

Appendix A Primers used for the *SiYAB* genes

Gene ID	Forward primer	Reverse primer
qSiDL	TTCAGCATGGCTGCTAAGAACTGG	GCTGTTGGAAGTGGCAGTAGAGAC
qSiYAB2	ATTCAGCACCGCAGCAAAGAACTG	TGCTGCACCAATGGCCTCATCAAG
qSiYAB3	GCGTACAACCGCTTCATCAAGGAC	TGATCCGGCATGAGTCCAAAGTGG
qSiYAB4	AGAAGACCTTCAAGGCTCAGGATG	AGAATGGAGTGATGCCCATGTTGG
qSiYAB5	AGAAGCGGCAAAGAGTTCCTTC	TGATGCGCTGGATCTCATCTTTG
qSiYAB6	AACAGACGCTAAATGCTCGTCCTC	AATCTGTTGTACGCCGATGGAACC
qSiYAB7	CGGTAAACAAACCTCCGGTGAG	TTGATGAAGCAGTTGTAGGCTGAC
qSiYAB1	TCAGTGCAGCAGCAAAGAATTGG	TGTAGAAAGCACACCGCCATCG
qSiActin7	GTGCTTTCCCTCTACGCCAGTG	CTGCTCATAGTCAAGTGCCACAT
qAtActin2	TTGGTGACAACAGGTCAAGCA	AAACTTGTGCTCAATGCAATC
OE-SiDL	GCTCTAGAAATGGATTTGGTCTCGCAGTCC	CGGGGTACCCAGATTGAGCGCAGCATCTAG

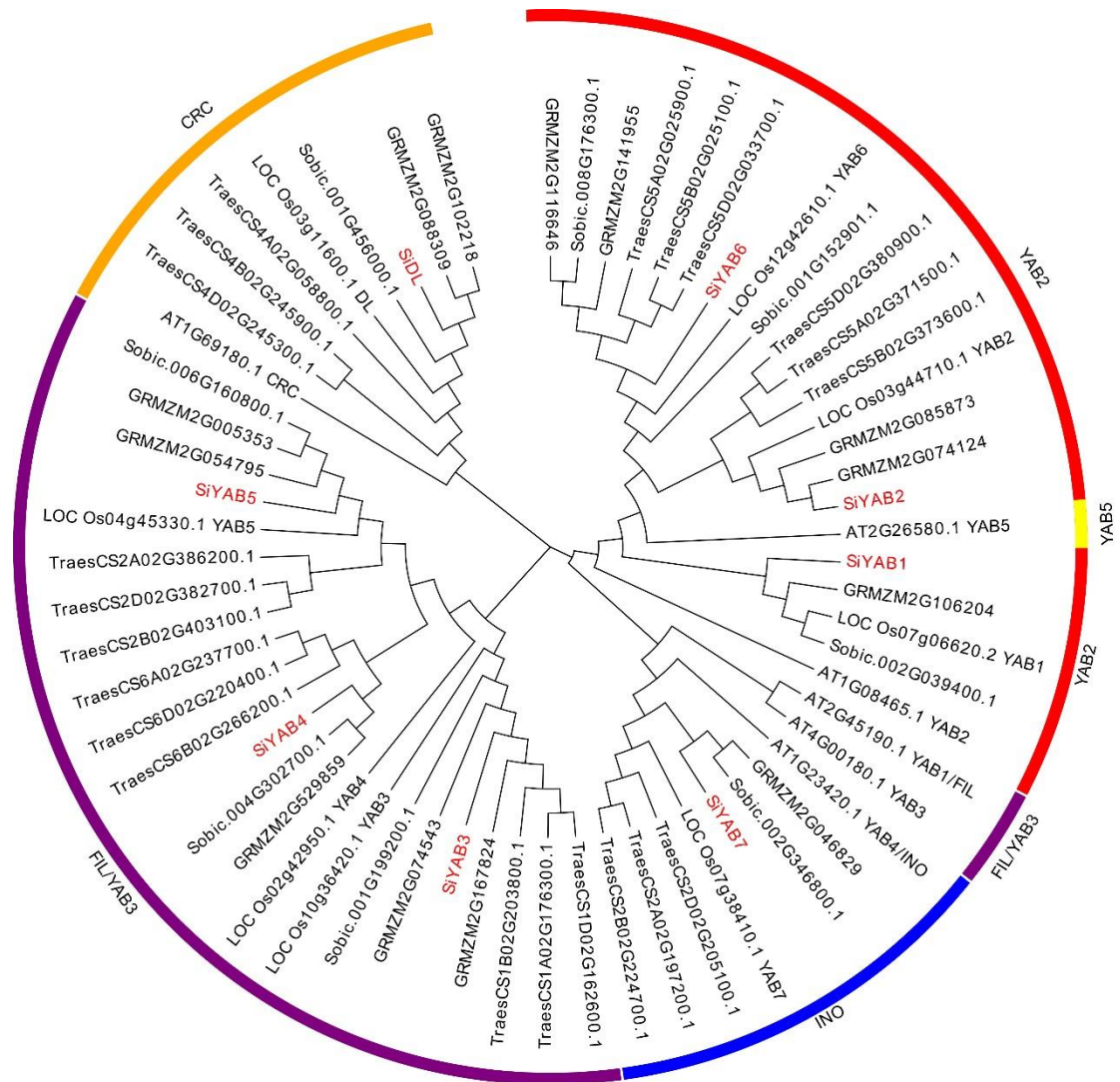
Appendix B Synteny analyses between the *SiYAB* gene

Duplication gene 1				Duplication gene 2			
<i>SiYAB2</i>	IX	10073047	10077808	<i>SiYAB6</i>	III	48947721	48950043
<i>SiYAB2</i>	IX	10073047	10077808	<i>SiYAB1</i>	II	3133971	3141237
<i>SiYAB2</i>	IX	10073047	10077808	<i>SiYAB5</i>	VII	25938333	25940627
<i>SiYAB3</i>	IX	14115754	14119814	<i>SiYAB4</i>	I	32705136	32707727
<i>SiYAB3</i>	IX	14115754	14119814	<i>SiYAB1</i>	II	3133971	3141237
<i>SiYAB3</i>	IX	14115754	14119814	<i>SiYAB5</i>	VII	25938333	25940627
<i>SiYAB3</i>	IX	14115754	14119814	<i>SiYAB6</i>	III	48947721	48950043
<i>SiYAB3</i>	IX	14115754	14119814	<i>SiYAB2</i>	IX	10073047	10077808
<i>SiYAB4</i>	I	32705136	32707727	<i>SiYAB5</i>	VII	25938333	25940627
<i>SiYAB5</i>	VII	25938333	25940627	<i>SiYAB6</i>	III	48947721	48950043

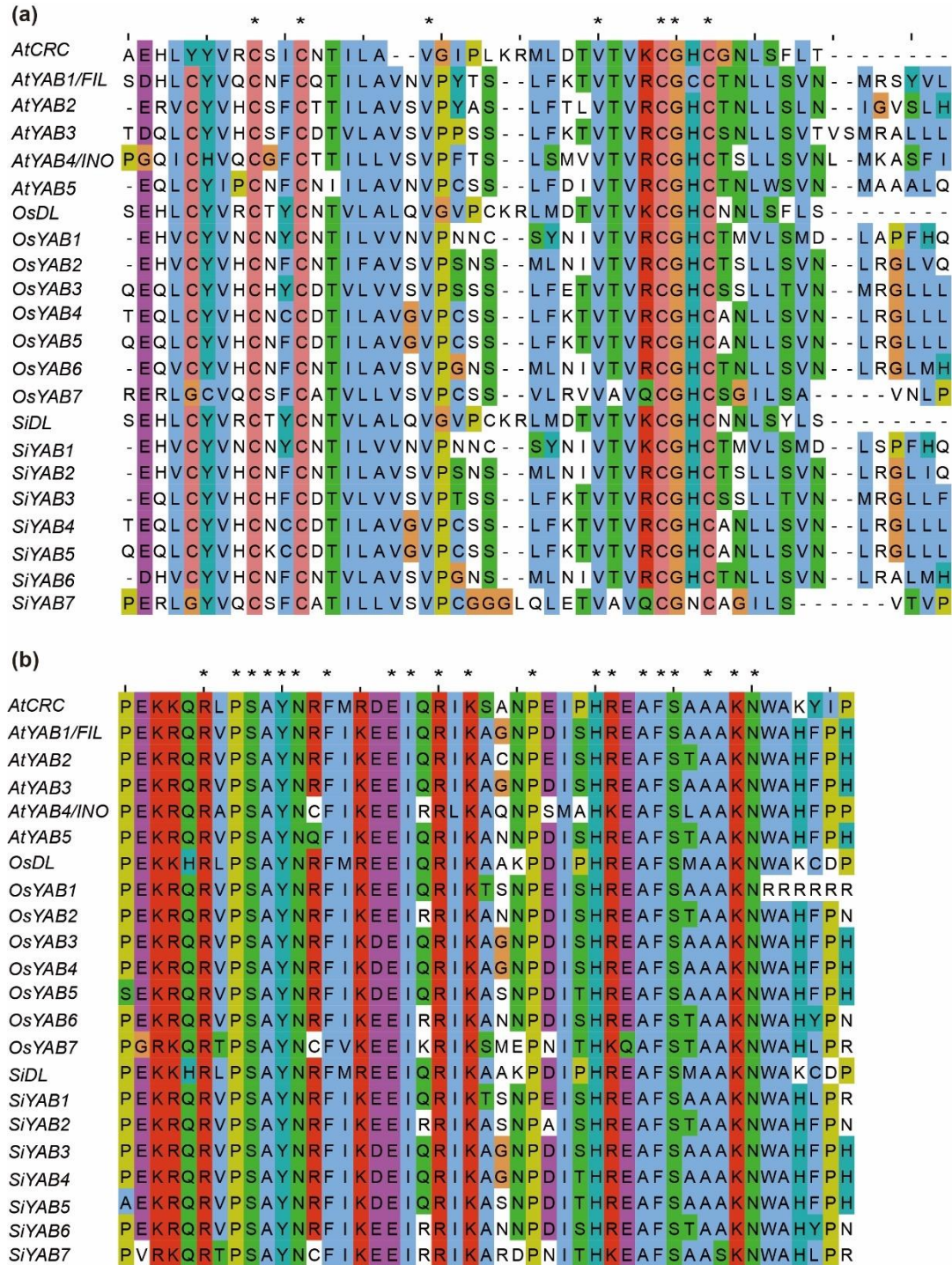
Appendix C Synteny analyses between the *SiYAB* gene and wheat, maize, and sorghum *YABBY* genes

Si gene information						homology gene information		
Si-At	<i>SiYAB3</i>	IX	14115754	14119814	2	<i>AT2G26580.1</i>	11303455	11307010
	<i>SiYAB4</i>	I	32705136	32707727	5	<i>GRMZM2G529859</i>	193315179	193318064
	<i>SiYAB1</i>	II	3133971	3141237	5	<i>GRMZM2G074543</i>	24519883	24524066
	<i>SiYAB1</i>	II	3133971	3141237	1	<i>GRMZM2G167824</i>	230589293	230594515
	<i>SiYAB1</i>	II	3133971	3141237	7	<i>GRMZM2G106204</i>	6590041	6603359
	<i>SiYAB6</i>	III	48947721	48950043	1	<i>GRMZM2G141955</i>	179711594	179717828
Si-Zm	<i>SiYAB6</i>	III	48947721	48950043	1	<i>GRMZM2G167824</i>	230589293	230594515
	<i>SiYAB6</i>	III	48947721	48950043	10	<i>GRMZM2G005353</i>	135702003	135704637
	<i>SiYAB2</i>	IX	10073047	10077808	1	<i>GRMZM2G167824</i>	230589293	230594515
	<i>SiYAB2</i>	IX	10073047	10077808	2	<i>GRMZM2G054795</i>	24208434	24210432
	<i>SiYAB2</i>	IX	10073047	10077808	5	<i>GRMZM2G074124</i>	16812813	16849060
	<i>SiYAB2</i>	IX	10073047	10077808	5	<i>GRMZM2G074543</i>	16812813	16849060

	SiYAB2	IX	10073047	10077808	1	GRMZM2G085873	266792813	266795791
	SiYAB3	IX	14115754	14119814	5	GRMZM2G074124	16812813	16849060
	SiDL	IX	52900426	52905141	9	GRMZM2G102218	153005515	153010806
	SiDL	IX	52900426	52905141	1	GRMZM2G088309	26535206	26540367
Si-Os	SiYAB4	I	32705136	32707727	2	LOC_Os02g42950.1	25839311	25842729
	SiYAB1	II	3133971	3141237	7	LOC_Os07g06620.2	3221592	3229297
	SiYAB1	II	3133971	3141237	10	LOC_Os10g36420.1	19471068	19475406
	SiYAB6	III	48947721	48950043	10	LOC_Os10g36420.1	19471068	19475406
	SiYAB2	IX	10073047	10077808	10	LOC_Os10g36420.1	19471068	19475406
	SiYAB3	IX	14115754	14119814	7	LOC_Os07g06620.2	3221592	3229297
	SiDL	IX	52900426	52905141	3	LOC_Os03g11600.1	6041245	6048687
Si-Sb	SiYAB4	I	32705136	32707727	4	Sobic.004G302700.1	64152541	64156221
	SiYAB1	II	3133971	3141237	1	Sobic.001G199200.1	18034673	18039268
	SiYAB1	II	3133971	3141237	1	Sobic.001G152901.1	12271176	12277291
	SiYAB1	II	3133971	3141237	2	Sobic.002G039400.1	3839231	3847962
	SiYAB6	III	48947721	48950043	1	Sobic.001G199200.1	18034673	18039268
	SiYAB6	III	48947721	48950043	8	Sobic.008G176300.1	61049082	61055589
	SiYAB2	IX	10073047	10077808	1	Sobic.001G199200.1	18034673	18039268
	SiYAB2	IX	10073047	10077808	6	Sobic.006G160800.1	51868191	51871185
	SiYAB2	IX	10073047	10077808	1	Sobic.001G152901.1	12271176	12277291
	SiYAB3	IX	14115754	14119814	1	Sobic.001G199200.1	18034673	18039268
	SiYAB3	IX	14115754	14119814	1	Sobic.001G152901.1	12271176	12277291
	SiDL	IX	52900426	52905141	1	Sobic.001G456000.1	73205542	73210358
Si-Ta	SiYAB4	I	32705136	32707727	6B	TraesCS6B02G266200.1	478752450	478755692
	SiYAB4	I	32705136	32707727	6A	TraesCS6A02G237700.1	446900609	446903597
	SiYAB4	I	32705136	32707727	6D	TraesCS6D02G220400.1	310520716	310523936
	SiYAB1	II	3133971	3141237	1D	TraesCS1D02G162600.1	233307158	233311289
	SiYAB1	II	3133971	3141237	1B	TraesCS1B02G203800.1	367839427	367843332
	SiYAB1	II	3133971	3141237	1A	TraesCS1A02G176300.1	314620483	314624358
	SiYAB2	IX	10073047	10077808	5A	TraesCS5A02G371500.1	570321614	570331718
	SiYAB2	IX	10073047	10077808	5B	TraesCS5B02G373600.1	551331490	551338856
	SiYAB2	IX	10073047	10077808	1D	TraesCS1D02G162600.1	233307158	233311289
	SiYAB2	IX	10073047	10077808	1B	TraesCS1B02G203800.1	367839427	367843332
	SiYAB2	IX	10073047	10077808	1A	TraesCS1A02G176300.1	314620483	314624358
	SiYAB3	IX	14115754	14119814	5D	TraesCS5D02G380900.1	451128219	451137154
	SiYAB3	IX	14115754	14119814	5A	TraesCS5A02G371500.1	570321614	570331718
	SiYAB3	IX	14115754	14119814	5B	TraesCS5B02G373600.1	551331490	551338856
	SiDL	IX	52900426	52905141	4A	TraesCS4A02G058800.1	51137760	51142248
	SiDL	IX	52900426	52905141	4B	TraesCS4B02G245900.1	509033072	509037528
	SiDL	IX	52900426	52905141	4D	TraesCS4D02G245300.1	412713683	412717920

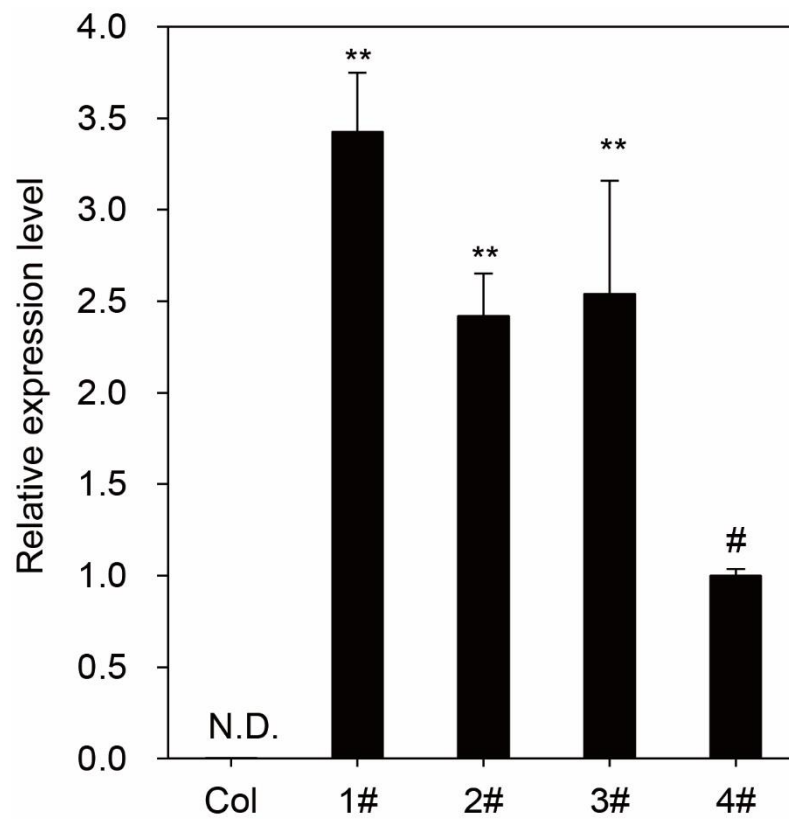


Appendix D Maximum likelihood (ML) phylogenetic tree of YAB proteins. Five clades were classified based on the relationships of rice YAB proteins, and the red labels indicate the SiYAB members.



Appendix E Multiple sequence alignment of AtYAB, OsYAB, and SiYAB proteins.

(a) Multiple sequence alignment of C2-C2 domains in the YAB proteins; (b) Multiple sequence alignment of the YABBY domains in the YAB proteins.



Appendix F Relative expression level of the T0 generation of transgenic lines.

N.D. indicates Not detected, #indicates control, Error bars represent standard deviations, and statistically significant differences are indicated: *, $P < 0.05$; **, $P < 0.01$ (Student's *t*-test).