

Table S1. Identified WRKY proteins in maize and their putative orthologs and other information about corresponding genes

Name	Gene ID	Protein ID	Chr	SubGr	AtWRKY Ortholog	OsWRKY Ortholog	HvWRKY Ortholog
ZmWRKY1	GRMZM2G030272	GRMZM2G030272_P01	1	III	-	46,18	33,34
ZmWRKY2	GRMZM2G425430	GRMZM2G425430_P01	1	I	4,3,58	4	41,46
ZmWRKY3	GRMZM2G383594	GRMZM2G383594_P01	1	II e	35,14,22,27	37,66,39,12	39
ZmWRKY4	GRMZM2G130374	GRMZM2G130374_P01	1	II d	74,39,11	-	8,9
ZmWRKY5	GRMZM2G324999	GRMZM2G324999_P01	1	III	41,30	69,74,15,19	30,28,22
ZmWRKY6	GRMZM2G070211	GRMZM2G070211_P01	1	II d	74,39,11	-	8,9
ZmWRKY7	GRMZM2G149219	GRMZM2G149219_P01	1	II c	23,1, 49	60,8,17, 82	36,6
ZmWRKY8	GRMZM2G018487	GRMZM2G018487_P01	1	II d	21,15,11,7	68	9
ZmWRKY9.1	GRMZM2G143204	GRMZM2G143204_P01	1	II c	57,23,28,71	29,3,49	-
ZmWRKY9.2		GRMZM2G143204_P02	1	II c	57,48,23,28,8	29,3,49, 8	-
ZmWRKY10	GRMZM2G008029	GRMZM2G008029_P01	1	I	58,3,4	4,8	41,6
ZmWRKY11	GRMZM2G164082	GRMZM2G164082_P01	1	II d	74,39,15,7	42,6	10,11
ZmWRKY12	GRMZM2G083717	GRMZM2G083717_P01	1	II e	35,14	37,66	39
ZmWRKY13.1	GRMZM2G071907	GRMZM2G071907_P03	2	II d	11,17,15,7	68,51,44,25	7,8,9
ZmWRKY13.2		GRMZM2G071907_P01	2	II d	11,17,15,7	7,51,25,44	7,8,9
ZmWRKY14	GRMZM2G024898	GRMZM2G024898_P01	2	II e	35,14	37,2,	-
ZmWRKY15.1	GRMZM2G123387	GRMZM2G123387_P01	2	II c	13,24	34,36, 72	14,12,13
ZmWRKY15.2		GRMZM2G123387_P02	2	II c	13,24	34,36, 72	14,12,13
ZmWRKY16	GRMZM5G816457	GRMZM5G816457_P01	2	I	2,33,25	35,78	42,46
ZmWRKY17	GRMZM2G102583	GRMZM2G102583_P02	2	II d	7,11,17,15	51,6,25	11,10
ZmWRKY18	GRMZM2G400559	GRMZM2G400559_P01	2	III	-	64,40,50	34,33,4
ZmWRKY19	GRMZM2G099593	GRMZM2G099593_P01	2	III	70,54	52, 41,18,15	34,33,32

ZmWRKY20	GRMZM2G163418	GRMZM2G163418_P01	2	III	53,41,46	74,69,19,41	28,22,30
ZmWRKY21	GRMZM2G057011	GRMZM2G057011_P01	2	II a	40,18,60	76,62,71,28	3,23,2,1
ZmWRKY22	GRMZM2G052671	GRMZM2G052671_P01	2	I	2,34,33/25	30,10,78	42, 46
ZmWRKY23	GRMZM2G130854	GRMZM2G130854_P01	2	I	20,33,25,3	24,8	46
ZmWRKY24	GRMZM2G106560	GRMZM2G106560_P01	2	II c	75,45,24,56	72,3	12,13
ZmWRKY25.1		GRMZM5G871347_P01	3	II b	6,42,31,47	99,1,43,5,73	-
ZmWRKY25.2	GRMZM5G871347	GRMZM5G871347_P02	3	II b	6,42,31,47	1,99,43,5,6,73	-
ZmWRKY25.3		GRMZM5G871347_P03	3	II b	6,42,31,47	1,99,43,6,5,73	-
ZmWRKY26	GRMZM2G475984	GRMZM2G475984_P01	3	II c	51,50	10,7,59,26	17,5,19,16,20
ZmWRKY27	GRMZM2G176489	GRMZM2G176489_P01	3	II b	72,61,42,9	73,99,1,43,5,32	37,
ZmWRKY28	GRMZM2G151444	GRMZM2G151444_P01	3	II c	13,57	12,34,72,19,29	14,12
ZmWRKY29	GRMZM2G327349	GRMZM2G327349_P01	3	II b	42,6,47,31	9,5,1,99,43	-
ZmWRKY30	GRMZM2G173680	GRMZM2G173680_P01	3	II d	39,74,21,11	-	9
ZmWRKY31	GRMZM2G076657	GRMZM2G076657_P01	3	I	4,3,25	1,24,8	46
ZmWRKY32	AC165171.2_FGP002	AC165171.2_FGP002	3	II c	49,57,23	1,29,8,17,7,3	36,20,
ZmWRKY33	GRMZM2G148087	GRMZM2G148087_P01	3	I	33/25,20,3	24,8,53	46
ZmWRKY34	GRMZM2G059562	GRMZM2G059562_P01	3	III	46,70,67,66	21,48,69,54,74	31,4,30,28,22
ZmWRKY35	GRMZM2G158328	GRMZM2G158328_P01	3	III	67,38,63	40,64,18,55,54	34,33

ZmWRKY36	GRMZM2G065290	GRMZM2G065290_P01	3	III	-	18,40,64,45,46	34,33,28,22
ZmWRKY37	GRMZM2G382350	GRMZM2G382350_P01	3	III	63,64,38	55,46,48,19	34,33,28,22
ZmWRKY38.1	GRMZM2G141299	GRMZM2G141299_P02	3	II e	69,65,35	37,66,39	39
ZmWRKY38.2		GRMZM2G141299_P01	3	II e	69,65,35	37,66,39	39
ZmWRKY39	GRMZM2G040298	GRMZM2G040298_P01	3	II e	69,65,35	37,66,39	45,39
ZmWRKY40	GRMZM2G101405	GRMZM2G101405_P01	3	II c	51,50,56	59,26,7,10	20,18,19,17,5
ZmWRKY41	GRMZM2G151763	GRMZM2G151763_P01	3	II c	28,71,8,23	3,49,29,8,17,72	12
ZmWRKY42	GRMZM2G408462	GRMZM2G408462_P01	3	III	41,53	15,19,41,69,74	21,26,27,30,22
ZmWRKY43	AC198725.4_FGP009	AC198725.4_FGP009	3	II c	28,23,71	8,17,3,29,49	15
ZmWRKY44	GRMZM2G105140	GRMZM2G105140_P01	3	II e	22, 29,27,35	3,12,66,37,31	44
ZmWRKY45	GRMZM2G354384	GRMZM2G354384_P01	3	II b	61,9,31,42,6	32,5,43,1,99,5	37,1
ZmWRKY46	GRMZM2G054125	GRMZM2G054125_P01	4	II c	75,45,24	72,34	12,13
ZmWRKY47	GRMZM2G549512	GRMZM2G549512_P01	4	I	4,32,3,25	2,82,24,8	6
ZmWRKY48	GRMZM2G148561	GRMZM2G148561_P01	4	II d	11,15,17,7	25,44,51	7,10
ZmWRKY49	AC205562.3_FGP002	AC205562.3_FGP002	4	III	41,46,53,30	69,74,15,19,41	30,28,22,21
ZmWRKY50	GRMZM2G377217	GRMZM2G377217_P01	4	II c	13,57	34,72,24,29,8	14,12,
ZmWRKY51	GRMZM2G138683	GRMZM2G138683_P01	4	II e	14,35,22,	37,66,39	-

ZmWRKY52	GRMZM2G063216	GRMZM2G063216_P01	4	III	-	55,18,41,64,54	34,33,30,28
ZmWRKY53	GRMZM2G451035	GRMZM2G451035_P01	4	III	62	64,40,50,65,74	33,34,28
ZmWRKY54	GRMZM2G461648	GRMZM2G461648_P01	4	III	41	52,41,64,40,74	34,21,33
ZmWRKY55	GRMZM2G169564	GRMZM2G169564_P01	4	III	-	64,40,74,50,69	22,30,33,28
ZmWRKY56	GRMZM2G027972	GRMZM2G027972_P01	4	I	2,34,33,25	24,8,	42, 46
ZmWRKY57	GRMZM2G038158	GRMZM2G038158_P01	4	II e	22,29,27,35	39,31,37,66,3	44
ZmWRKY58	GRMZM2G147880	GRMZM2G147880_P01	5	II d	39,74,7,15,11	-	9
ZmWRKY59	GRMZM2G161411	GRMZM2G161411_P01	5	II c	23,71,56	8,17,53,3,29	36,2
ZmWRKY60	GRMZM5G880069	GRMZM5G880069_P02	5	II d	74,39,15,11	-	9
ZmWRKY61	GRMZM2G120320	GRMZM2G120320_P01	5	II a	40,60,18	71,28,76	1,2,3,23
ZmWRKY62	GRMZM2G048450	GRMZM2G048450_P01	5	II e	27,22,14,29	39,31,66,37,3,12	44
ZmWRKY63	GRMZM2G073272	GRMZM2G073272_P01	5	II d	11,17,15,7,21	51,42	10,7
ZmWRKY64	GRMZM5G823157	GRMZM5G823157_P01	5	II e	14,35,22,27	37,66,39,3	-
ZmWRKY65	GRMZM2G143765	GRMZM2G143765_P01	6	I	4,3,25	1,24,8	46
ZmWRKY66	AC209050.3_FGP003	AC209050.3_FGP003	6	II a	40,18,60	28,71,76	2,23,1,3
ZmWRKY67	GRMZM2G156529	GRMZM2G156529_P01	6	II e	22, 29,27,35	31,39,37,12,3,66	44
ZmWRKY68.1	GRMZM2G163054	GRMZM2G163054_P04	6	II c	50,51,23,71	10,7,59,26	17,16,19,20,5,18

ZmWRKY68.2		GRMZM2G163054_P02	6	II c	50,51,23,71	10,7,59,26,	17,16,19,20, 5
ZmWRKY69	GRMZM2G127064	GRMZM2G127064_P01	6	III	55,46	75,41,69,74, 15	28,30,22,21
ZmWRKY70.1		GRMZM2G012724_P01	6	I	33/25,26,3	53,24,8	46
ZmWRKY70.2	GRMZM2G012724	GRMZM2G012724_P03	6	I	33,20	53,24,8	46
ZmWRKY70.3		GRMZM2G012724_P04	6	I	26,33,3,4	53,24,8	-
ZmWRKY71	GRMZM2G169966	GRMZM2G169966_P01	6	I	33/25,3	24,8,53	46
ZmWRKY72	GRMZM2G401521	GRMZM2G401521_P01	6	II c	56,24,43,75	72,29	13,12
ZmWRKY73	GRMZM5G863420	GRMZM5G863420_P01	6	II c	51,50,23,71	7,59,10,29	20,19,18,17, 5
ZmWRKY74	GRMZM2G453571	GRMZM2G453571_P01	6	II c	51,50,23,71	7,59,10,29	20,19,18,17, 5
ZmWRKY75.1		GRMZM2G366795_P01	6	II b	42,6,31,47,9	43,1,99,5,6, 73	
ZmWRKY75.2	GRMZM2G366795	GRMZM2G366795_P02	6	II b	42,6,31,47,9	43,1,99,9,5, 73	-
ZmWRKY76	GRMZM2G018721	GRMZM2G018721_P01	7	II c	57,23,28,48	29,3,49,17,8 ,17	15,12
ZmWRKY77	GRMZM2G139815	GRMZM2G139815_P01	7	III	30,46,53,41	74,69,19,41, 15	28,22,30,21
ZmWRKY78	GRMZM2G025895	GRMZM2G025895_P01	7	III	53,46,41	74,69,15,19, 41	28,22,30,21
ZmWRKY79.1		GRMZM2G125653_P01	7	II a	40,18,60	76,62,71,28	3,2,1,23
ZmWRKY79.2	GRMZM2G125653	GRMZM2G125653_P02	7	II a	40,18,60	76,62,71,28	3,23,2,1
ZmWRKY80	GRMZM2G169149	GRMZM2G169149_P01	7	II a	18,40,60	62,76,71,28	3,1,23,2,

ZmWRKY81.1	GRMZM2G151407	GRMZM2G151407_P01	7	I	2,34,25	30,10,24,8	42
ZmWRKY81.2		GRMZM2G151407_P02	7	I	2,34	30,10,24	42
ZmWRKY82.1	GRMZM2G398506	GRMZM2G398506_P01	7	I	20,33,25	24,8	46
ZmWRKY82.2		GRMZM2G398506_P02	7	I	20,33,3	24,8	46
ZmWRKY83	GRMZM2G381378	GRMZM2G381378_P01	7	III	70,46,54	47,45,54,74,48	4,32,30,28,22
ZmWRKY84	GRMZM2G006497	GRMZM2G006497_P01	8	II e	22,29,27,14	31,3,37,12,66	44
ZmWRKY85	GRMZM2G516301	GRMZM2G516301_P01	8	II c	51,50,48,	10,7,59,26,1	17,5,20,19,16
ZmWRKY86	GRMZM2G083350	GRMZM2G083350_P01	8	II b	72,61,42,36	73,1,99,5,43	37
ZmWRKY87	GRMZM2G448605	GRMZM2G448605_P01	8	II b	42,6,31,47,9	43,1,99,5,9,73	-
ZmWRKY88	GRMZM2G063880	GRMZM2G063880_P01	8	III	41,53	19,15,41,74,69	21,26,27,30
ZmWRKY89	GRMZM2G414315	GRMZM2G414315_P01	8	II e	22,29,35,27,	3,12,37,39,66,31	44
ZmWRKY90	GRMZM2G057116	GRMZM2G057116_P01	8	II c	50,51,71,48	10,59,26,7,	17,16,19,5,20
ZmWRKY91	GRMZM2G061408	GRMZM2G061408_P01	8	III	53,46,41,	74,69,15,19,41	28,22,30,21
ZmWRKY92.1	GRMZM2G449681	GRMZM2G449681_P01	8	I	33	53	46,43
ZmWRKY92.2		GRMZM2G449681_P02	8	I	33,SPF1 like,26	53	46
ZmWRKY93	GRMZM2G034421	GRMZM2G034421_P01	8	III	62,55,41	55,18,54,48,46	34,33

ZmWRKY94	GRMZM2G432583	GRMZM2G432583_P01	8	III	62,70,54,30	48,54,21,45,19	31,4,32,28
ZmWRKY95	GRMZM2G015433	GRMZM2G015433_P01	8	II c	56,24,43,75	72,34,29	13,12
ZmWRKY96	GRMZM2G137802	GRMZM2G137802_P01	8	II c	50,51,23,71	7,59,10,49	20,19,18,17,5
ZmWRKY97	GRMZM2G304573	GRMZM2G304573_P01	8	II b	9,72,61,47	73,32,43,5,1,99	37
ZmWRKY98	GRMZM2G149683	GRMZM2G149683_P01	8	II e	22,27,14,29	3,12,39,66,3,7,31	44
ZmWRKY99	GRMZM2G145554	GRMZM2G145554_P01	8	II c	28,71,23,8	8,17,3,29	-
ZmWRKY100	GRMZM2G411766	GRMZM2G411766_P01	8	III	53,41,30	15,19,41,69,74	21,30,26,22
ZmWRKY101	GRMZM5G812272	GRMZM5G812272_P02	8	II c	28,71,8,23	49,3,29,17,7,2	12
ZmWRKY102	GRMZM2G045560	GRMZM2G045560_P01	8	II c	49,48,57,13	56,1,2,82	36,6,41
ZmWRKY103	GRMZM2G036703	GRMZM2G036703_P01	8	I	33,25,3,4,20,	24,8,53	46
ZmWRKY104	GRMZM2G029282	GRMZM2G029282_P01	8	III	70,54	20,18,45	33,34,32
ZmWRKY105	GRMZM2G029292	GRMZM2G029292_P03	8	III	-	46, 18,19,50	34,33,28,22
ZmWRKY106	GRMZM2G013391	GRMZM2G013391_P01	8	II e	65,69,35	37,66,39	39
ZmWRKY107	GRMZM2G111354	GRMZM2G111354_P01	8	II c	24,56,43,75	72,23	13,12
ZmWRKY108	GRMZM2G003551	GRMZM2G003551_P01	9	III	53,41,30	15,69,74,41	21,30,22,28
ZmWRKY109	GRMZM2G111711	GRMZM2G111711_P01	9	II a	40,18,60	28,71,62	2,23,1,3
ZmWRKY110.1	GRMZM2G171428	GRMZM2G171428_P01	9	I	4,3,58,19	1,4	46
ZmWRKY110.2		GRMZM2G171428_P02	9	I	4,3,58,19	1,24,8	41

ZmWRKY111	<i>GRMZM2G060918</i>	GRMZM2G060918_P01	9	III	-	46,18,20,22	33,34
ZmWRKY112	<i>GRMZM2G005207</i>	GRMZM2G005207_P01	10	III	54	50,65, 40,64	-
ZmWRKY113	<i>GRMZM2G441031</i>	GRMZM2G441031_P01	10	III	-	64,50,40,65	-
ZmWRKY114	<i>GRMZM2G090594</i>	GRMZM2G090594_P01	10	II d	21,7,15	25,44,51	7,10
ZmWRKY115	<i>GRMZM2G004060</i>	GRMZM2G004060_P01	10	III	70,54	45, 47	32,4
ZmWRKY116. 1		GRMZM2G020254_P01	10	I	44,3,33,4,	57,24	-
ZmWRKY116. 2	<i>GRMZM2G020254</i>	GRMZM2G020254_P02	10	I	44,3,33,4,	57,24	-
ZmWRKY116. 3		GRMZM2G020254_P03	10	I	44,3,33,4,	57,24	-
ZmWRKY117	<i>GRMZM2G031963</i>	GRMZM2G031963_P01	10	I	2,34,20	10,24	42,46
ZmWRKY118	<i>AC208110.2_FGP 001</i>	AC208110.2_FGP001	10	II e	14,35	66,39,37	39
ZmWRKY119	<i>GRMZM2G091331</i>	GRMZM2G091331_P01	10	II d	11,17,15	51,25,44	7,9,10

*-, not found; Chr., Chromosome; W/C, Watson/Crick orientation; SubGr., subgroup; the ortholog can be assigned with significance under 1e-20