

Supplementary Table S3 Identification of putative senescence-associated WRKY proteins in petunia. Analysis of iBLASTn was performed to find putative *P. hybrida*, *P. axillaris* and *P. inflata* orthologs of selected senescence-associated proteins of Arabidopsis

<i>Arabidopsis thaliana</i>			<i>Petunia hybrida</i> (Villaino et al. 2014)				<i>Petunia axillaris</i> (Bombarely et al. 2016)					<i>Petunia inflata</i> (Bombarely et al. 2016)				
AGI code	Synonyms	Accession	Name	e-value	Identity (%)	Query cover (%)	Accession	Description	e-value	Identity (%)	Query cover (%)	Accession	Description	e-value	Identity (%)	Query cover (%)
AT4G26440	WRKY34	comp12645_c0_seq1	PhWRKY002	2.0E-126	51.0	76	Peaxi162Scf00232g00810.1	WRKY DNA-binding protein 2	1.0E-128	51.0	76	Peinf101Scf000055g17013.1	WRKY DNA-binding protein 2	E-126	50.4	76
AT3G01970 (*)	WRKY45	comp23620_c0_seq2 (P)	PhWRKY075	3.0E-34	71.3	52	Peaxi162Scf00420g00640.1	WRKY DNA-binding protein 75	6.0E-49	78.9	61	Peinf101Scf01192g04049.1	WRKY DNA-binding protein 45	2.0E-49	79.1	61
AT5G13080 (*)	WRKY75	comp23620_c0_seq2 (P)	PhWRKY075	2.0E-53	89.0	62	Peaxi162Scf00420g00640.1	WRKY DNA-binding protein 75	1.0E-49	79.1	62	Peinf101Scf01192g04049.1	WRKY DNA-binding protein 45	4.0E-49	80.9	61
AT2G40740	WRKY55	comp15947_c0_seq2 (P)	PhWRKY055	2.0E-23	62.9	21	Peaxi162Scf00739g00429.1	WRKY family transcription factor	2.0E-35	69.1	28	Peinf101Scf00339g01023.1	WRKY transcription factor 55	4.0E-38	65.7	33
AT4G31550	WRKY11	comp17118_c0_seq4 (P)	PhWRKY011	2.0E-90	49.9	99	Peaxi162Scf00459g00841.1	WRKY DNA-binding protein 11	6.0E-96	52.4	96	Peinf101Scf00276g07026.1	WRKY DNA-binding protein 11	E-101	53.4	96
AT3G58710	WRKY69	comp18538_c0_seq1 (P)	PhWRKY069	7.0E-48	70.2	38	Peaxi162Scf00202g00057.1	WRKY DNA-binding protein 69	1.0E-68	44.2	95	Peinf101Scf00102g02002.1	WRKY DNA-binding protein 69	2.0E-67	43.3	97
AT1G29280	WRKY65	comp18538_c0_seq1 (P)	PhWRKY069	5.0E-39	58.2	51	Peaxi162Scf00202g00057.1	WRKY DNA-binding protein 69	7.0E-77	48.7	90	Peinf101Scf00102g02002.1	WRKY DNA-binding protein 69	9.0E-78	48.7	90
AT2G23320	WRKY15	comp21369_c0_seq2 (P)	PhWRKY015	3.0E-71	48.4	93	Peaxi162Scf00549g00222.1	WRKY DNA-binding protein 15	1.0E-91	49.7	100	Peinf101Scf00088g05031.1	WRKY DNA-binding protein 15	5.0E-90	49.6	100
AT1G66600	WRKY63	comp21623_c0_seq1	PhWRKY063	9.0E-26	34.6	72	Peaxi162Scf00073g02335.1	WRKY DNA-binding protein 70	5.0E-23	34.5	63	Peinf101Scf00782g02035.1	WRKY DNA-binding protein 70	7.0E-27	34.6	72
AT2G40750 (*)	WRKY54	comp933645_c0_seq1	PhWRKY054	1.0E-22	37.4	57	Peaxi162Scf00073g02339.1	WRKY DNA-binding protein 70	8.0E-36	40.4	58	Peinf101Scf00268g00042.1	WRKY DNA-binding protein 70	2.0E-34	38.8	65
AT3G01080	WRKY58	comp22104_c1_seq3	PhWRKY004	3.0E-79	49.4	69	Peaxi162Scf00222g00117.1	WRKY DNA-binding protein 4	1.0E-94	39.9	95	Peinf101Scf00089g01016.1	WRKY DNA-binding protein 4	2.0E-94	40.7	95
AT1G13960	WRKY4	comp22104_c1_seq3	PhWRKY004	1.0E-143	55.6	94	Peaxi162Scf00222g00117.1	WRKY DNA-binding protein 4	1.0E-172	55.9	96	Peinf101Scf00089g01016.1	WRKY DNA-binding protein 4	E-171	55.6	96
AT2G03340	WRKY3	comp22104_c1_seq3	PhWRKY004	8.0E-137	52.3	96	Peaxi162Scf00222g00117.1	WRKY DNA-binding protein 4	1.0E-167	54.6	100	Peinf101Scf00089g01016.1	WRKY DNA-binding protein 4	E-169	54.9	100
AT4G24240	WRKY7	comp22664_c0_seq2	PhWRKY007	1.0E-70	47.7	99	Peaxi162Scf00121g00018.1	WRKY DNA-binding protein 7	1.0E-101	50.3	99	Peinf101Scf01179g02021.1	WRKY DNA-binding protein 7	2.0E-98	49.6	99
AT2G38470	WRKY33	comp23620_c0_seq3 (P)	PhWRKY033	2.0E-117	59.6	66	Peaxi162Scf00055g01910.1	WRKY DNA-binding protein 33	1.0E-129	51.2	87	Peinf101Scf00782g10028.1	WRKY family transcription factor	E-128	49.7	87
AT5G64810	WRKY51	comp2525_c0_seq1 (P)	PhWRKY051	2.0E-35	72.0	42	Peaxi162Scf00160g01740.1	WRKY family transcription factor	2.0E-37	44.1	60	Peinf101Scf00287g00007.1	WRKY family transcription factor	2.0E-37	50.8	64
AT3G56400 (*)	WRKY70	comp26279_c1_seq2	PhWRKY070	2.0E-27	40.3	56	Peaxi162Scf00073g02335.1	WRKY DNA-binding protein 70	1.0E-41	38.9	94	Peinf101Scf00191g46015.1	WRKY DNA-binding protein 70	1.0E-40	37.4	94
AT5G49520	WRKY48	comp266655_c0_seq1 (P)	PhWRKY023	2.0E-45	51.8	46	Peaxi162Scf00164g01010.1	WRKY DNA-binding protein 23	4.0E-57	41.7	80	Peinf101Scf00244g18025.1	WRKY DNA-binding protein 23	3.0E-57	47.1	62
AT5G07100	WRKY26	comp30812_c0_seq1	PhWRKY024	7.0E-95	48.2	87	Peaxi162Scf00055g01910.1	WRKY DNA-binding protein 33	7.0E-97	48.2	87	Peinf101Scf00450g00007.1	WRKY DNA-binding protein 33	1.0E-96	47.2	87
AT2G30250 (*)	WRKY25	comp30812_c0_seq1	PhWRKY024	3.0E-87	41.6	98	Peaxi162Scf00055g01910.1	WRKY DNA-binding protein 33	1.0E-100	44.1	98	Peinf101Scf00450g00007.1	WRKY DNA-binding protein 33	4.0E-99	44.4	98
AT4G18170	WRKY28	comp325234_c0_seq1 (P)	PhWRKY028	8.0E-56	56.5	51	Peaxi162Scf00111g00122.1	WRKY DNA-binding protein 28	2.0E-59	44.8	91	Peinf101Scf00040g09006.1	WRKY DNA-binding protein 28	8.0E-54	42.3	97
AT4G23810 (*)	WRKY53	comp42882_c0_seq1	PhWRKY053	3.0E-56	41.9	90	Peaxi162Scf00102g01741.1	WRKY family transcription factor	1.0E-66	43.1	90	Peinf101Scf00238g03038.1	WRKY family transcription factor	1.0E-66	43.1	90
AT5G15130	WRKY72	comp16919_c0_seq1 (P)	PhWRKY072	5.0E-34	60.5	21	Peaxi162Scf00059g00714.1	WRKY DNA-binding protein 72	8.0E-87	43.6	78	Peinf101Scf00500g09036.1	WRKY DNA-binding protein 72	3.0E-85	43.5	78
AT4G01720	WRKY47	comp6646_c0_seq1 (P)	PhWRKY006	9.0E-47	47.8	45	Peaxi162Scf00007g00315.1	WRKY family transcription factor	1.0E-81	42.1	74	Peinf101Scf01579g02011.1	WRKY family transcription factor	1.0E-81	42.2	74
AT1G18860	WRKY61	comp6646_c0_seq1 (P)	PhWRKY006	3.0E-41	68.8	19	Peaxi162Scf00013g00133.1	WRKY family transcription factor	3.0E-69	41.3	100	Peinf101Scf00500g09036.1	WRKY DNA-binding protein 72	5.0E-74	41.6	96
AT1G62300 (*)	WRKY6	comp6646_c0_seq1 (P)	PhWRKY006	5.0E-100	67.4	45	Peaxi162Scf00007g00315.1	WRKY family transcription factor	1.0E-151	54.2	83	Peinf101Scf01579g02011.1	WRKY family transcription factor	E-149	52.9	87
AT1G69810	WRKY36	comp6646_c0_seq1 (P)	PhWRKY006	1.0E-34	50.0	39	Peaxi162Scf00007g00315.1	WRKY family transcription factor	5.0E-48	34.8	86	Peinf101Scf00500g09036.1	WRKY DNA-binding protein 72	8.0E-48	37.8	74
AT5G24110	WRKY30	comp730638_c0_seq1 (P)	PhWRKY030	1.0E-47	43.8	60	Peaxi162Scf00904g00212.1	WRKY family transcription factor	9.0E-48	43.4	60	Peinf101Scf01632g03025.1	WRKY family transcription factor	2.0E-48	44.1	60

Twenty best hit accessions were identified in *P. hybrida* (PhWRKYs). Asterisks (*) indicate genes of Arabidopsis with a reported function in leaf senescence. The letter P indicates partial sequences of *P. hybrida*

Putative orthologs in *P. axillaris* and *P. inflata* obtained from the twenty identified PhWRKY proteins through BLASTp

<i>Petunia hybrida</i> (Villaino et al. 2014)			<i>Petunia axillaris</i> (Bombarely et al. 2016)				<i>Petunia inflata</i> (Bombarely et al. 2016)				
Best match in iBLASTn	Name	Accession	Description	e-value	Identity (%)	Query cover (%)	Accession	Description	e-value	Identity (%)	Query cover (%)
comp6646_c0_seq1	PhWRKY006	Peaxi162Scf00007g00315.1	WRKY family transcription factor	0.0	99.7	100	Peinf101Scf01579g02011.1	WRKY family transcription factor	0.0	99.7	100
comp22664_c0_seq2	PhWRKY007	Peaxi162Scf00121g00018.1	WRKY DNA-binding protein 7	0.0	100.0	100	Peinf101Scf01179g02021.1	WRKY DNA-binding protein 7	0.0	98.0	99
comp12645_c0_seq2	PhWRKY002	Peaxi162Scf00232g00810.1	WRKY DNA-binding protein 2	0.0	99.5	99	Peinf101Scf000055g17013.1	WRKY DNA-binding protein 2	0.0	97.7	99
comp15947_c0_seq2	PhWRKY055	Peaxi162Scf00102g01741.1	WRKY family transcription factor	1.0E-116	68.7	97	Peinf101Scf00962g23035.1	WRKY family transcription factor	1.0E-165	92.1	93
comp16919_c0_seq1	PhWRKY072	Peaxi162Scf00178g01110.1	WRKY family transcription factor	0.0	98.9	99	Peinf101Scf01200g03007.1	WRKY family transcription factor	0.0	98.1	100
comp18538_c0_seq1	PhWRKY069	Peaxi162Scf00469g00624.1	WRKY DNA-binding protein 69	1.0E-138	99.5	100	Peinf101Scf00442g03028.1	WRKY DNA-binding protein 69	8.0E-127	94.3	97
comp21623_c0_seq1	PhWRKY063	Peaxi162Scf00732g00236.1	WRKY DNA-binding protein 70	0.0	98.7	99	Peinf101Scf00782g02035.1	WRKY DNA-binding protein 70	0.0	93.5	100
comp23620_c0_seq3	PhWRKY033	Peaxi162Scf00744g00220.1	WRKY family transcription factor family	0.0	98.8	100	Peinf101Scf00782g10028.1	WRKY family transcription factor family protein	0.0	93.7	99
comp2525_c0_seq1	PhWRKY051	Peaxi162Scf00106g01616.1	WRKY DNA-binding protein 51	1.0E-74	100.0	100	Peinf101Scf00381g17007.1	WRKY DNA-binding protein 51	2.0E-73	99	100
comp266655_c0_seq1	PhWRKY023	Peaxi162Scf00164g01010.1	WRKY DNA-binding protein 23	0.0	93	93	Peinf101Scf00244g18025.1	WRKY DNA-binding protein 23	0.0E+00	88.0	92
comp30812_c0_seq1	PhWRKY024	Peaxi162Scf00055g01910.1	WRKY DNA-binding protein 33	0.0	100.0	100	Peinf101Scf00450g00007.1	WRKY DNA-binding protein 33	0.0	97.5	99
comp325234_c0_seq1	PhWRKY028	Peaxi162Scf01189g00009.1	WRKY DNA-binding protein 71	1.0E-124	100.0	100	Peinf101Scf00040g09006.1	WRKY DNA-binding protein 71	1.0E-113	98.7	100
comp42882_c0_seq1	PhWRKY053	Peaxi162Scf00102g01741.1	WRKY family transcription factor	0.0	100.0	100	Peinf101Scf00238g03038.1	WRKY family transcription factor	0.0	100.0	100
comp730638_c0_seq1	PhWRKY030	Peaxi162Scf00904g00212.1	WRKY family transcription factor	0.0E+00	99.0	100	Peinf101Scf01632g03025.1	WRKY family transcription factor	0.0	99.7	100
comp23620_c0_seq2	PhWRKY075	Peaxi162Scf00128g01541.1	WRKY DNA-binding protein 75	1.0E-84	85.96	88	Peinf101Scf00889g03041.1	WRKY DNA-binding protein 75	3.0E-79	88.76	90
comp17118_c0_seq4	PhWRKY011	Peaxi162Scf00459g00841.1	WRKY DNA-binding protein 11	2.0E-157	95.85	100	Peinf101Scf00276g07026.1	WRKY DNA-binding protein 11	0.0E+00	94.72	100
comp21369_c0_seq2	PhWRKY015	Peaxi162Scf00549g00222.1	WRKY DNA-binding protein 15	0.0	100	100	Peinf101Scf00088g05031.1	WRKY DNA-binding protein 15	0.0	100	100
comp933645_c0_seq1	PhWRKY054	Peaxi162Scf00304g00719.1	WRKY DNA-binding protein 70	0.0	94.8	100	Peinf101Scf00339g02023.1	WRKY transcription factor 57 [<i>Jatropha curcas</i>]	1.0E-179	90.4	92
comp22104_c1_seq3	PhWRKY004	Peaxi162Scf00222g00117.1	WRKY DNA-binding protein 4	0.0	85.1	99	Peinf101Scf00231g01029.1	WRKY DNA-binding protein 3	0.0	81.6	89
comp26279_c1_seq2	PhWRKY070	Peaxi162Scf00073g02335.1	WRKY DNA-binding protein 70	0.0	94.7	100	Peinf101Scf00191g46015.1	WRKY DNA-binding protein 70	0.0	97.3	100