

New Phytologist Supporting Information

Article title: **Increased ratio of galactolipids MGDG:DGDG induces jasmonic acid overproduction and changes chloroplast shape**

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The following Supporting Information is available for this article:

Figure S1. The C1 and d4 *amiR-MGD1* transgenic lines did not show great reduction in chloroplast numbers.

Figure S2. Chlorophyll comparison based on dry weights.

Table S1 The amounts of major chloroplast lipids in the wild type and various mutants.

Table S2 Primers used for quantitative RT-PCR.

Figure S1. The C1 and d4 *amiR-MGD1* transgenic lines did not show great reduction in chloroplast numbers. Plants were grown on 10 μ M DEX-MS medium for 15 days, and leaf 1 or leaf 2 were excised and embedded in 5% agarose. Then, 100- μ m-thick sections were used to observed chlorophyll fluorescence of mesophyll cells. Chl, chlorophyll fluorescence; DIC, differential interference contrast images.

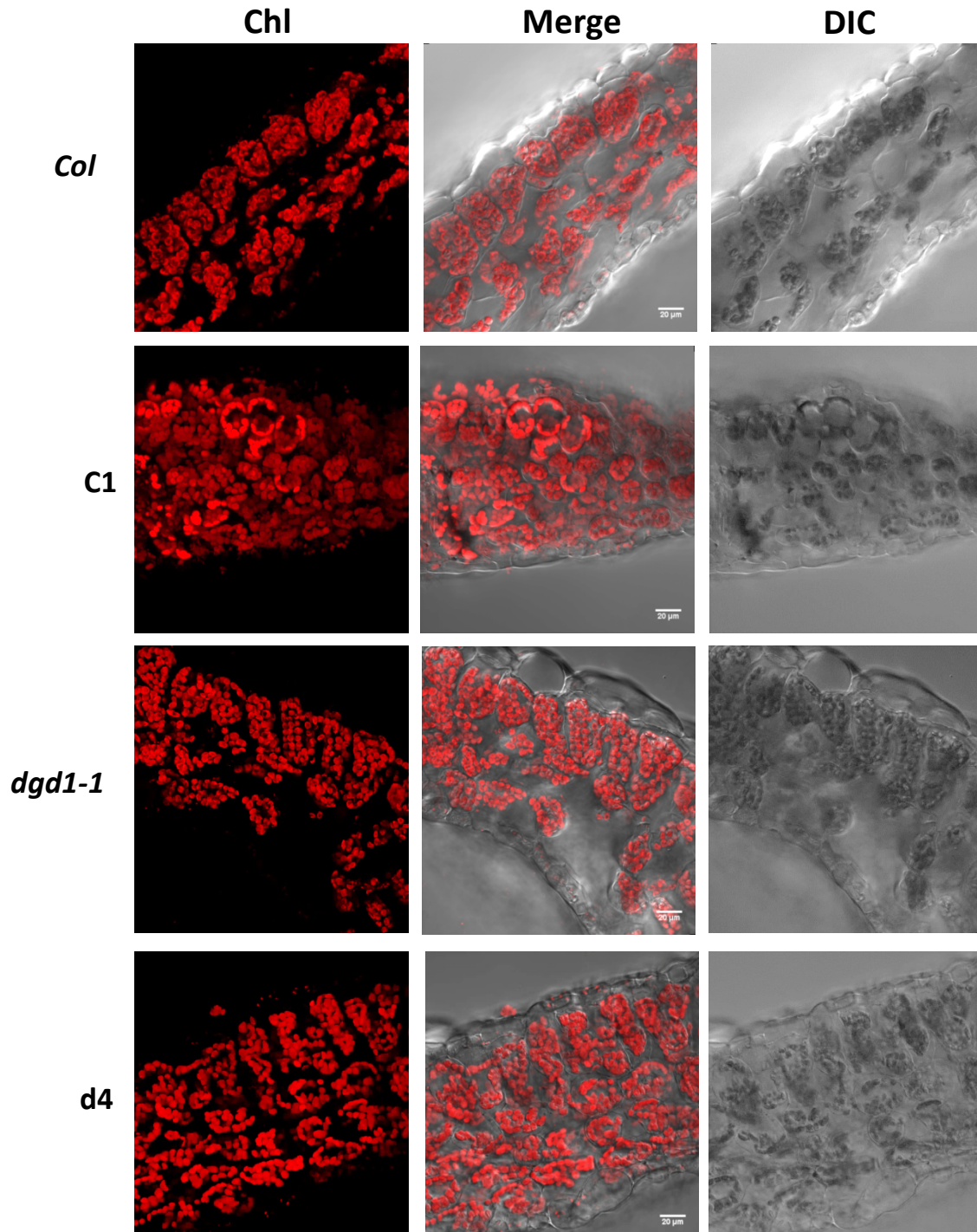


Figure S2. Chlorophyll comparison based on dry weights. Plants were grown on 10 μ M DEX-MS medium for 15 days, and leaves were then harvested for chlorophyll determination and normalized by dry weight (DW). Values are means \pm SD of three biological repeats. Values marked with different letters indicate a statistically significant difference between genotypes ($p < 0.05$, one-way ANOVA with Tukey honestly significant difference [HSD] test).

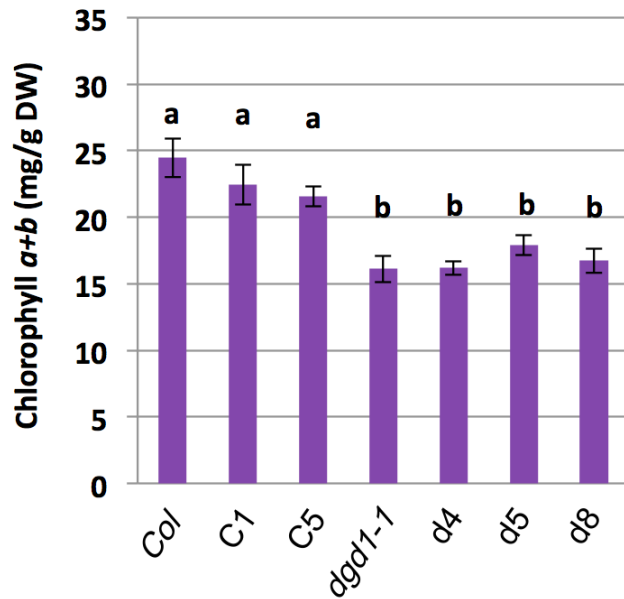


Table S1. The amount of major chloroplast lipids in the wild type and various mutants.

Means \pm SD of at least four independent plant batches are shown. Values are nmol mg⁻¹ dry weight. MGDG, monogalactosyl diacylglycerol; DGDG, digalactosyl diacylglycerol; SQDG, sulfoquinovosyl diacylglycerol; PG, phosphatidylglycerol.

Plant	MGDG	DGDG	PG	SQDG
<i>Col</i>	57.1 \pm 5.7	22.2 \pm 0.7	11.7 \pm 1.6	5.0 \pm 0.4
C1	43.8 \pm 8.9	18.3 \pm 3.2	10.6 \pm 1.3	3.5 \pm 0.6
<i>dgd1-1</i>	45.7 \pm 7.4	1.4 \pm 0.4	14.4 \pm 2.0	3.3 \pm 0.7
d4	34.8 \pm 7.0	1.4 \pm 0.4	12.3 \pm 2.3	3.2 \pm 0.3

Table S2 Primers used for quantitative RT-PCR

Gene name	AGI Locus code	Primer sequence	
<i>UBQ10</i>	AT4G05320	Fw	TCCGGATCAGCAGAGGCTTA
		Rv	TCAGAACTCTCCACCTCAAG
<i>MGD1</i>	AT4G31780	Fw	GCAGGACTTGAAACATCACAAATC
		Rv	GCGAACTGGTTTCACAAAGGA
<i>AOS</i>	AT5G42650	Fw	CACCGGCGTTAGTCAAATCT
		Rv	CCGGCGGATTCTAAGAAAA
<i>AOC1</i>	AT3G25760	Fw	AACTCCGGTACCACCGTCTA
		Rv	GGCTTAAGCGCCTTAGCTTC
<i>LOX2</i>	AT3G45140	Fw	GCCATTGAGTTGACTTGTC
		Rv	CACTTAGTTGTCTATTTGCCGC
<i>LOX3</i>	AT1G17420	Fw	TCCCTGCCGATCTAA
		Rv	GTTTGGGACGTAGCCA
<i>LOX4</i>	AT1G72520	Fw	GCTTGCTTAGATACGACACT
		Rv	ATGTGGTCTTCCGTGAGAGC
<i>PDF1.2</i>	AT5G44420	Fw	TGTTCTCTTTGCTGCTTTGACGC
		Rv	TGTGTGCTGGGAAGACATAGTTGC
<i>VSP1</i>	AT5G24780	Fw	GGGCGTACTGGTCGTGGTTA
		Rv	TCCCGAGTTCCAAGAGGTTTT