Supplementary Materials

Salinity induces carbohydrate accumulation and sugar-regulated starch biosynthetic genes in tomato (*Solanum lycopersicum L. cv Micro-Tom*) fruits in ABA- and osmotic stress-independent manner

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Supplementary Table 1. Primer sequences and accession numbers of target Genes for quantitative RT-PCR analysis.

Gene	Accession NO.	Primer (5'-3')		product(bp)
AgpL1	U88089	Forward	gcagagaaagccacaattag	216
		Reverse	actttagtttattttagacacgtgtctc	
AgpL2	U85496	Forward	aataaagtaggctggtatgg	161
		Reverse	taaaagatggaggactgagg	
AgpL3	U85497	Forward	gaaaaaatgttgttattgcc	282
		Reverse	aacaacccttcttatcatcg	
AgpS1	L41126	Forward	gctgctggctgcaaaggg	258
		Reverse	caaaatcttggagggcaacc	
LeSUT1	X82275	Forward	aactcccggagaaagaagag	235
		Reverse	tacagtttcgcatcaccgac	
Actin(Tom52)	U60482	Forward※	caccattgggtgtgagcgat	252
		Reverse※	gggcgacaaccttgatcttc	

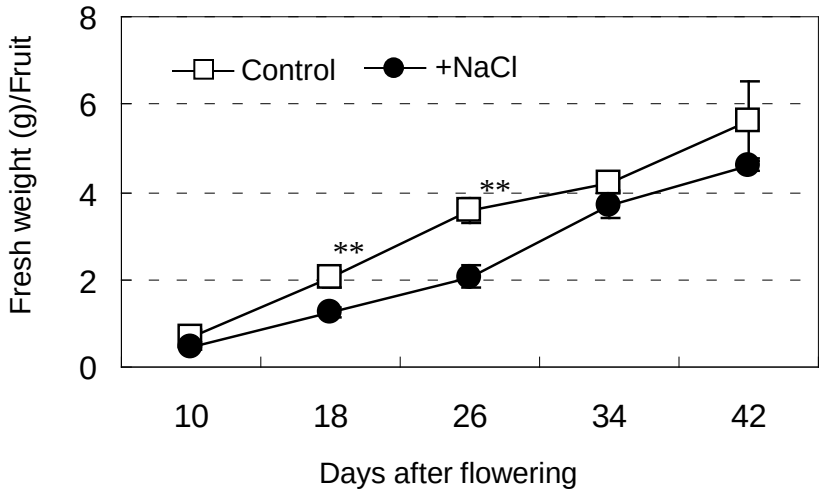
※This primer sequence was cited from Petreokov et al. (2006)

Supplementary Table 2. Effects of ABA, Sucrose and Mannitol on the expression of AGPase genes in developing tomato fruit.

Gene	Treatments		Transcription levels	ANOVA	
AgpL1	Control		1.1021		
	ABA	10^{-2} µM	1.2259	ABA	NS
		1 µM	1.0285	Sucrose	**
		10 µM	1.3025	Mannitol	NS
		10^{2} µM	2.0796		
	Sucrose		4.0067	ABA x Sucrose	**
	Mannitol		1.5406	ABA x Mannitol	NS
AgpL2	Control		0.9806		
	ABA	10^{-2} µM	1.7882	ABA	NS
		1 µM	1.0615	Sucrose	NS
		10 µM	0.7296	Mannitol	*
		10^{2} µM	0.8659		
	Sucrose		1.7922	ABA x Sucrose	NS
	Mannitol		2.1117	ABA x Mannitol	NS
AgpL3	Control		0.895		
	ABA	10^{-2} µM	0.7782	ABA	NS
		1 µM	1.5254	Sucrose	NS
		10 µM	0.3477	Mannitol	NS
		10^{2} µM	0.2711		
	Sucrose		1.0482	ABA x Sucrose	**
	Mannitol		0.9543	ABA x Mannitol	**
AgpS1	Control		0.9805		
	ABA	10^{-2} µM	1.031	ABA	NS
		1 µM	1.3079	Sucrose	**
		10 µM	0.9525	Mannitol	NS
		10^{2} µM	0.6958		
	Sucrose		1.9655	ABA x Sucrose	NS
	Mannitol		1.3853	ABA x Mannitol	NS

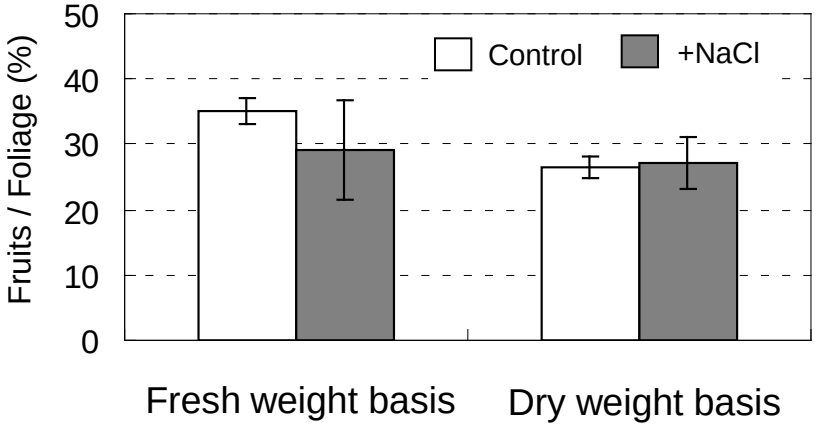
NS, * and ** indicate non-significant, significant at $P<0.05$ and $P<0.01$, respectively.

Supplementary Figure 1.



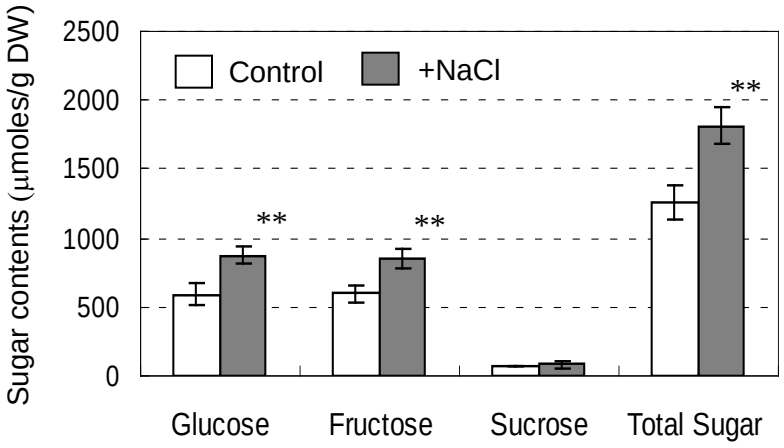
Supplementary Figure 1. Fresh weight of developing fruit actually-used in this work. The plants were grown in control or under 160 mM salinity conditions. White squares and black circles indicate control and salinity treatments, respectively. The horizontal axis indicates fruit developing stages (DAF). Values are means ± SD (n = 10). The asterisks indicate statistical significance of means in the same developing stage estimated using Fisher's PLSD test (*$P < 0.05$, **$P < 0.01$).

Supplementary Figure 2.



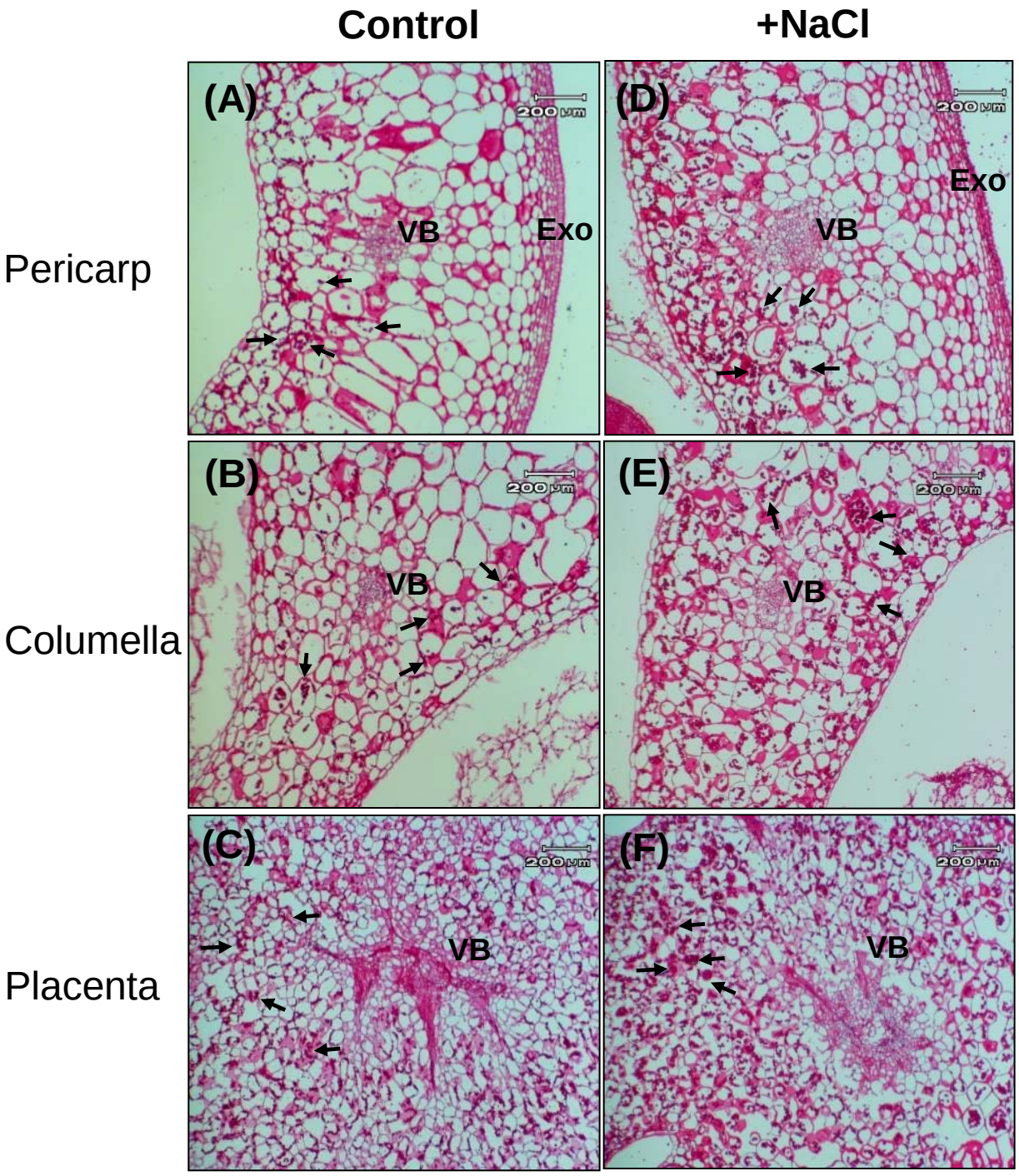
Supplementary Figure 2. Fruits / foliage ratio on fresh and dry weight basis of the 14 weeks-old plants grown under control and 160mM of salinity condition. The latter plants were exposed to the stress for 7 weeks after flowering. Values are means ± SD (n = 3).

Supplementary Figure 3.



Supplementary Figure 3. Soluble sugar contents on dry weight basis in ripe fruits (42 DAF) of plants grown under control and saline conditions. Open and shaded columns indicate control (0 mM NaCl) and salinity treatments (160 mM NaCl). Values are means ± SD (n = 5). The asterisks indicate statistical significance of means in the same developing stage estimated using Fisher's PLSD test (*P < 0.05, **P < 0.01).

Supplementary Figure 4.



Supplementary Figure 4. Accumulation pattern of starch granules in tomato fruit at 10 DAF. Immature-green fruit were sampled from plants grown under control (0 mM NaCl) (A-C) and saline conditions (160 mM NaCl) (D-F). Cross paraffin sections (12 mm thick) were stained by PAS reaction to visualize the starch granules and cell wall. Arrows indicate starch granules. A, D, pericarp; B, E, columella; C, F, placenta. VB, vascular bundle; EX, exocarp. Bar = 0.02 mm.