

Figure S8. Differential AQP expression in response to other cues. Differential expression is indicated as Log₂ ratio of treated (or transgenic lines) samples relative to control (or wild type) samples and is visualized as heatmaps. Differential AQP transcript accumulations between samples were hierarchically clustered using Euclidean distance. Each row corresponds to an AQP gene. **Heatmap A:** Green represents down-regulation and red represents up-regulation in treated samples relatively to control samples. AQP expression in Thaxtomin A-habituated resistant cells grown without the toxin for 18 months as compared to control cells. Thaxtomin-A habituated resistant cells displayed a reduced size and growth and had fragmented vacuoles as compared to control cells (GSE17804). **Heatmap B:** Differential expression in defoliated stem (DS) of ARBORKNOX2-modified lines (ARK2: *Populus* Class I KNOX homeobox gene), namely *ark2* artificial microRNA transgenic plants and ARK2 overexpression transgenic plants (GSE17804). **Heatmap C:** Differential expression in leaves of *P. tremula x tremuloides* overexpressing *Flowering Locus T1* or *T2*, either following heat promotion of inducible constructs (ProHSP::FT1 and ProHSP::FT2) or constitutive expression constructs (P35S::FT1 and P35S::FT2) (GSE24609). **Heatmap D:** Differential expression in leaf discs – inoculated or not with *Melampsora medusae* f. sp. *tremuloidae*- collected from *PtWRKY23*-overexpressing and *PtWRKY23*-underexpressing (RNAi) lines of *P. canescens* (GSE16417). **Heatmap E:** Differential AQP expression in several unrelated lines. Differential expression in shoot apex (SA) of Fuzzy mutant (obtained from activation tagged *P. canescens* INRA717 1-B4, GSE21061). The fuzzy phenotype was recapitulated by overexpressing *PtaMYB186* in poplar. Differential expression in leaf of transgenic line expressing 35S:*AtVND7-VP16-GR* treated with dexamethazone (GSE25304), in stem tissue (ST) collected from lines overexpressing *Populus* ortholog of *ATHB15/CORONA* or *Populus* ortholog of *REVOLUTA* (GSE19467, an experiment about *Populus* Class III HDZIPs), in the shoot apex collected from a line with constitutive overexpression of *EARLY BUD-BREAK1* (P35S::*EBB1*, GSE16495), in young differentiating xylem collected from lines with reduced expression of *Cinnamyl Alcohol Dehydrogenase* (RNAi-CAD, GSE27063) and in leaves collected from *CO1*- and *CO2*-overexpressing lines (P35S::*CO1* and P35S::*CO2*, GSE28706).

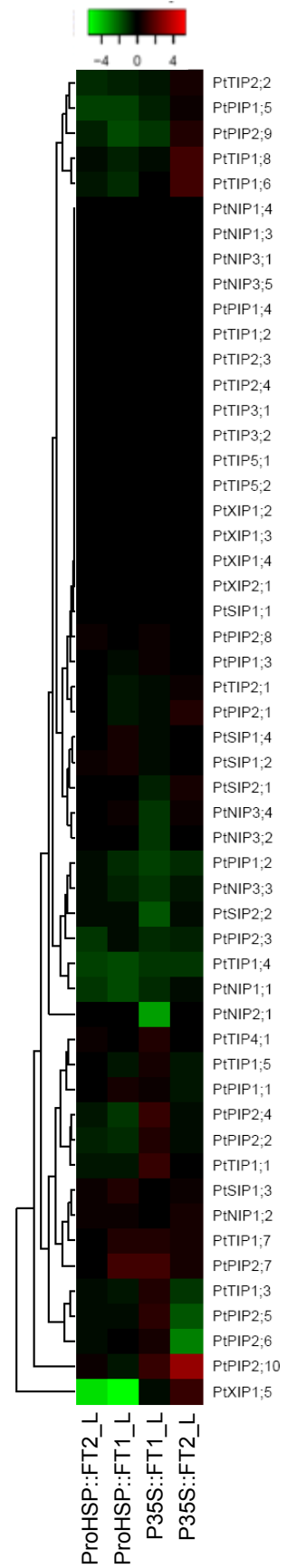
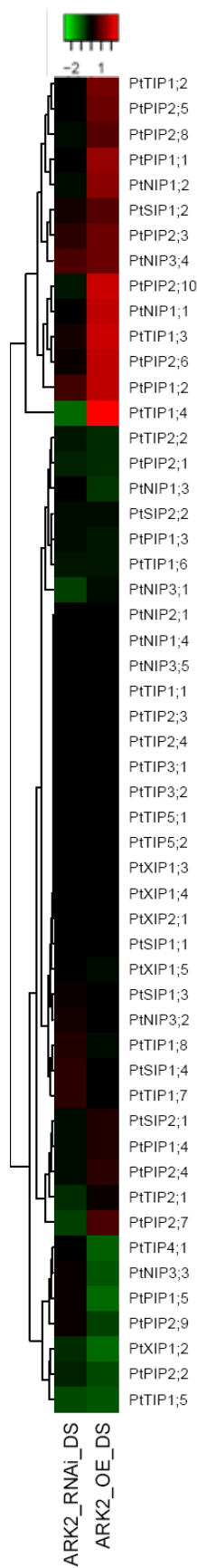
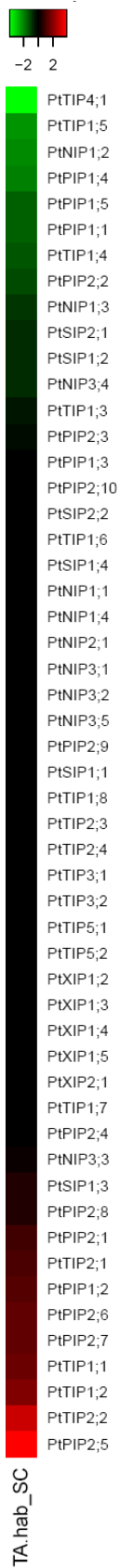


Figure S8A.
TA-habituated

Figure S8 B.
ARBORKNOX2-modified

Figure S8C. Flowering
Locus T-modified

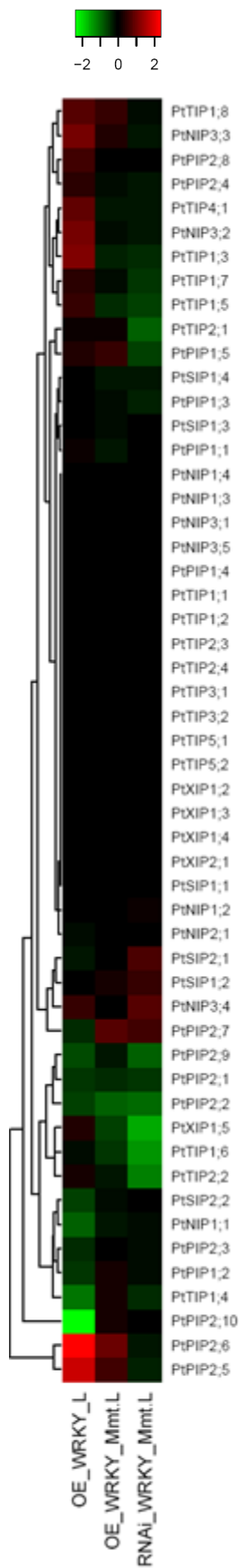


Figure S8D. WRKY23-modified

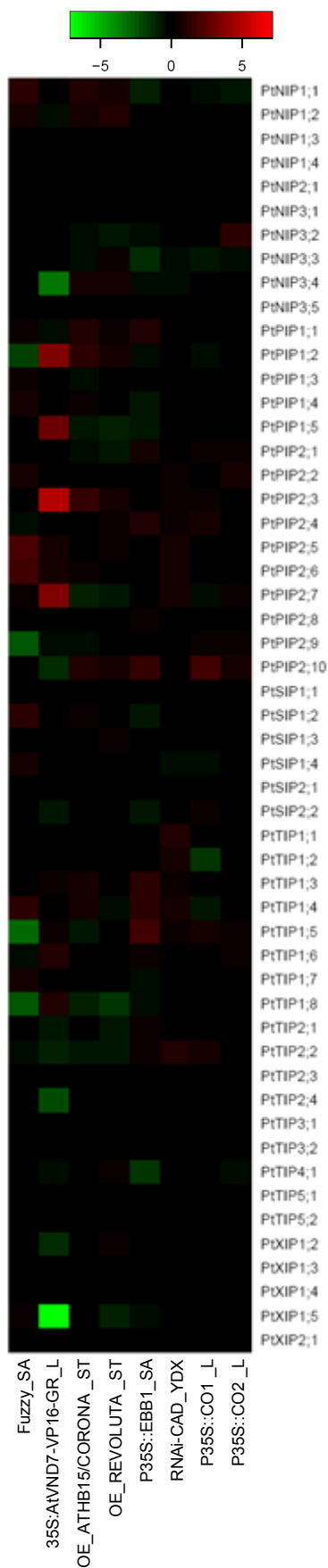


Figure S8E. Other transgenic lines