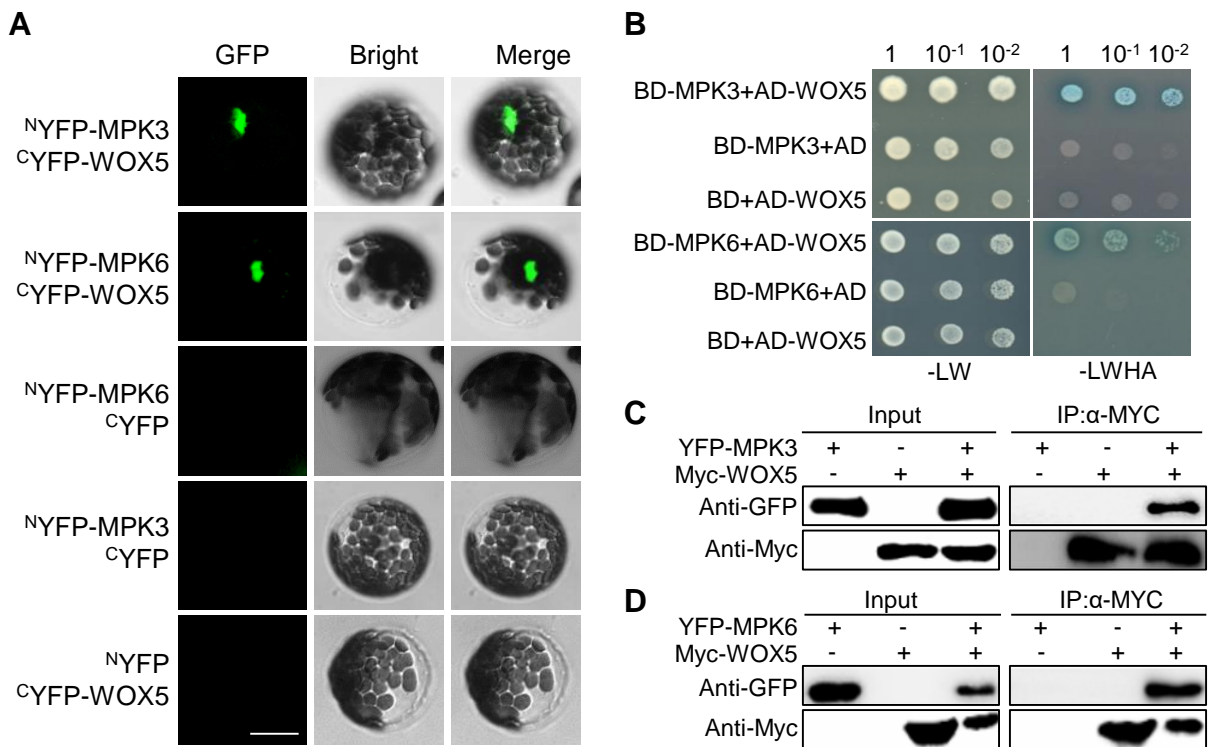


Figure 2. MPK3/MPK6 interact with WOX5

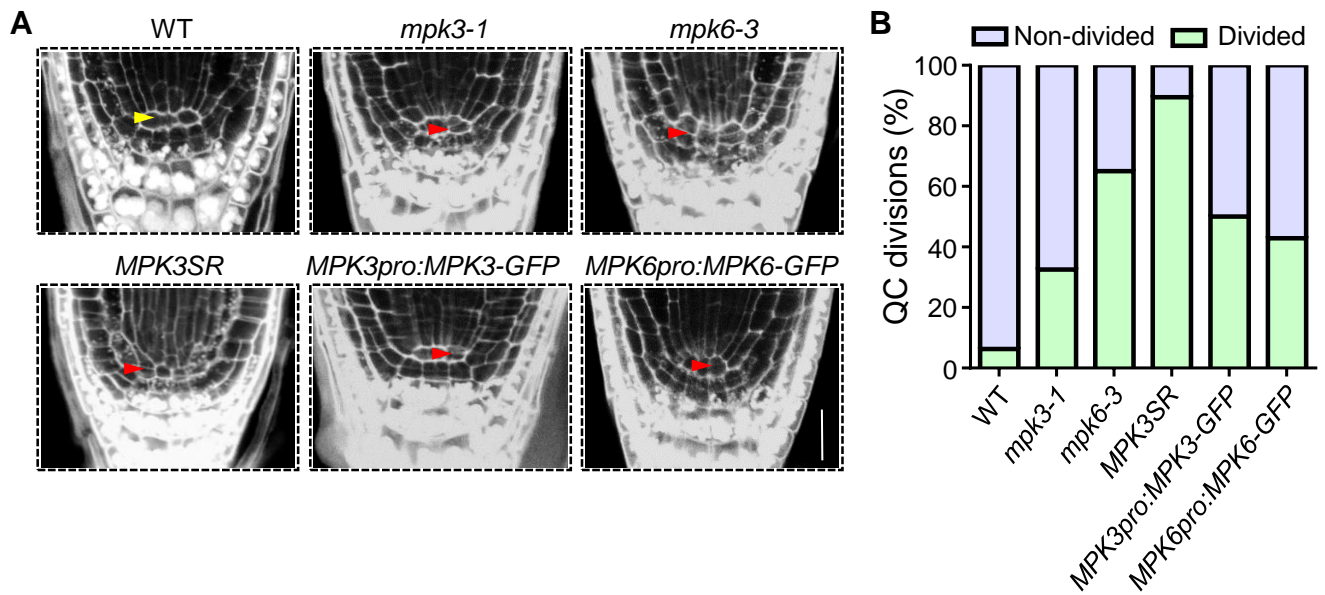
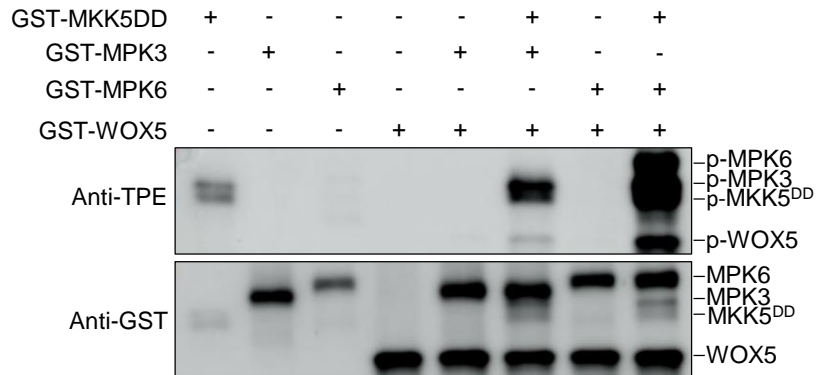
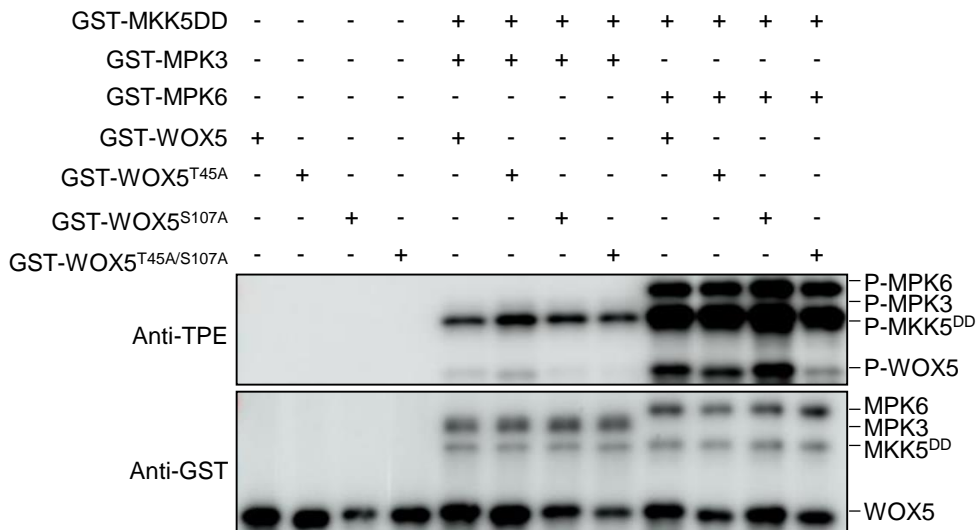


Figure 3. MPK3/6 homeostasis is required for root QC maintenance

A**B****Figure 4. MPK3/MPK6 phosphorylate WOX5**

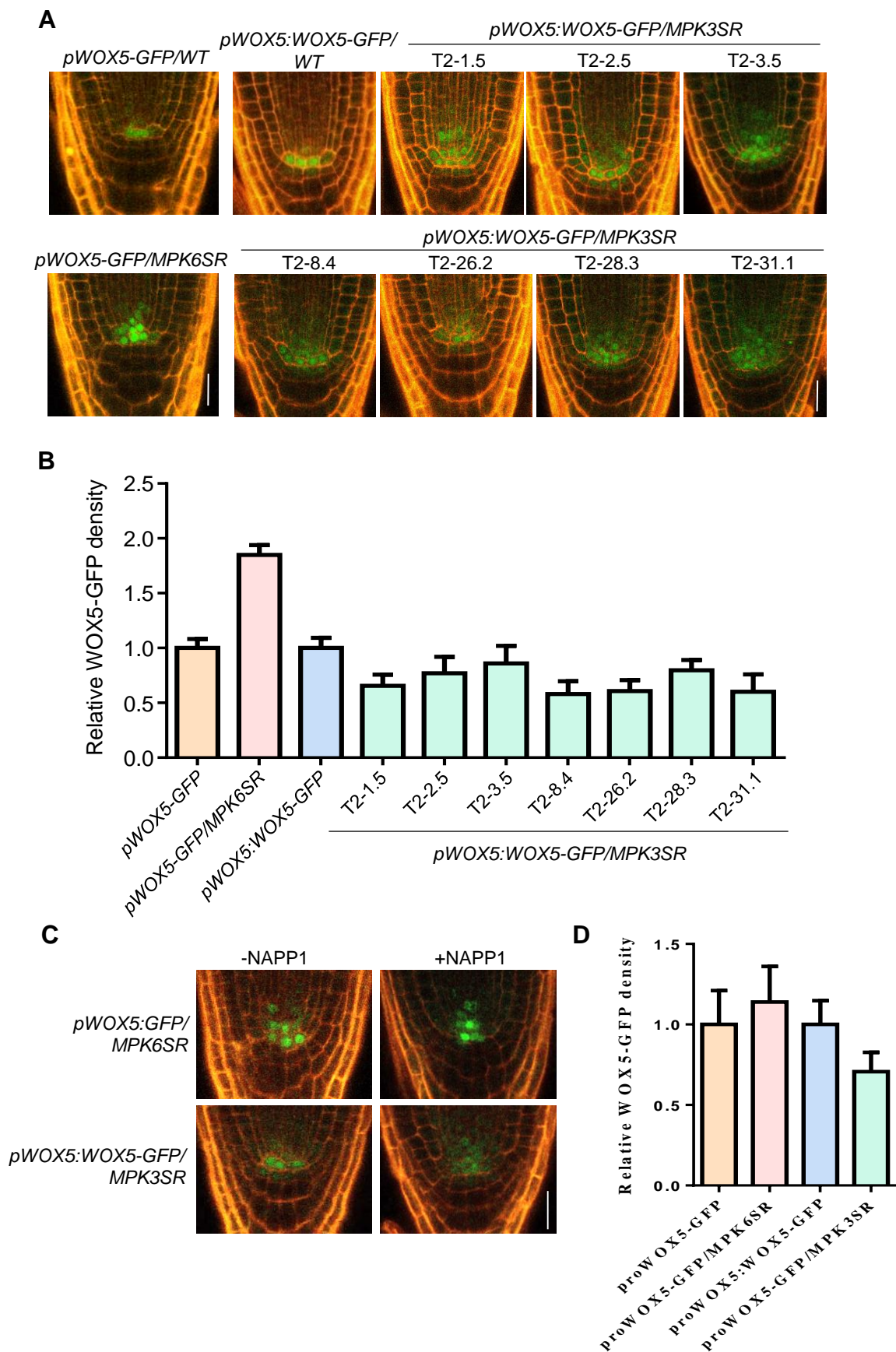


Figure 5. MPK3/6 enhance WOX5 protein accumulation

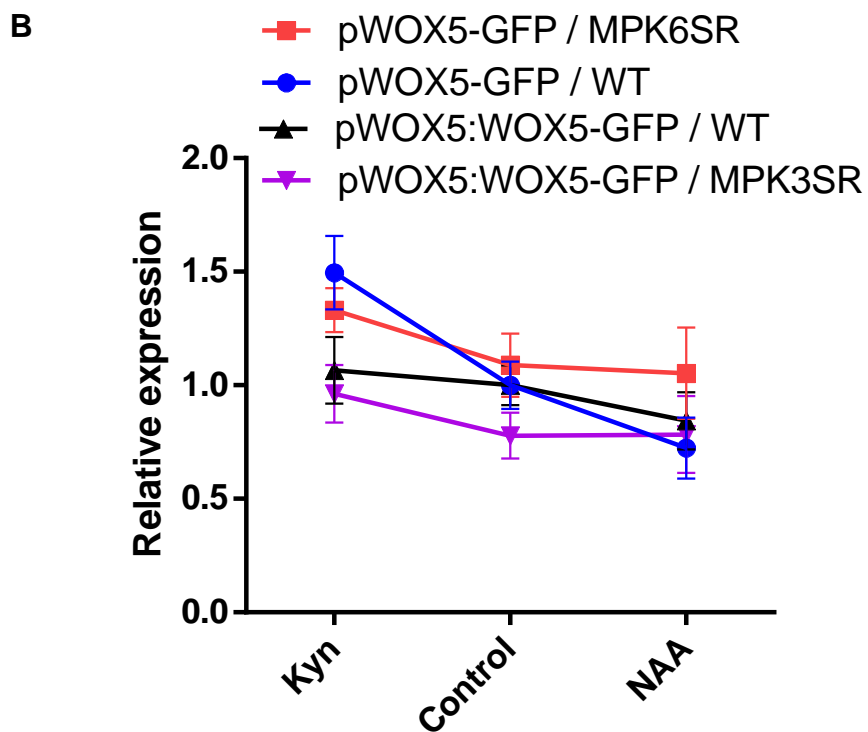
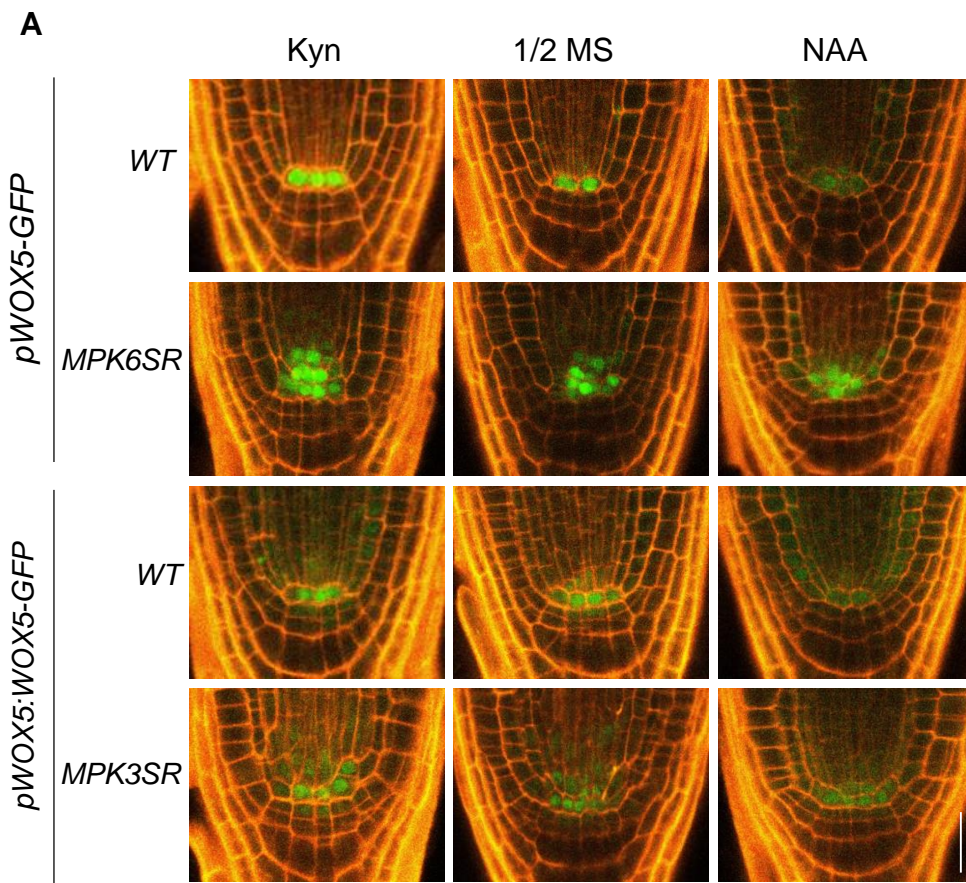


Figure 6. Auxin maintains WOX5 homeostasis at transcription and protein levels through MPK3/6 in QC

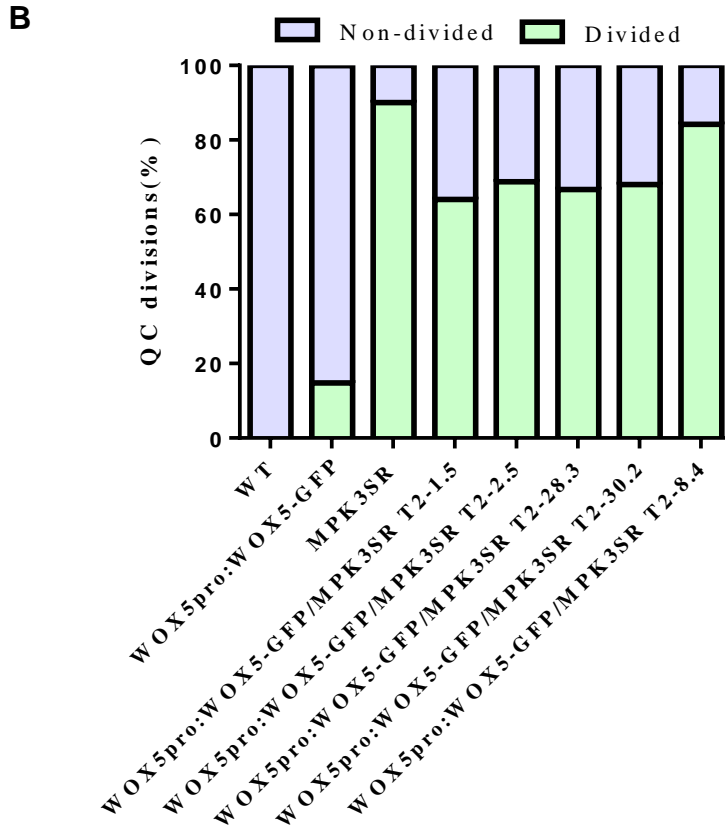
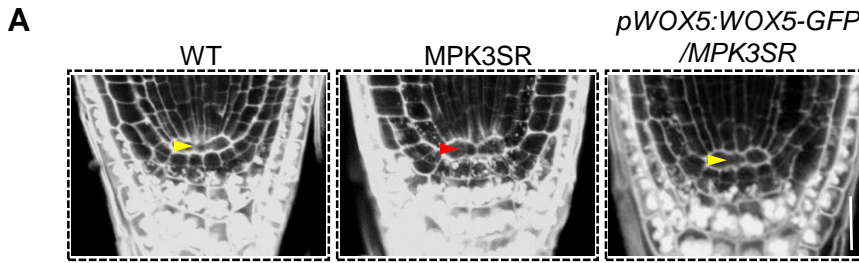


Figure 7. MPK3/6 coordinate with WOX5 to maintain the root SCN.

MP3SRXpWOX5-WOX5-GFP的杂交还需要继续多鉴定许多植株。
(MPK3SR和WOX5抗性都已纯合，mpk3和mpk6都为杂合，鉴定出mpk3和mpk6的双纯突变体)

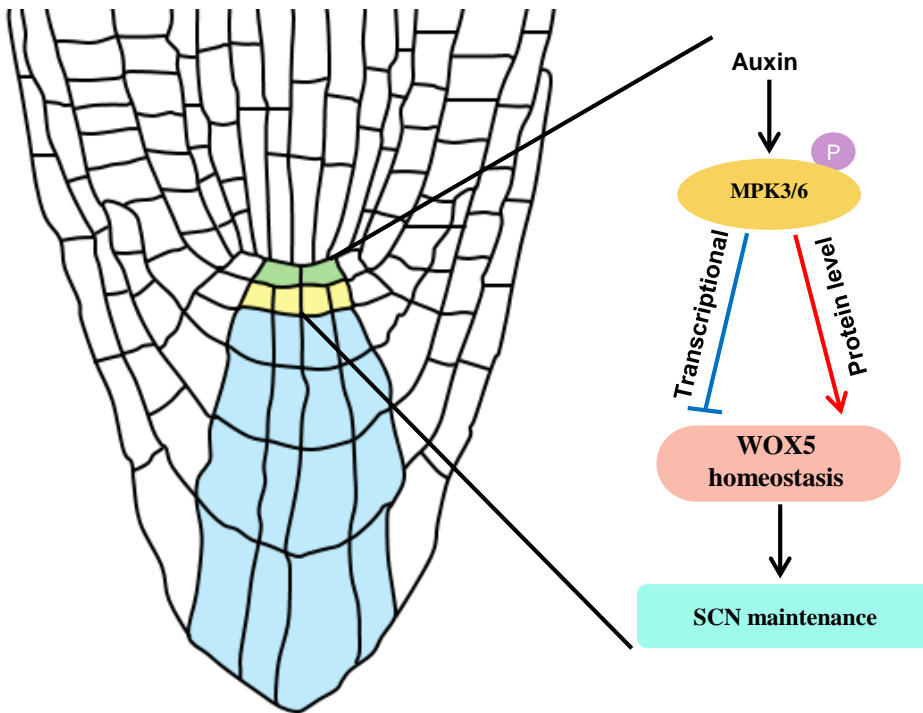
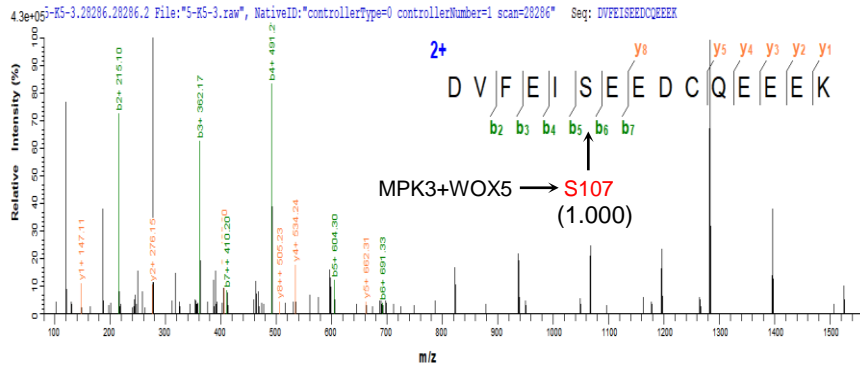
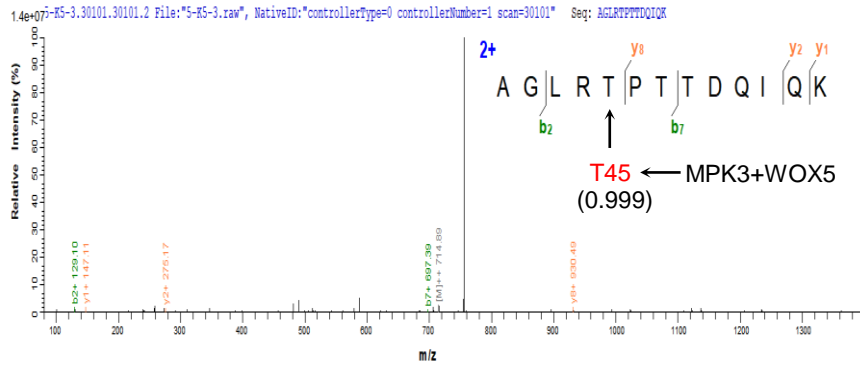


Figure 8. Auxin maintains root SCN identity through MPK3/6-mediated WOX5 homeostasis in QC

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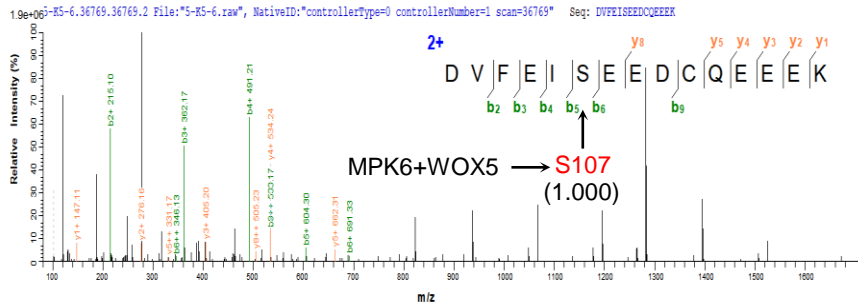


Figure S1. MPK3/MPK6 phosphorylate WOX5 *in vitro*

The DNA sequence of WOX5

ATGTCTTTCTCCGTGAAAGGTCGAAGCTTACGTGGCAACAATAACGGAGGAACGGGGACGAAGTGCGGGAGATGGAATCCAAC
GGTGGAGCAGTTGAAGATATTGACTGATCTGTTTCGAGCCGGTCTTAGA^{T45}ACTCCAACAACCTGATCAGATTCAGAAGATCTCTACG
GAGCTCAGTTTCTACGGCAAGATAGAGAGCAAGAATGTTTTCTATTGGTTTCAGAATCATAAGGCTAGGGAGAGGCAGAAACGTC
GTAAATCTCCATTGATTTTGATCATCATCATCAACCATCAACTAGAGATGTTTTGAAATA^{S107}AGCGAAGAAGATTGTCAAGAGG
AAGAGAAGGTGATAGAGACATTACAACCTTTCCGGTGAATTCATTTGAAGACTCCAACCTCCAAGGTGGACAAAATGAGAGCTAG
AGGCAATAACCACTACCGTGAATATATTCGAGAGACCACCACGACGTCGTTTTCTCCATACTCATCATGTGGAGCTGAAATGGAAC
ATCCACCGCCATTAGATCTTCGATTAAGCTTTCTTTAA

The WOX5 sequence of WOX5^{T45A}, the mutation of T45A was accompanied

ATGTCTTTCTCCGTGAAAGGTCGAAGCTTACGTGGCAACAATAACGGAGGAACGGGGACGAAGTGCGGGAGATGGAATCCAAC
GGTGGAGCAGTTGAAGATATTGACTGATCTGTTTCGAGCCGGTCTTAGA^{T45A}GCTCCAACAACCTGATCAGATTCAGAAGATCTCTACG
GAGCTCAGTTTCTACGGCAAGATAGAGAGCAAGAATGTTTTCTATTGGTTTCAGAATCATAAGGCTAGGGAGAGGCAGAAACGTC
GTAAATCTCCATTGATTTTGATCATCATCATCAACCATCAACTAGAGATGTTTTGAAATAAGCGAAGAAGATTGTCAAGAGG
AAGAGAAGGTGATAGAGACATTACAACCTTTCCGGTGAATTCATTTGAAGACTCCAACCTCCAAGGTGGACAAAATGAGAGCTAG
AGGCAATAACCACTACCGTGAATATATTCGAGAGACCACCACGACGTCGTTTTCTCCATACTCATCATGTGGAGCTGAAATGGAAC
ATCCACCGCCATTAGATCTTCGATTAAGCTTTCTTTAA

The WOX5 sequence of WOX5^{S107A}, the mutation of S107A was accompanied

ATGTCTTTCTCCGTGAAAGGTCGAAGCTTACGTGGCAACAATAACGGAGGAACGGGGACGAAGTGCGGGAGATGGAATCCAAC
GGTGGAGCAGTTGAAGATATTGACTGATCTGTTTCGAGCCGGTCTTAGAACTCCAACAACCTGATCAGATTCAGAAGATCTCTACG
GAGCTCAGTTTCTACGGCAAGATAGAGAGCAAGAATGTTTTCTATTGGTTTCAGAATCATAAGGCTAGGGAGAGGCAGAAACGTC
GTAAATCTCCATTGATTTTGATCATCATCATCAACCATCAACTAGAGATGTTTTGAAATA^{S107A}GCCGAAGAAGATTGTCAAGAGG
AAGAGAAGGTGATAGAGACATTACAACCTTTCCGGTGAATTCATTTGAAGACTCCAACCTCCAAGGTGGACAAAATGAGAGCTAG
AGGCAATAACCACTACCGTGAATATATTCGAGAGACCACCACGACGTCGTTTTCTCCATACTCATCATGTGGAGCTGAAATGGAAC
ATCCACCGCCATTAGATCTTCGATTAAGCTTTCTTTAA

The WOX5 sequence of WOX5^{S2A}, the mutation of T45A and S107A were accompanied

ATGTCTTTCTCCGTGAAAGGTCGAAGCTTACGTGGCAACAATAACGGAGGAACGGGGACGAAGTGCGGGAGATGGAATCCAAC
GGTGGAGCAGTTGAAGATATTGACTGATCTGTTTCGAGCCGGTCTTAGA^{T45A}GCTCCAACAACCTGATCAGATTCAGAAGATCTCTACG
GAGCTCAGTTTCTACGGCAAGATAGAGAGCAAGAATGTTTTCTATTGGTTTCAGAATCATAAGGCTAGGGAGAGGCAGAAACGTC
GTAAATCTCCATTGATTTTGATCATCATCATCAACCATCAACTAGAGATGTTTTGAAATA^{S107A}GCCGAAGAAGATTGTCAAGAGG
AAGAGAAGGTGATAGAGACATTACAACCTTTCCGGTGAATTCATTTGAAGACTCCAACCTCCAAGGTGGACAAAATGAGAGCTAG
AGGCAATAACCACTACCGTGAATATATTCGAGAGACCACCACGACGTCGTTTTCTCCATACTCATCATGTGGAGCTGAAATGGAAC
ATCCACCGCCATTAGATCTTCGATTAAGCTTTCTTTAA

Figure S2. The information on sequence changes in WOX5^{T45A}, WOX5^{S107A}, and WOX5^{S2A} compared to the WT version of WOX5

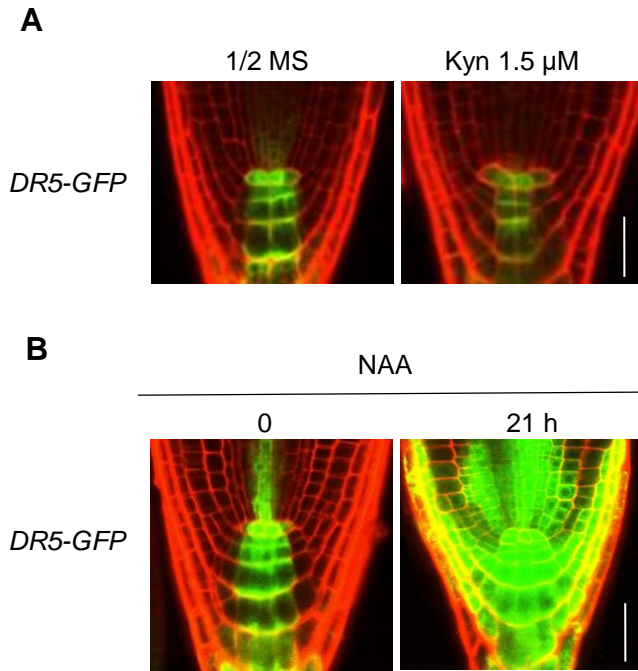


Figure S3. Auxin levels increased and decreased in QC

The DNA sequence of WOX5

ATGTCTTTCTCCGTGAAAGGTCGAAGCTTACGTGGCAACAATAACGGAGGAACGGGGACGAAGTGCGGGAGATGGAATCCAAC
GGTGGAGCAGTTGAAGATATTGACTGATCTGTTTCGAGCCGGTCTTAGA^{T45}ACTCCAACAACCTGATCAGATTCAGAAGATCTCTACG
GAGCTCAGTTTCTACGGCAAGATAGAGAGCAAGAATGTTTTCTATTGGTTTCAGAATCATAAGGCTAGGGAGAGGCAGAAACGTC
GTAAATCTCCATTGATTTTGATCATCATCATCAACCATCAACTAGAGATGTTTTGAAATA^{S107}AGCGAAGAAGATTGTCAAGAGG
AAGAGAAGGTGATAGAGACATTACAACCTCTTCCGGTGAATTCATTTGAAGACTCCAACCTCCAAGGTGGACAAAATGAGAGCTAG
AGGCAATAACCAGTACCGTGAATATATTCGAGAGACCACCACGACGTCGTTTTCTCCATACTCATCATGTGGAGCTGAAATGGAAC
ATCCACCGCCATTAGATCTTCGATTAAGCTTTCTTTAA

The WOX5 sequence of WOX5^{2D}, the mutation of T45D and S107D were accompanied

ATGTCTTTCTCCGTGAAAGGTCGAAGCTTACGTGGCAACAATAACGGAGGAACGGGGACGAAGTGCGGGAGATGGAATCCAAC
GGTGGAGCAGTTGAAGATATTGACTGATCTGTTTCGAGCCGGTCTTAGA^{T45D}GATCCAACAACCTGATCAGATTCAGAAGATCTCTACG
GAGCTCAGTTTCTACGGCAAGATAGAGAGCAAGAATGTTTTCTATTGGTTTCAGAATCATAAGGCTAGGGAGAGGCAGAAACGTC
GTAAATCTCCATTGATTTTGATCATCATCATCAACCATCAACTAGAGATGTTTTGAAATA^{S107D}GACGAAGAAGATTGTCAAGAGG
AAGAGAAGGTGATAGAGACATTACAACCTCTTCCGGTGAATTCATTTGAAGACTCCAACCTCCAAGGTGGACAAAATGAGAGCTAG
AGGCAATAACCAGTACCGTGAATATATTCGAGAGACCACCACGACGTCGTTTTCTCCATACTCATCATGTGGAGCTGAAATGGAAC
ATCCACCGCCATTAGATCTTCGATTAAGCTTTCTTTAA

Figure S4. The information on sequence changes in WOX5^{T45D} and WOX5^{S107D} compared to the WT version of WOX5

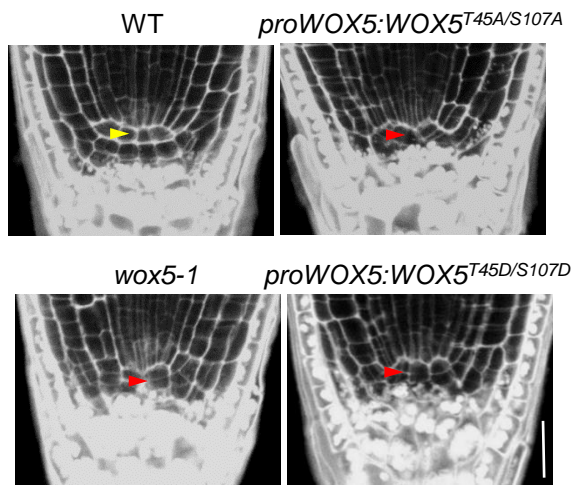
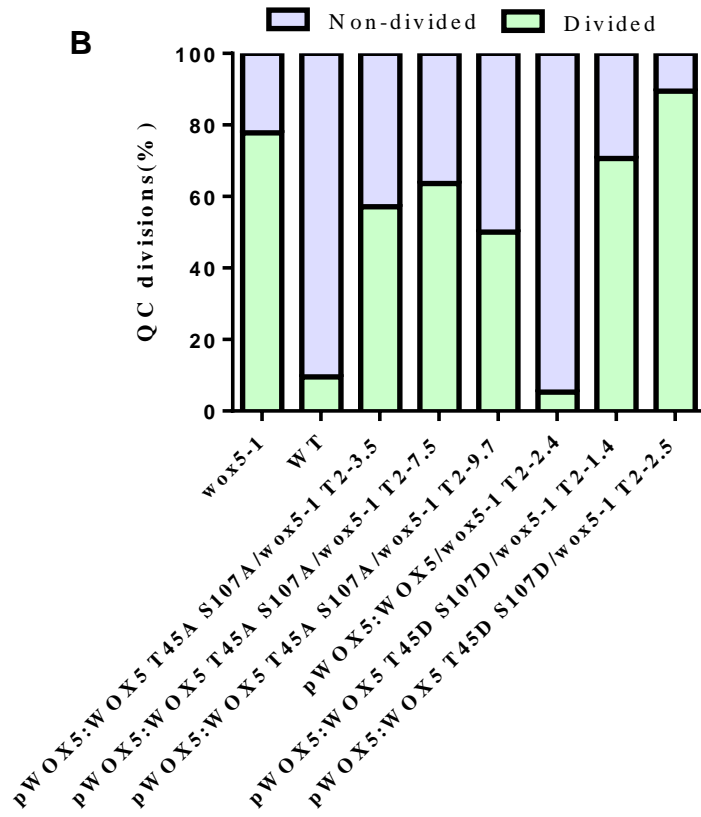
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Figure S5. Phosphorylation of WOX5 affects its function

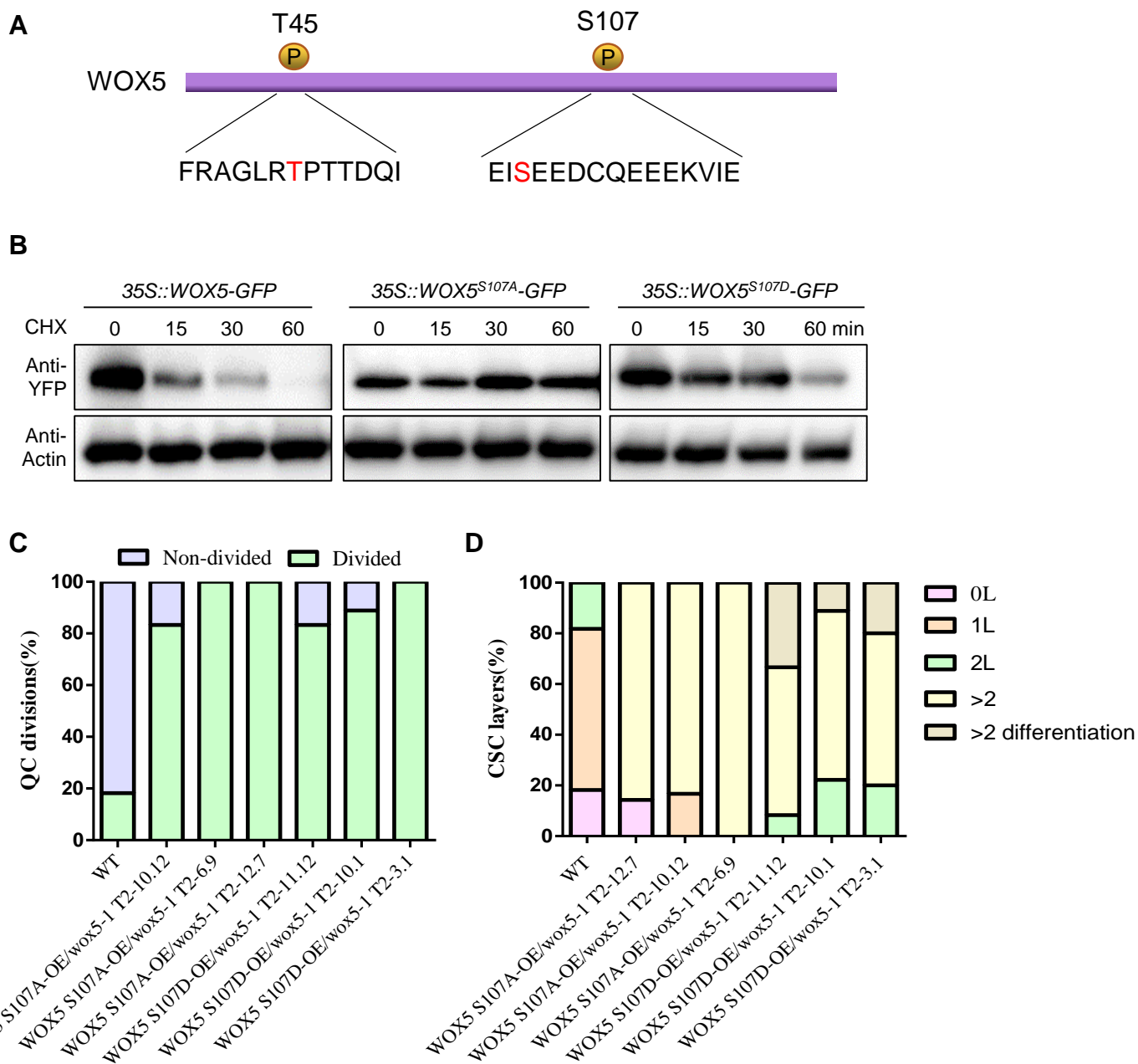


Figure S6. WOX5 protein stability is affected by mutations

(需验证WOX5 T45, S107 两个位点突变植株的稳定性和表型。等35S::WOX5 T45A S107A-GFP的植株收到种子后筛选纯合植株)

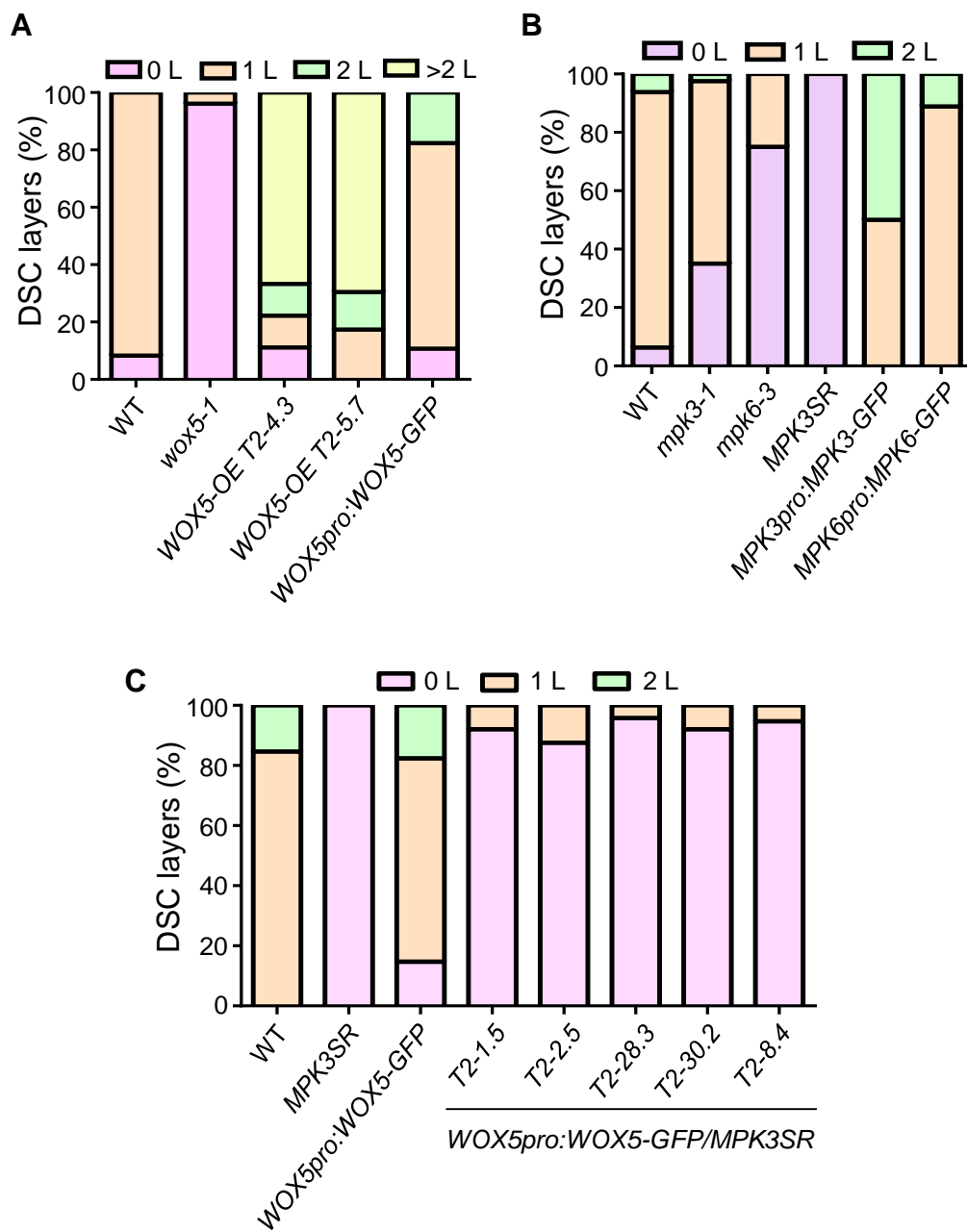


Figure S7. MPK3/6 regulate root DSC maintenance through WOX5

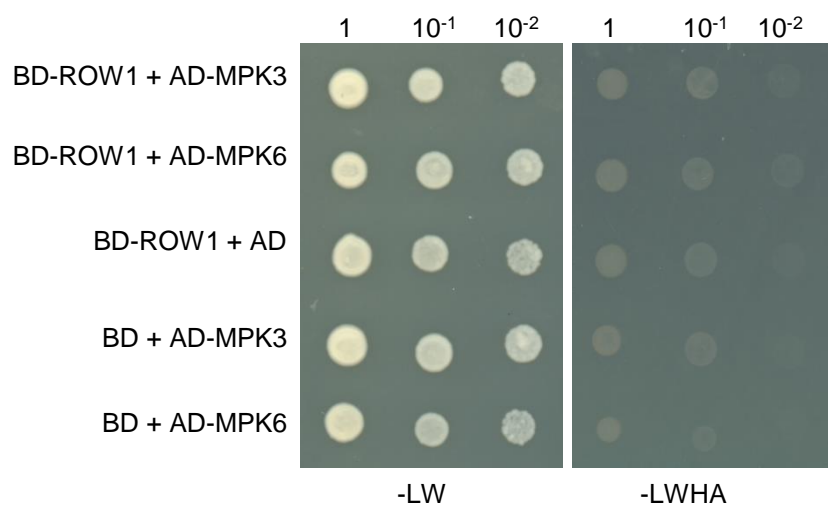


Figure S8. MPK3/6 does not interact with RBR