

## **Supplementary Material**

### **Identification and Characterization of SOG1 (Suppressor of Gamma-Response 1)**

### **Homologues in Plants Using Data Mining Resources and Gene Expression Profiling**

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A.thaliana_ATIG25580	-----MAGRSWLIDSNRIATKIMSASASSDPQVWKSNPSSRCP	40
M.truncatula_Medtrig093680	-----MAASPSPWLVDKKRIATKI KRAEAT- -EKVIWKSNPTRACP	40
G.max_Glyma_10G204700	-----MAGPSWLVDKSRIATKIKNVSGTC-- -GKVIWKSNPSSRCP	38
G.max_Glyma_20G185800	MLKTILNLNLSHLIASFSDLPFMAGPSWLVDKSRIATKISASGTC-- -GKVIWKSNPSSRCP	58
M.truncatula_Medtrs5g053430	-----MAGPSWLVDKSRIATKI KASAGACDPENVTWKSNPTKACP	40
G.max_Glyma_01G088200	-----MAGTSWLVDKSRIATKI KCASGACDPKGVIWKSNPTKPCP	40
G.max_Glyma_02G100200	-----MAGTSLWVDKSRIATKI KCASGACHDGKIVKSNPTKACP	40
K.fedschenkoi_Kaladp0073s0030	-----MSTGPVLVDGHRIATKI KSAAGASDLGHMKWSNPPCRACP	41
K.fedschenkoi_Kaladp0062s0046	-----MARPAWLVDSTRITAKI KSASTACPEPSINWNKSNPRICP	40
P.trichocarpa_Potri.008G116600	-----MAGPWLVDGNRFATKI KSASASNHERVAWKSDDPKCTCP	39
P.trichocarpa_Potri.010G129700	-----MAGPWLVDGNRFATKI KSASGASNERVEWKSDDPKCTCP	39
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A.thaliana_ATIG25580	KCQHVIDNSDVVDWPGLPRGVKFDPSPDEI IWHLLAKSGLSGLSSHPIDEFIPTVNQD	100
M.truncatula_Medtrig093680	NCOHQVIDNSDVQTQEWPLPGVKGFDPSPDQE IWHLLAVKGEGNLEPHPFIDEFI STLQMD	100
G.max_Glyma_10G204700	SCHHVINDNSDVQEWPLGPLPGVKFDPSPDQE IWHLLAVKVGAGSKPHPFIDEFI TSLVED	100
G.max_Glyma_20G185800	SCHHVINDNSDVQEWPLGPLPGVKFDPSPDQE IWHLLAVKVGAGSKPHPFIDEFI TTLEVD	118
M.truncatula_Medtrs5g053430	NCOHTINDNSDVVKWEPLPGVKGFDPSPDQEI IWHLLAKVGVGSKHFPFDFEPI ITLVEN	100
G.max_Glyma_01G088200	NCOHAINDNDVAQEWPLPGVKGFDPSPDQE IWHLLAVKVGVDGSKHFPFIDEFI TTLEVD	100
G.max_Glyma_02G100200	NCOHAINDNDVAQEWPLPGVKGFDPSPDQE IWHLLAVKVGDSKHFPFIDEFI TTLEVD	100
K.fedschenkoi_Kaladp0073s0030	NCOQYIINDSVDPDWPLPGRVKGFDPDQEI IHLLLACKGIGLNKAHPFINIEPI PTVNKE	101
K.fedschenkoi_Kaladp0062s0046	NCOQCIDINDSVQEWPLPGRVKGFDPDQEI IWHLLTKVDSNTLTHPFIDEFIATVDKD	100
P.trichocarpa_Potri.008G116600	NCHHVINDNSDVQEWPLPGVKGFDPSPDQE IWHLLAKAGNGGIKSHPFIKEPIPTVEND	99
P.trichocarpa_Potri.010G129700	NCHHVINDNSDVQEWPLPGRVKGFDPSPDQE IWHLLAKVSDGGIKPHPFIKEPIPTVND	99
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A.thaliana_ATIG25580	DGICYTHPNKLPGVKSDBGTSVSHFFHKAIKAYSTGTRKRKRILHDDFGDVRWHKTGRTPKV	160
M.truncatula_Medtrig093680	DGICYTHPKRLPGVSQDGIASHVFHRAIKAYNTGSRKRRI CGQDFGDVRWHKTGRTPKV	160
G.max_Glyma_10G204700	DGICYTHPQHLPGVKQDGSALHFHRAIKAYNTGSRKRRI CGQDFGDVRWHKTGRTPKV	158
G.max_Glyma_20G185800	DGICYTHPQHLPGVKQDGSSSHVFHRAIKAYNTGSRKRRI CGQDFGDVRWHKTGRTPKV	178
M.truncatula_Medtrs5g053430	DGICYTHPONLPGVKQDGSASHVFHRAIKAYNTGTRKRKRILHQDFGDVRWHKTGRTPKV	160
G.max_Glyma_01G088200	DGICYTHPONLPGVKQDGSASHVFHRAIKAYNTGTRKRKRILHQDFGDVRWHKTGRTPKV	160
G.max_Glyma_02G100200	DGICYTHPONLPGVKQDGSASHVFHRAIKAYNTGTRKRKRILHQDFGDVRWHKTGRTPKV	160
K.fedschenkoi_Kaladp0073s0030	DGICYTHPONLPGVKLDGSVAHFHRAIKAYNTGSRKRRI QGDSGSDVRWHKTGRTPKV	161
K.fedschenkoi_Kaladp0062s0046	DGICYTHPONLPGVKQDGSISHVFHRAIKAYNTGSRKRRIHQDSDASDVRWHKTGRTPKV	160
P.trichocarpa_Potri.008G116600	DGICYTHPNKLPGVKQDGSISHVFHRAIKAYNTGTRKRRI HQDSDGSDVRWHKTGRTPKV	159
P.trichocarpa_Potri.010G129700	DGICYTHPONLPGVKQDGSISHVFHRAIKAYNTGTRKRRI HQDSDGSDVRWHKTGRTPKV	159
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A.thaliana_ATIG25580	VLDGVQRGCKKIMVLV---- -GGKAVKTNVMWMQHYHLGIEDEKEGDVVSVSKI FYQQOQQ	215
M.truncatula_Medtrig093680	LNLNGQKGCCKIMVLVLYMTLESGGKAEKTNVMWMQHYHLGRQEDKEGDGEYVISKVFYQQOQ	219
G.max_Glyma_10G204700	LNLNGQKGCCKIMVLVISPVRGGKPEKTNVMWMQHYHLGTEDEKDGGEYVISKVFYQQOQ	217
G.max_Glyma_20G185800	LNLNGQKGCCKIMVLVISPVRGGKSEKTNVMWMQHYHLGTEDEKDGGEYVISKVFYQQOQ	237
M.truncatula_Medtrs5g053430	LNLNGQKGCCKIMVLVISSVAGGKAEKTNVMWMQHYHLGTEDEKDGGEYVISKVFYQQOQ	219
G.max_Glyma_01G088200	VFNIGQKGCCKIMVLVYSNVRGGKAEKTNVMWMQHYHLGTEDEKDGGEYISKVFYQQOQ	219
G.max_Glyma_02G100200	LVLSGVQKGCCKIMVLVYSNVRGGKAEKTNVMWMQHYHLGTEDEKDGGEYISKVFYQQOQ	219
K.fedschenkoi_Kaladp0073s0030	MLDGVQRGCKKIMVLVISPVRGGKAEKTNVMWMQHYHLGTEDEKDGGEYISKVFYQQOQ	220
K.fedschenkoi_Kaladp0062s0046	VLDGVQRGCKKIMVLVYMTAAGKAEKTNVMWMQHYHLGTEDEKDGGEYISKVFYQQOQ	219
P.trichocarpa_Potri.008G116600	ILDGVQRGCKKIMVLVYSTVRGGKAEKTNVMWMQHYHLGTEDEBERDGEYVSVKYFYQQOQ	218
P.trichocarpa_Potri.010G129700	ILDGTQKGCCKIMVLVYMTVRGGKAEKTNVMWMQHYHLGTEDEBERDGEYVSVKIFYQQOQ	217
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A.thaliana_ATIG25580	LUVKRGDKAQEVESDIF-----AAVTPTADPVTPKLATPEPRNAVIRICSOSH	263
M.truncatula_Medtrig093680	-AKLGKDDQNVPETT-----EATTVKVDPVTPKSVTPPEPRNEKHSVDV	264
G.max_Glyma_10G204700	-VKFGEKDDQDI PETT-----EATTVKVDPVTPKSVTPPEPRIENRWSLD	262
G.max_Glyma_20G185800	-VKFGEKDDQDI PEIT-----EATTVKVDPATPKSVTPPEPRI EKRCNSLD	282
M.truncatula_Medtrs5g053430	-VKLGDKDDQDI PEAII-----EATI AKVDPVTPKSVTPPEPPYTERLYSDV	264
G.max_Glyma_01G088200	-VKLGDKDDKDVPEATE IN-----ESTI VKVDPVTPKFVTPETPCNRERWABD	267
G.max_Glyma_02G100200	-VKLGDKNDQDVPEASII TGPHGLSGVGEETI EKVDPVTPKLVTPPEPCNGRWABD	277
K.fedschenkoi_Kaladp0073s0030	-KGASDVGQETISETS-----NTAVAKVDVPTRSAPI PVPPRTEARDSL	265
K.fedschenkoi_Kaladp0062s0046	-AKLGENTFEALMEIS-----DLAAQKVDPLTPKSVSPPEPRDERPYAELG	264
P.trichocarpa_Potri.008G116600	-ANKGENTEEDLSIEIA-----NAVAKVDPVTPKSVTPDPPRAERCCQDFD	263
P.trichocarpa_Potri.010G129700	-ANKGEPPEEDLSIEIV-----DDVAKVDPVTPKSVTPDPPRAERCCQDFD	262
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A.thaliana_ATIG25580	IASDYVTPSDVYSAHEVLSLAETSSEVMCMEDEVQSIPQ-----NHERPSSGMPELE	312
M.truncatula_Medtrig093680	QEQESHHSQP-----I-LPNLSRLEWLLESQDDCELAKTDSMSIETQTNVGDNFPLS	317
G.max_Glyma_10G204700	LQGESHHI PQ-----H-PQTDCELDDQADCEDLAKDDLIVETENNENGI-----	305
G.max_Glyma_20G185800	LQGESHHI PQ-----H-PQTDYLDDLQAVCEDLAKDDLIVETQNNENAI-----	325
M.truncatula_Medtrs5g053430	LGGDTPTAI PQ-----P-PQMNCLEDI QPYCEEQAQK	

G.max_Glyma.10G204700	LQSQSPKRDGEN---	EHKKRSSLVYANLGPHEHLKDDIVECQNLVLDTANV-----	390
G.max_Glyma.20G185800	LQSQSPKRDDEEN---	EKKKRPSLSVYADLGPHEHLKDDIECQNLVLDPANV-----	410
M.truncatula_Medtrig093630	LRQSPSTRDGKDE---	EQHQKPSLSIYAQGLGPHEHLKDDIECQNLVLEPSNVES-----	412
G.max_Glyma.01G088200	LQSQSPSRDGKHE---	DHKNQPLGLSVYAQGLPENLKDDIECQNIALDKAN-----	394
G.max_Glyma.02G100200	LQSQSPSRDGKHE---	DHKNQPLGLSVYAQGLGPHEHLKDDIECQNIALNPAN-----	404
K.fedtschenkoi_Kaladp0073s0030	LQSQSPGRQGFA--	NQOESKGRPLRADYSRLGPENLKKDLEECQTLEFDPPTKIELD-ALLE	411
K.fedtschenkoi_Kaladp0062s0046	LRQSPSRDFAVPEPHKPAK	PCLSDYATLGPNDLKRDLLECQKLVLDPANIETD-T--	407
P.trichocarpa_Potri.008G116600	LQSQSPSRGGHGT--	GASGKSLSDGYARLGPHEHLKKDLEECQNLBPDANIETD-T--	401
P.trichocarpa_Potri.010G129700	LQSQSPDRGGHGT--	EANGKTLGSDYALLGPYLLKKDLEECQNLBPDANIETD-T--	401
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A.thaliana_AT1G25580	-----	TPPEFRLSQLEFGSQDSFL-----	AWGTGK 447
M.truncatula_Medtrig093680	LDVETEKNLNLDTANVELDS	QSPSDIRLSQLEFSSQDSYI-----	AWGCKK 478
G.max_Glyma.10G204700	-----	VPETPPSEFQLSQLDFFSSQDSFV-----	SWCASK 419
G.max_Glyma.20G185800	-----	VPETPPSEFRLSQLDFFSSQDSFV-----	SWCANK 439
M.truncatula_Medtrig093630	-----	NVENTDTPSEFRLSQLEFGSQDSFI-----	AFGYNK 442
G.max_Glyma.01G088200	-----	INENTDTPSEFRLSQLEFSCFIGIWFNTQQLYFLGLWQGSSELWFFTS	438
G.max_Glyma.02G100200	-----	INENTDTPSEFQLSQLEFGSQDSFI-----	FISWGYSK 433
K.fedtschenkoi_Kaladp0073s0030	LH-----	LSQDIRLSQDFFRLSQLEFGSQDSFC-----	AFPGNK 444
K.fedtschenkoi_Kaladp0062s0046	-----	PDYRRLSQLEFGSQDSFL-----	AWGGHK 431
P.trichocarpa_Potri.008G116600	-----	PEPEFRLSQLEFGSQDSFM-----	AWGEGR 425
P.trichocarpa_Potri.010G129700	-----	PEPEFRLSQLEFLPHCFI-----	LSSV*- 423
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A.thaliana_AT1G25580	TDF*-----		449
M.truncatula_Medtrig093680	TIN*-----		481
G.max_Glyma.10G204700	AFD*-----		422
G.max_Glyma.20G185800	AID*-----		442
M.truncatula_Medtrig093630	VVK*-----		445
G.max_Glyma.01G088200	AGQADVFTVTFCC*		451
G.max_Glyma.02G100200	AVN*-----		436
K.fedtschenkoi_Kaladp0073s0030	VID*-----		447
K.fedtschenkoi_Kaladp0062s0046	LGD*-----		434
P.trichocarpa_Potri.008G116600	VAD*-----		428
P.trichocarpa_Potri.010G129700			423