New Phytologist Supporting Information Tables S1-S3

Article Title: Disruption of stomatal lineage signaling or transcriptional regulators has differential affects on mesophyll development, but maintains coordination of gas-exchange

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Genotype (growth condition)[1]	g_{smax} (mol H_2O $m^{-2}s^{-1}$)	V_{cmax} (μmol C $m^{-2}s^{-1}$)	Carbon Isotope Ratio ($\delta^{13}C$, ‰)[2]
SPCH SIL	0.452 ± 0.050	12.62 ± 0.94	-33.7 ± 0.04
Col-0 (low light: 50)	0.689 ± 0.105	13.32 ± 1.30	--
Col-0	0.883 ± 0.044	17.48 ± 1.04	-33.9 ± 0.05
epf1	0.923 ± 0.059	18.43 ± 2.83	-34.0 ± 0.02
SPCH-YFP	1.106 ± 0.053	19.28 ± 0.68	-33.8 ± 0.04
SPCH 2-4A	1.853 ± 0.185	22.93 ± 2.27	-34.0 ± 0.06
epf1;epf2	1.928 ± 0.122	23.19 ± 1.12	-33.8 ± 0.08
Col-0 (high light: 200)	2.127 ± 0.088	25.31 ± 2.85	--

Table S1. Summary of gas-exchange (g_{smax}) and photosynthetic (V_{cmax}) capacity among stomatal development mutants and the impact on water-use efficiency ($\delta^{13}C$). All values are mean ± SEM, $4<n<8$ per genotype; n=6 per genotype for carbon isotope measurements, $\delta^{13}C$, which was used to infer intrinsic water-use efficiency (W_g). [1]Light conditions for growth were 100 μmol photons $m^{-2}s^{-1}$, unless noted otherwise. [2]No significant differences in $\delta^{13}C$ ($P>0.05$) were observed between Col-0 and any other genotypes.

Genotype (Light Intensity)	Adaxial Stomatal Density (mm^{-2})	Adaxial Epidermal Density (mm^{-2})	Adaxial Stomatal Index	Palisade Mesophyll Density (mm^{-2})	Leaf Thickness (μm)	Sixth Leaf Area (cm^2)	Number of Plants (*n*)
Col-0	52.0 ± 1.7	169.2 ± 4.9	0.235 ± 0.003	276.7 ± 7.3	138.4 ± 2.7	3.34 ± 0.15	8
Col-0 (Low)	57.6 ± 3.8	261.0 ± 10.9	0.179 ± 0.005	430.4 ± 19.7	86.1 ± 3.6	1.52 ± 0.17	4
Col-0 (High)	174.0 ± 4.7	356.1 ± 8.1	0.328 ± 0.002	539.0 ± 12.0	219.2 ± 6.1	2.51 ± 0.10	4
SPCH SIL	74.7 ± 3.0	366.8 ± 10.6	0.169 ± 0.007	351.3 ± 9.6	124.4 ± 4.1	2.19 ± 0.18	8
SPCH-YFP	69.8 ± 3.6	236.7 ± 9.3	0.224 ± 0.006	394.6 ± 15.8	139.5 ± 5.9	2.65 ± 0.16	8
SPCH 2-4A	114.0 ± 2.8	322.1 ± 9.3	0.262 ± 0.004	250.3 ± 7.0	151.0 ± 5.8	3.52 ± 0.09	8
epf1	74.0 ± 4.6	171.0 ± 7.0	0.300 ± 0.006	315.9 ± 9.8	134.9 ± 7.3	2.84 ± 0.10	8
EPF1 OX	11.4 ± 1.7	307.3 ± 9.4	0.035 ± 0.003	253.5 ± 9.4	139.1 ± 7.5	3.44 ± 0.36	4
epf2	111.6 ± 7.4	308.3 ± 16.0	0.265 ± 0.004	338.7 ± 9.5	115.0 ± 4.2	2.96 ± 0.20	5
EPF2 OX	23.6 ± 2.2	147.0 ± 3.6	0.136 ± 0.008	270.7 ± 7.5	133.9 ± 8.9	3.24 ± 0.19	8
epf1;epf2	153.1 ± 3.6	253.5 ± 7.4	0.378 ± 0.004	361.5 ± 6.3	132.6 ± 6.9	3.02 ± 0.06	8
STOMAGEN RNAi	27.5 ± 1.1	155.8 ± 3.4	0.150 ± 0.004	269.9 ± 5.0	135.5 ± 7.9	3.25 ± 0.25	6
STOMAGEN OX	126.4 ± 4.3	216.2 ± 5.5	0.368 ± 0.005	310.9 ± 6.7	130.9 ± 4.8	2.90 ± 0.10	5
erecta	98.9 ± 2.4	298.3 ± 8.3	0.250 ± 0.004	251.8 ± 5.5	145.7 ± 5.1	3.02 ± 0.23	8
tmm	33.4 ± 1.7	182.6 ± 4.2	0.153 ± 0.007	342.0 ± 7.4	137.5 ± 3.3	2.76 ± 0.17	8
tmm;erecta	23.1 ± 5.4	231.4 ± 7.2	0.082 ± 0.018	333.6 ± 9.1	125.7 ± 3.0	2.90 ± 0.27	4
tmm;epf1	27.4 ± 2.7	170.7 ± 2.6	0.135 ± 0.009	325.7 ± 7.0	129.6 ± 3.1	3.18 ± 0.11	4
tmm;epf2	26.3 ± 2.5	173.0 ± 3.8	0.129 ± 0.009	321.3 ± 6.8	136.8 ± 3.8	3.70 ± 0.06	4
basl	91.7 ± 4.3	184.4 ± 9.9	0.333 ± 0.005	291.2 ± 8.2	147.2 ± 4.1	3.00 ± 0.18	4

Table S2. Summary of cell anatomical features and leaf attributes for all controls and genotypes visualized using three-dimensional confocal microscopy. All values are mean ± SEM.

Genotype	SD:PMD Ratio	Comparison to *tmm*
tmm	0.098 ± 0.006	--
erecta	0.392 ± 0.014	p < 0.001 ***
epf1	0.233 ± 0.010	p < 0.001 ***
epf2	0.333 ± 0.030	p < 0.01 **
tmm;erecta	0.075 ± 0.043	p = 1.00 ns
tmm;epf1	0.084 ± 0.007	p = 0.2337 ns
tmm;epf2	0.083 ± 0.017	p = 0.4606 ns

Table S3: Test of epistasis among signaling genotypes and double mutants using stomatal density (SD) to palisade mesophyll density (PMD) ratio. All values are mean ± SEM. Notation in third column indicates significant difference from *tmm*, where not significant (ns) when P > 0.05, * when P < 0.05, ** when P < 0.01, and *** when P < 0.001.