

**Table S1. List of the sequences included in phylogenetic analyses for the *WRKY66* homologs.** Species name, gene name, accession numbers, detailed genomic information, and classification are included.

Species	Name	Locus	No.of a.a	ORF	pl	Mw(kD)	Group
<i>Abies alba</i>	AalWRKY30_6	AALBA5B1752 78P1	445	1338	5.68	49.271	A
<i>Amborella trichopoda</i>	AtrWRKY30A	ATR0589G040	388	1167	7.91	43.198	B
	AtrWRKY30B	ATR0589G060	311	936	6.03	34.273	B
	AtrWRKY66	ATR1127G090	333	1002	5.77	37.208	C
<i>Anthoceros_punctatus</i>	ApuWRKY30_6	Apun_evm.mod el.utg000051l.4 49.1	761	2286	6.15	79.521	D
<i>Arabidopsis thaliana</i>	AtWRKY67	AT1G66550	249	750	6.04	28.363	C
	AtWRKY63	AT1G66600	241	726	5.63	27.379	C
	AtWRKY66	AT1G80590	235	708	5.8	26.403	C
	AtWRKY54	AT2G40750	346	1041	5.23	38.645	C
	AtWRKY46	AT2G46400	295	888	5.73	33.635	C
	AtWRKY70	AT3G56400	294	885	5.85	32.936	C
	AtWRKY41	AT4G11070	313	942	9.23	34.894	B
	AtWRKY53	AT4G23810	324	975	6.34	36.273	B
	AtWRKY62	AT5G01900	263	792	5.91	30.443	C
	AtWRKY38	AT5G22570	289	870	5.4	33.268	C
	AtWRKY30	AT5G24110	303	912	6.11	33.985	B
<i>Azolla filiculoides</i>	AfiWRKY30_66	Azfi_s0013.g01 3234	474	1425	5.78	52.371	D
<i>Beta vulgaris</i>	BvuWRKY30A	Bv1_003380_q cmg.t1	339	1020	6.42	37.844	B
	BvuWRKY30B	Bv3_052470_rp ax.t1	361	1086	6.15	40.668	B
	BvuWRKY30C	Bv5_099120_w mfg.t1	368	1107	5.79	41.395	B
	BvuWRKY30D	Bv5_099120_w mfg.t2	325	978	5.45	36.364	B
	BvuWRKY66A	Bv4_089420_m diu.t1	308	927	6.21	35.489	C

	BvuWRKY66B	Bv7_156860_h qwy.t1	327	984	5.96	37.392	C
<i>Brachypodium</i>							
<i>distachyon</i>	BdiWRKY30A	Bradi1g48770	363	1092	5.94	38.230	B
	BdiWRKY30B	Bradi2g15872	177	534	10.5	19.647	B
	BdiWRKY30C	Bradi2g15877	226	681	6.59	24.266	B
	BdiWRKY30D	Bradi2g45480	320	963	5.86	34.416	B
	BdiWRKY30E	Bradi3g34850	309	930	6.45	33.055	B
	BdiWRKY30F	Bradi4g28280	325	978	6.46	35.041	B
	BdiWRKY66A	Bradi1g17660	327	984	7.7	33.999	C
	BdiWRKY66B	Bradi4g44350	272	819	6.33	30.823	C
	BdiWRKY66C	Bradi1g63220	312	939	5.09	32.547	C
	BdiWRKY66D	Bradi1g63910	209	630	8.1	23.344	C
	BdiWRKY66E	Bradi4g25717	196	591	7.57	21.329	C
	BdiWRKY66F	Bradi2g53510	322	969	5.81	34.414	C
	BdiWRKY66G	Bradi2g22241	287	864	5.31	31.103	C
	BdiWRKY66H	Bradi2g30695	277	834	5.97	30.110	C
	BdiWRKY66I	Bradi2g53495	286	861	6.37	31.847	C
	BdiWRKY66J	Bradi2g44270	292	879	5.68	31.151	C
	BdiWRKY66K	Bradi2g53486	265	798	6.24	28.733	C
<i>Coffea</i>							
<i>canephora</i>	CcaWRKY30A	Cc02_g01860	377	1134	6.23	41.683	B
	CcaWRKY30B	Cc02_g39120	367	1104	5.26	40.795	B
	CcaWRKY30C	Cc08_g15910	342	1029	5.74	38.273	B
	CcaWRKY66	Cc02_g05270	333	1002	6.71	36.603	C
<i>Fragaria</i>							
<i>vesca</i>	FveWRKY30A	FVE13108	372	1119	6.64	40.958	B
	FveWRKY30B	FVE32076	355	1068	4.96	40.088	B
	FveWRKY66A	FVE21365	340	1023	6.43	37.927	C
	FveWRKY66B	FVE13546	447	1344	5.94	49.488	C
	FveWRKY66C	FVE13547	344	1035	5.41	38.757	C
	FveWRKY66D	FVE13549	231	696	9.32	25.955	C
	FveWRKY66E	FVE13552	300	903	4.93	33.880	C
	FveWRKY66F	FVE13554	297	894	7.17	33.544	C
<i>Ginkgo biloba</i>							
	GbiWRKY30_6 6A	Gb_00545	481	1446	5.38	53.127	A
	GbiWRKY30_6 6B	Gb_00546	140	423	4.32	15.536	A
	GbiWRKY30_6 6C	Gb_00547	579	1740	6.58	63.665	A

<i>Glycine max</i>		Glyma.01G224					
	GmaWRKY30A	800	322	969	5.45	36.582	B
		Glyma.03G256					
	GmaWRKY30B	700	362	1089	5.1	41.182	B
		Glyma.04G238					
	GmaWRKY30C	300	364	1095	5.33	40.437	B
		Glyma.05G215					
	GmaWRKY30D	900	363	1092	5.65	41.204	B
		Glyma.06G125					
	GmaWRKY30E	600	364	1095	5.74	40.697	B
		Glyma.07G057					
	GmaWRKY30F	400	369	1110	5.39	41.352	B
		Glyma.08G021					
	GmaWRKY30G	900	359	1080	5.96	40.620	B
		Glyma.16G026					
	GmaWRKY30H	400	373	1122	5.1	41.456	B
		Glyma.19G254					
	GmaWRKY30I	800	362	1089	5.73	41.243	B
		Glyma.18G213					
	GmaWRKY66A	200	299	900	6.03	33.869	C
		Glyma.03G002					
	GmaWRKY66B	300	235	708	4.81	26.758	C
		Glyma.16G219					
	GmaWRKY66C	800	265	798	5.8	30.543	C
		Glyma.14G186					
	GmaWRKY66D	100	240	723	9.05	26.970	C
		Glyma.04G223					
	GmaWRKY66E	300	317	954	5.46	35.856	C
		Glyma.14G186					
	GmaWRKY66F	000	303	912	6.83	33.920	C
		Glyma.14G185					
	GmaWRKY66G	800	329	990	6.1	37.387	C
		Glyma.13G267					
	GmaWRKY66H	700	270	813	5.84	30.601	C
		Glyma.06G142					
	GmaWRKY66I	000	319	960	5.45	35.954	C
		Glyma.13G267					
	GmaWRKY66J	600	300	903	6.09	34.101	C
		Glyma.13G267					
	GmaWRKY66K	500	295	888	5.93	33.865	C
		Glyma.13G267					
	GmaWRKY66L	400	294	885	6.13	33.766	C

	GmaWRKY66 M	Glyma.09G274 000	300	903	5.95	34.224	C
<i>Gnetum montanum</i>	GmoWRKY30_ 66	TnS000068155 t02	375	1128	5.26	41.441	A
<i>Marchantia polymorpha</i>	MpoWRKY30_ 66	Mapoly0036s01 36.1	652	1959	5.66	70.358	D
<i>Nelumbo nucifera</i>	NnuWRKY30A	NNU_01465	362	1089	6.23	40.544	B
	NnuWRKY30B	NNU_02487	363	1092	5.27	40.360	B
	NnuWRKY30C	NNU_02488	362	1089	5.51	40.549	B
	NnuWRKY66A	NNU_12194	329	990	5.46	37.057	C
	NnuWRKY66B	NNU_24385	326	981	6.13	36.496	C
<i>Oryza sativa</i>	OsaWRKY30A	LOC_Os01g46 800	374	1125	7.02	29.056	B
	OsaWRKY30B	LOC_Os05g49 620	277	834	5.53	29.872	B
	OsaWRKY30C	LOC_Os06g06 360	391	1176	5.79	41.403	B
	OsaWRKY30D	LOC_Os08g29 660	319	960	6.18	33.550	B
	OsaWRKY30E	LOC_Os09g16 510	361	1086	5.96	37.944	B
	OsaWRKY30F	LOC_Os11g45 920	399	1200	8.89	44.808	B
	OsaWRKY66A	LOC_Os12g02 440	192	579	5.7	22.059	C
	OsaWRKY66B	LOC_Os01g60 490	265	798	6.63	29.807	C
	OsaWRKY66C	LOC_Os01g60 520	283	852	5.86	31.037	C
	OsaWRKY66D	LOC_Os01g60 600	358	1077	5.32	37.867	C
	OsaWRKY66E	LOC_Os03g20 550	210	633	8.38	23.642	C
	OsaWRKY66F	LOC_Os03g21 710	356	1071	5.15	36.384	C
	OsaWRKY66G	LOC_Os05g25 770	326	981	5.53	33.988	C
	OsaWRKY66H	LOC_Os05g40 060	331	996	4.61	34.901	C

	OsaWRKY66I	LOC_Os05g40080	328	987	4.88	34.720	C
	OsaWRKY66J	LOC_Os12g02400	337	1014	5.5	37.542	C
	OsaWRKY66K	LOC_Os12g02420	222	669	8.73	25.077	C
	OsaWRKY66L	LOC_Os07g48260	333	1002	6.14	34.838	C
	OsaWRKY66M	LOC_Os11g02520	280	843	5.82	31.662	C
	OsaWRKY66N	LOC_Os11g02480	224	675	8.54	25.188	C
	OsaWRKY66O	LOC_Os10g18099	276	831	7.22	30.653	C
	OsaWRKY66P	LOC_Os11g02470	335	1008	5.46	37.202	C
<i>Picea abies</i>	PabWRKY30_66	PAB00048758	572	1719	7.03	63.238	A
<i>Pinus pinaster</i>	PpiWRKY30_66A	PPI00017232	149	450	4.39	16.636	A
	PpiWRKY30_66B	PPI00033471	123	372	5.55	14.042	A
<i>Pinus sylvestris</i>	PsyWRKY30_66A	PSY00032986	119	360	9.78	12.971	A
	PsyWRKY30_66B	PSY00034387	246	741	5.47	26.882	A
<i>Pinus taeda</i>	PtaWRKY30_66	PTA00045106	477	1434	5.56	52.530	A
<i>Pseudotsuga menziesii</i>	PmeWRKY30_66	PME00010021	472	1419	5.61	52.498	A
<i>Populus trichocarpa</i>	PtrWRKY30A	Potri.001G092900	338	1017	5.79	37.967	B
	PtrWRKY30B	Potri.002G168700	363	1092	5.82	40.939	B
	PtrWRKY30C	Potri.003G138600	342	1029	5.25	38.391	B
	PtrWRKY30D	Potri.012G031700	371	1116	5.56	41.360	B

		Potri.014G0962						
	PtrWRKY30E	00	365	1098	5.1	41.180	B	
		Potri.006G1091						
	PtrWRKY66A	00	333	1002	6.04	37.688	C	
		Potri.013G0903						
	PtrWRKY66B	00	324	975	5.3	36.692	C	
		Potri.016G1379						
	PtrWRKY66C	00	321	966	5.83	36.045	C	
<i>Selaginella moellendorffii</i>	SmoWRKY30_66A	gene1467	512	1539	6.03	54.235	D	
	SmoWRKY30_66B	gene18729	404	1215	8.09	44.109	D	
	SmoWRKY30_66C	gene22742	512	1539	6.17	54.190	D	
	SmoWRKY30_66D	gene5840	329	990	6.04	35.566	D	
<i>Sequoiadendron giganteum</i>	SgiWRKY30_6A	SEGI_21579	494	1485	5.69	54.029	A	
	SgiWRKY30_6B	SEGI_34413	444	1335	5.13	49.021	A	
<i>Solanum lycopersicum</i>	SlyWRKY30A	Solyc01g095630	336	1011	5.55	37.727	B	
		Solyc03g007380						
	SlyWRKY30B	0	353	1062	6.09	40.063	B	
		Solyc05g050300						
	SlyWRKY30C	0	195	588	6.06	22.573	B	
		Solyc05g050330						
	SlyWRKY30D	0	244	735	6.02	27.538	B	
		Solyc05g050340						
	SlyWRKY30E	0	327	984	5.79	36.725	B	
		Solyc08g008280						
	SlyWRKY30F	0	360	1083	5.51	40.709	B	
		Solyc08g082110						
	SlyWRKY30G	0	339	1020	5.41	38.574	B	
		Solyc10g009550						
	SlyWRKY30H	0	290	873	5.45	33.655	B	
		Solyc03g095770						
	SlyWRKY66A	0	273	822	6.02	31.533	C	
		Solyc09g015770						
	SlyWRKY66B	0	291	876	5.51	33.250	C	

<i>Taxus baccata</i>	TbaWRKY30_6	TBA00021329	496	1491	5.79	54.390	A
<i>Thuja plicata</i>	TplWRKY30_6A	Thupl.2937966 5s0021	501	1506	5.46	54.962	A
	TplWRKY30_6B	Thupl.2938044 6s0004	439	1320	4.91	48.375	A
<i>Vitis vinifera</i>	VviWRKY30A	GSVIVT010195 11001	342	1029	6.05	38.562	B
	VviWRKY30B	GSVIVT010270 69001	360	1083	5.16	40.234	B
	VviWRKY30C	GSVIVT010287 18001	364	1095	5.45	40.043	B
	VviWRKY66A	GSVIVT010301 74001	331	996	5.76	37.485	C
	VviWRKY66B	GSVIVT010326 61001	288	867	5.71	32.693	C
<i>Welwitschia mirabilis</i>	WmiWRKY30_66	W.mirabilis.101 65	500	1503	5.66	55.601	A

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