



**Figure S1.** Morphological characteristics of different tomato genotypes at control (left) and salt stress (right) for seven days  
A. “LA0516”; B. “LA1598”; C. “LA1698”; D. “LA0012”

**Table S1.** Tomato genotypes used in the experiment

Name	Species	Origin	Salt sensibility
LA0716	<i>Solanum pennellii</i>	US(TGRC)	Salt tolerance
LA2093	<i>Solanum pimpinellifolium</i>	US(TGRC)	Salt tolerance
Heinz 1706	<i>Solanum lycopersicum</i> L.	US(TGRC)	Salt sensitivity
LA0516	<i>Solanum lycopersicum</i> L.	US(TGRC)	Salt tolerance
LA1598	<i>Solanum pimpinellifolium</i>	US(TGRC)	Salt tolerance
LA1698	<i>Solanum lycopersicum</i> L.	US(TGRC)	Salt sensitivity
LA0012	<i>Solanum lycopersicum</i> L.	US(TGRC)	Salt sensitivity

Note: *Solanum lycopersicum* L. is the cultivated tomato; *Solanum pimpinellifolium* is one kind of wild tomato.  
US: the United States of America; TGRC: Tomato Genetic Resources Center, University of California, Davis.

**Table S2.** Primer sequence information for qRT-PCR

Gene Name	Gene Identity	Forward primer (5' to 3')	Reverse primer (5' to 3')
Actin	Solyc04g011500.2	CCACCGGTATTGTGTTGGAC	AGTCAAGACGGAGAATGGCA
<i>SpeSOS1-1</i>	Sopen01g001090.1	GCTTGGTGGACTTCTAAGCG	ACAACAATTGCCGTCCCATC
<i>SpeSOS1-2</i>	Sopen01g001090.2	GAAGGCTCAAGTGCAAGGAG	TCGCCACCAGAATCATCACT
<i>SpeSOS1-3</i>	Sopen01g001090.3	TCCTGGAATTAGTGCAGCCA	AATTGGTGCGCTTGGAAGTT
<i>SpeSOS1-4</i>	Sopen04g009310.1	TTCTTCAGCACAAGTGTTTGTG	TTGCAGCATTTCCATTATCACC
<i>SpeSOS2-1</i>	Sopen00g004210.1	TATGGAAGTTGTGGCCCAGT	TCTTGTTTGCGGAGAGACCT
<i>SpeSOS2-2</i>	Sopen00g004210.2	AAGGTTATGATGGTGCTGTG	ATACGAGTTTGAGGGTTTGG
<i>SpeSOS2-3</i>	Sopen12g004550.1	TATTTCGCGCCAACCTGCTA	TTGTAATCGCGTGTGTGGAC
<i>SpeSOS3-1</i>	Sopen03g023070.1	CCCTGGTTACGAGGATCCAA	GCTTCAACTTCACTCACCGT
<i>SpeSOS3-2</i>	Sopen06g018020.1	ACACACCCGGATATGAGGAG	TCCTGAAGAGTGCTAGCTGA
<i>SpeSOS3-3</i>	Sopen12g024390.1	CCAAGGACTCCTCAAGCAGA	TCCTTCAACTCATCGCGTTC
<i>SpeSOS4-1</i>	Sopen02g035960.1	AGAACCAGGTGCTTGAAGCA	TGCCACATATCCCTGAACA
<i>SpeSOS4-2</i>	Sopen02g035960.2	GTGCTTGGCTGGAGCAATA	GCGGATGTCATCTAGGCTCT
<i>SpeSOS5-1</i>	Sopen03g031960.1	CTTATACCACCCGCCGTAA	AGACCCGGAATTGCTAGGAG
<i>SpeSOS5-2</i>	Sopen06g032520.1	TGCTAATCTCTTCGCCACCA	TCGAAGAGGAAGAGGATGGC
<i>SpiSOS1-1</i>	SPIMP01g0004920	TTCCAAGCGCACCAATTGAA	AGCTTGGTCTTCCCGAATCA
<i>SpiSOS1-2</i>	SPIMP04g0128060	GATTCTGTGGCTTTCTGCGT	GTGCACTCCTTCCACAACAG
<i>SpiSOS2-1</i>	SPIMP04g0144760	GTGGGCAGGACTCAATGAAG	GGGTCTTGAAACCCATGGAC
<i>SpiSOS2-2</i>	SPIMP12g0341920	TATTTCGCGCCAACCTGCTA	TTGTAATCGCGTGTGTGGAC
<i>SpiSOS3-1</i>	SPIMP03g0101000	CGCAACGGAGTGATTGGATT	CTCATTACAGCAGCGCCAAA
<i>SpiSOS3-2</i>	SPIMP06g0187870	ATAGAATTGGCGCTGGGAGT	TTGGTGCTGATCATGCTGTG
<i>SpiSOS3-3</i>	SPIMP12g0358170	CCAAGGACTCCTCAAGCAGA	TCCTTCAACTCATCGCGTTC
<i>SpiSOS4-1</i>	SPIMP02g0081310	GCTTCAATGCTGACGCCTAA	GCAAGCTTCTTGCCCATCTT
<i>SpiSOS5-1</i>	SPIMP03g0108780	CTTATACCACCCGCCGTAA	AGACCCGGAATTGCTAGGAG
<i>SpiSOS5-2</i>	SPIMP06g0202660	TGCTAATCTCTTCGCCACCA	TCGAAGAGGAAGAGGATGGC
<i>SlySOS1-1</i>	Solyc01g005020.3.1	TATGATAATTCGTGGGGCTACC	CCAAACCATAGCCAAAGTATCG
<i>SlySOS1-2</i>	Solyc04g018090.2.1	CTCCTTCGCCGTACCACTAT	ACCAAGCTTTCCCAGTCGAT
<i>SlySOS1-3</i>	Solyc04g018100.5.1	TCTGGCGACTCAGGGATTAC	TTGCGATTCTGTGAGCATGG
<i>SlySOS2-1</i>	Solyc04g076810.4.1	CCTGGCGAAGGAGTCAACAT	GGATGACACCACAGGACCAG
<i>SlySOS2-2</i>	Solyc12g009570.3.1	TATTTCGCGCCAACCTGCTA	TTGTAATCGCGTGTGTGGAC
<i>SlySOS3-1</i>	Solyc03g083320.4.1	TTCCACCCAAATGCACCAGT	TCATTACAGCAGCGCCAAAAC
<i>SlySOS3-2</i>	Solyc06g051970.3.1	GCTGCATGAGTCAGACTTGG	GTATCGGCATCGCTAAACGTC
<i>SlySOS3-3</i>	Solyc12g055920.3.1	CCAAGGACTCCTCAAGCAGA	TCCTTCAACTCATCGCGTTC
<i>SlySOS4-1</i>	Solyc02g091340.4.1	CCGATCCTGGCGTTAGCAAT	TGCTGACTTGTTGCCACAT
<i>SlySOS5-1</i>	Solyc03g112880.1.1	TCCTCCCCCATTAGTCTCGG	AATTGCTAGGAGCTCGTCCG
<i>SlySOS5-2</i>	Solyc06g076120.3.1	CCTTCGACTTATACCACCTACC	AGACCCAAAATTATTAGGGGCA

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<i>SOS1-1</i>	Solyc01g005020.3.1	TATGATAATTCGTGGGGCTACC	CCAAACCATAGCCAAAGTATCG
<i>SOS1-2</i>	Solyc04g018090.2.1	CTCCTTCGCCGTACCACTAT	ACCAAGCTTTCCCAGTCGAT
<i>SOS2-1</i>	Solyc04g076810.4.1	CCTGGCGAAGGAGTCAACAT	GGATGACACCACAGGACCAG
<i>SOS2-2</i>	Solyc12g009570.3.1	TATTTCCCGCCAACCTGCTA	TTGTAATCGCGTGTGTGGAC
<i>SOS3-2</i>	Solyc06g051970.3.1	GCTGCATGAGTCAGACTTGG	GTATCGGCATCGCTAAACGTC
<i>SOS3-3</i>	Solyc12g055920.3.1	CCAAGGACTCCTCAAGCAGA	TCCTTCAACTCATCGCGTTC
<i>SOS4-1</i>	Solyc02g091340.4.1	CCGATCCTGGCGTTAGCAAT	TGCTGACTTGTTGCCCACAT
<i>SOS5-1</i>	Solyc03g112880.1.1	TCCTCCCCCATTAGTCTCGG	AATTGCTAGGAGCTCGTCCG
<i>SOS5-2</i>	Solyc06g076120.3.1	CCTTCGACTTATACCACCTACC	AGACCCAAAATTATTAGGGGCA

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**Table S3.** The characteristics of SOS gene family in *S. pennellii*, *S. pimpinellifolium* and *S. lycopersicum*

Variety	Gene name	ID	Protein Length(aa)	Protein M.W (kDa)	pI	Subcellular localization
LA0716	<i>SpeSOS1-1</i>	Sopen01g001090.1	349	37.36	5.73	vacuole
	<i>SpeSOS1-2</i>	Sopen01g001090.2	1151	127.51	5.91	cell membrane
	<i>SpeSOS1-3</i>	Sopen01g001090.3	897	100.84	6.23	cell membrane
	<i>SpeSOS1-4</i>	Sopen04g009310.1	746	82.21	5.31	cell membrane, vacuole
	<i>SpeSOS2-1</i>	Sopen00g004210.1	447	50.60	6.38	cytoplasm
	<i>SpeSOS2-2</i>	Sopen00g004210.2	445	50.52	6.37	cytoplasm
	<i>SpeSOS2-3</i>	Sopen12g004550.1	446	50.47	8.86	cytoplasm
	<i>SpeSOS3-1</i>	Sopen03g023070.1	214	24.65	4.61	cell membrane
	<i>SpeSOS3-2</i>	Sopen06g018020.1	214	24.55	4.52	cell membrane
	<i>SpeSOS3-3</i>	Sopen12g024390.1	224	25.79	4.91	cell membrane
	<i>SpeSOS4-1</i>	Sopen02g035960.1	339	37.38	7.66	chloroplast
	<i>SpeSOS4-2</i>	Sopen02g035960.2	337	37.12	7.05	chloroplast
	<i>SpeSOS5-1</i>	Sopen03g031960.1	427	46.21	5.15	cell membrane
	<i>SpeSOS5-2</i>	Sopen06g032520.1	420	45.27	6.07	cell membrane
	<i>SpiSOS1-1</i>	SPIMP01g0004920	1151	127.50	5.89	cell membrane
LA2093	<i>SpiSOS1-2</i>	SPIMP04g0128060	962	105.73	5.55	cell membrane, vacuole
	<i>SpiSOS2-1</i>	SPIMP04g0144760	447	50.64	6.38	cytoplasm
	<i>SpiSOS2-2</i>	SPIMP12g0341920	368	41.68	9.25	cytoplasm
	<i>SpiSOS3-1</i>	SPIMP03g0101000	214	24.59	4.52	cell membrane
	<i>SpiSOS3-2</i>	SPIMP06g0187870	214	24.59	4.52	cell membrane
	<i>SpiSOS3-3</i>	SPIMP12g0358170	224	25.80	4.91	cell membrane
	<i>SpiSOS4-1</i>	SPIMP02g0081310	363	40.14	8.79	chloroplast
	<i>SpiSOS5-1</i>	SPIMP03g0108780	427	46.17	5.06	cell membrane
LA1589	<i>SpiSOS5-2</i>	SPIMP06g0202660	421	45.25	5.91	cell membrane
	<i>SpmSOS1-1</i>	Sopim01g005020.0.1	1151	127.50	5.89	cell membrane
	<i>SpmSOS1-2</i>	Sopim04g018090.0.1	332	35.97	8.46	cell membrane, vacuole
	<i>SpmSOS1-3</i>	Sopim04g018100.0.1	698	77.63	5.91	vacuole
	<i>SpmSOS2-1</i>	Sopim04g076810.0.1	447	50.64	6.38	cytoplasm
	<i>SpmSOS2-2</i>	Sopim12g009570.0.1	446	50.49	8.86	cytoplasm
	<i>SpmSOS3-1</i>	Sopim03g083320.0.1	214	24.571	4.52	cell membrane
	<i>SpmSOS3-2</i>	Sopim06g051970.0.1	214	24.59	4.52	cell membrane
	<i>SpmSOS3-3</i>	Sopim12g055920.0.1	226	26.20	4.91	cell membrane
	<i>SpmSOS4-1</i>	Sopim02g091340.0.1	309	33.97	5.99	cytoplasm
	<i>SpmSOS5-1</i>	Sopim03g112880.0.1	427	46.17	5.06	cell membrane
	<i>SpmSOS5-2</i>	Sopim06g076110.0.1	173	18.31	8.79	cell membrane

Continued Supplementary Table S3

M82	<i>SlmSOS1-1</i>	M82_01g005020.3.1	1151	127.50	5.89	cell membrane
	<i>SlmSOS1-2</i>	M82_04g018100.3.1	976	107.38	5.64	cell membrane, vacuole
	<i>SlmSOS2-1</i>	M82_04g076810.3.1	448	50.59	6.21	cytoplasm
	<i>SlmSOS2-2</i>	M82_12g009570.2.1	425	47.94	8.56	cytoplasm
	<i>SlmSOS3-1</i>	M82_03g083320.3.1	230	26.33	4.53	cell membrane
	<i>SlmSOS3-2</i>	M82_06g051970.3.1	214	24.59	4.52	cell membrane
	<i>SlmSOS3-3</i>	M82_12g055920.2.1	663	25.41	4.91	cell membrane
	<i>SlmSOS4-1</i>	M82_02g091340.3.1	280	30.89	5.66	chloroplast
	<i>SlmSOS5-1</i>	M82_06g076110.1.1	427	18.31	8.79	cell membrane
	<i>SlySOS1-1</i>	Solyc01g005020.3.1	1151	127.50	5.89	cell membrane
Heinz 1706	<i>SlySOS1-2</i>	Solyc04g018090.2.1	332	35.95	8.46	cell membrane, vacuole
	<i>SlySOS1-3</i>	Solyc04g018100.5.1	983	77.28	5.85	cell membrane, vacuole
	<i>SlySOS2-1</i>	Solyc04g076810.4.1	447	50.64	6.38	cytoplasm
	<i>SlySOS2-2</i>	Solyc12g009570.3.1	446	50.49	8.86	cytoplasm
	<i>SlySOS3-1</i>	Solyc03g083320.4.1	214	24.57	4.52	cell membrane
	<i>SlySOS3-2</i>	Solyc06g051970.3.1	214	24.59	4.52	cell membrane
	<i>SlySOS3-3</i>	Solyc12g055920.3.1	220	25.41	4.91	cell membrane
	<i>SlySOS4-1</i>	Solyc02g091340.4.1	339	37.40	8.21	chloroplast
	<i>SlySOS5-1</i>	Solyc03g112880.1.1	427	46.17	5.06	cell membrane
	<i>SlySOS5-2</i>	Solyc06g076120.3.1	421	45.27	5.91	cell membrane

**Table S4.** Kinds of cis elements in the upstream regions of SOS gene family in tomato

Element	Function
ABRE	Absciscic acid responsiveness
ARE	Anaerobic induction
AuxRR-core, TGA-element	Auxin responsiveness
MSA-like	Cell cycle regulation
circadian	Circadian control
TC-rich repeats	Defense and stress responsiveness
HD-Zip 3, HD-Zip 1	Differentiation of the mesophyll cells
MBS	Drought-inducibility
GCN4-motif	Endosperm expression
ERE	Ethylene responsiveness
MBSI	Flavonoid biosynthetic genes regulation
GARE-motif	Gibberellin responsiveness
ATC-motif, Box 4, GA-motif, Gap-box, GATA-motif, G-Box, GT1-motif, LS7, TCT-motif, LAMP-element,	Light responsiveness
MBS	Drought-inducibility
GCN4-motif	Endosperm expression
ERE	Ethylene responsiveness
MBSI	Flavonoid biosynthetic genes regulation
GARE-motif	Gibberellin responsiveness
ACE, AE-box, ATC-motif, Box 4, GA-motif, Gap-box, GATA-motif, G-Box, GT1-motif, LS7, TCT-motif, LAMP-element,	Light responsiveness
LTR	Low-temperature responsiveness
CGTCA-motif, TGACG-motif	MeJA-responsiveness

Continued Supplementary Table S4

CAT-box	Meristem expression
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