

SsHB3-1	: -----WRPQGLPERAVTITRAWLFEHFLH-PYPDSVDKHI-ARQT-----GTSRSQVSNWFINARVRL-WKPMVEE-	BEL
SsHB24	: -----WRPQGLPERAVSITRAWLFEHFLH-PYPDSVDKHI-ARQT-----GTSRNQVSNWFINARVRL-WKPMVEE-	
SsHB51-1	: -----WRPQGLPERAVSVITRAWLFEHFLH-PYPTDGDQKQ-ARQT-----GITRNQVSNWFINARVRL-WKPMVEE-	
SsHB75-2	: -----WRPQGLPERAVSVITRAWLFEHFLH-PYPKDSKIM-ARQT-----GITRSQVSNWFINARVRL-WKPMVEE-	
SsHB89-1	: -----WRPQGLPERAVSVITRAWLFEHFLH-PYPTDSKQK-ARQT-----GITRNQVSNWFINARVRL-WKPMVEE-	DDT
SbHB50	: -----WRPQGLPERAVSVITRAWLFEHFLH-PYPTDGDQKQ-ARQT-----GITRNQVSNWFINARVRL-WKPMVEE-	
AT2G35940	: -----WRPQGLPERAVSVITRAWLFEHFLH-PYPKDSKIM-ARQT-----GITRSQVSNWFINARVRL-WKPMVEE-	
SsHB31-1	: -----RDNAGAKKSPQIQIMEKFYSYDV---QYPKPEEMGEYATCV-----GITYSQVRIWEKERERRKDRREMGI-	
SsHB54-1	: -----KPVKRMKTPYQLEVIKTYAVE---QYPSEAMRLE- SAKI-----GISDRQIQMWECHRLKDK-RKP---	HD-ZIP I
SbHB1	: -----RDNAGAKKSPQIQIMEKFYSYDA---QYPKPEEMGEYATCV-----GITYSQVRIWEKERERRKDRREMGI-	
AT4G03250	: -----NSKKRKLKTPMQVMAIFENFYNEH---KYPTTEEMKGK-AEEV-----GITEKQVSGWECHRLKDK-KRHVKED-	
SsHB6	: -----GEKKRRLNVEQVRTTEKNFELG---NKLEPERKLO-ARAL-----GLOPRQVAIWQFQNRARW-KTKQLEK-	
SsHB13-1	: -----GERKKRRLSVEQVRTTERSFEVA---NKLEPERKAO-ARAL-----GLOPRQVAIWQFQNRARW-KTKQLEK-	HD-ZIP II
SsHB36-1	: -----GEKKRRLSAEQVRAIERSFEVE---NKLEPERKAR-ARDL-----GLOPRQVAIWQFQNRARW-KTKQLEK-	
SsHB61-1	: -----PEKKRRLTPEQVHLIERSFEVE---NKLEPERKTE-ARKL-----GLOPRQVAIWQFQNRARW-KTKQLEK-	
SsHB85-1	: -----PEKKRRLTAEQVQLIERSFEVE---NKLEPERKTE-ARRL-----GMAPROQVAVWQFQNRARW-KTKQLET-	
SbHB77	: -----PEKKRRLTAEQVQLIERSFEVE---NKLEPERKTE-ARRL-----GMAPROQVAVWQFQNRARW-KTKQLET-	HD-ZIP III
AT3G01470	: -----PEKKRRLTTEQVHLIERSFEVE---NKLEPERKTO-AKKL-----GLOPRQVAIWQFQNRARW-KTKQLEK-	
SsHB10	: -----SRKKLRLSKDQAAVIEDSFKEH---NTLNPKQKAA-ARQL-----NLPKPRQEVWQFQNRARW-KTKQTEV-	
SsHB12-1	: -----SRKKLRLSKEQSALIEDHFKHEH---STLNPKQKAA-ARQL-----NLPKPRQEVWQFQNRARW-KTKQTEV-	
SsHB23-1	: -----TRKKLRLTKEQSALIEDHFKHEH---STLNPKQKVA-ARQL-----NLPKPRQEVWQFQNRARW-KTKQTEV-	HD-ZIP IV
SsHB73-1	: -----SRKKLRLSKDQSAVIEDSFREH---PTLNPRQKAA-AQQL-----GIRPRQEVWQFQNRARW-KTKQTEV-	
SsHB99-1	: -----GRKKLRLSKEQAAVIEECFKTH---STLNPKQKLA-ATRL-----GIRPRQEVWQFQNRARW-KTKQTEV-	
SbHB17	: -----TRKKLRLTKEQSALIEDHFKHEH---STLNPKQKVA-ARQL-----NLPKPRQEVWQFQNRARW-KTKQTEV-	
AT5G06710	: -----TRKKLRLSKDQSAVIEDSFKEH---STLNPKQKIA-ARQL-----NLPKPRQEVWQFQNRARW-KTKQTEV-	HD-ZIP V
SsHB1-1	: -----DSGKYVRYTPEQVEVIERLYIDC---PKPTSSRRQQLRECPI-----LSNIEPKQIKVWQFQNRARW-KTKQTEV-	
SsHB14-2	: -----DTGKYVRYTPEQVEVIERLYAEC---PKPTSSRRQQLRECPI-----LSNIEPKQIKVWQFQNRARW-KTKQTEV-	
SsHB15-1	: -----DTGKYVRYTPEQVEVIERLYSEC---PKPTSSRRQQLRECPI-----LSNIEPKQIKVWQFQNRARW-KTKQTEV-	
SsHB42-1	: -----DAGKYVRYTPEQVEVIERLYSEC---PKPTSSRRQQLRECPI-----LSNIEPKQIKVWQFQNRARW-KTKQTEV-	KNOX
SsHB48	: -----DAGKYVRYTPEQVEVIERLYSEC---PKPTSSRRQQLRECPI-----LSNIEPKQIKVWQFQNRARW-KTKQTEV-	
SbHB24	: -----DSGKYVRYTPEQVEVIERLYIDC---PKPTSSRRQQLRECPI-----LSNIEPKQIKVWQFQNRARW-KTKQTEV-	
AT1G52150	: -----DNGKYVRYTPEQVEVIERLYHDC---PKPTSSRRQQLRECPI-----LSNIEPKQIKVWQFQNRARW-KTKQTEV-	
SsHB11-1	: G-----KKKRYHRHTAHQIQIEEALFKEC---PHPDDKQRLK-SQEL-----GTPKPRQKQWQFQNRARW-KTKQTEV-	NDX
SsHB59-1	: K-----RKKRYHRHTPHQIQIEEALFKEC---PHPDEKQGEI-SKRL-----GIDPRQKQWQFQNRARW-KTKQTEV-	
SsHB60-4	: R-----RKKRYHRHTPRQIQIEEALFKEC---PHPDENQRMH-SREL-----GTEPRQKQWQFQNRARW-KTKQTEV-	
SsHB80-1	: S-----KKKRYHRHTQHQIQIEEALFKEC---PHPDDKQKKE-SREL-----GTEPLQKQWQFQNRARW-KTKQTEV-	
SsHB83-1	: A-----RKKRYHRHTQHQIQIEEALFKEC---PHPDDKQKKE-SREL-----GTEPLQKQWQFQNRARW-KTKQTEV-	PHD
SbHB74	: A-----RKKRYHRHTQHQIQIEEALFKEC---PHPDDKQKKE-SREL-----GTEPLQKQWQFQNRARW-KTKQTEV-	
AT1G05230	: N-----KKKRYHRHTQLQIQIEEALFKEC---PHPDDKQKKE-SREL-----GTEPLQKQWQFQNRARW-KTKQTEV-	
SsHB2-1	: -----RKRKAGKLPDGTTSITKQWQWQHSKW-PYPTEDDKAK-VEET-----GLOLKQINNWFQNRARW-KTKQTEV-	
SsHB90-1	: -----KRRKAGKLPDGTTSITKQWQWQHSKW-PYPTEDDKAK-VEET-----GLOLKQINNWFQNRARW-KTKQTEV-	PINTOX
SsHB97-1	: -----RKRKAGKLPDGTASTTKAWWQAHKW-PYPTEDDKAK-VQET-----GLOLKQINNWFQNRARW-KTKQTEV-	
SsHB101-1	: -----RKRKAGKLPDGTASTTKAWWQAHKW-PYPTEDDKAK-VQET-----GLOLKQINNWFQNRARW-KTKQTEV-	
SsHB104	: -----RKRKAGKLPDGTASTTKAWWQAHKW-PYPTEDDKAK-VQET-----GLOLKQINNWFQNRARW-KTKQTEV-	
SbHB97	: -----RKRKAGKLPDGTASTTKAWWQAHKW-PYPTEDDKAK-VQET-----GLOLKQINNWFQNRARW-KTKQTEV-	PLINC
AT1G62990	: -----RKRKAGKLPDGTSTTVKQWQWQHSKW-PYPTEDDKAK-VEET-----GLOLKQINNWFQNRARW-KTKQTEV-	
SsHB84-3	: -----KRRKRTLMNNEQIDELKALVDEPE---MHKNAVLQSWSEKLSL---QGS-EITASQKNWLNRRKAKL-AR-----	
SsHB86-1	: -----KRRKRTLMNNEQIDELKALVDEPE---MHKNAVLQSWSEKLSL---QGS-EITASQKNWLNRRKAKL-AR-----	
SbHB65	: -----KRRKRTLMNNEQIDELKALVDEPE---MHKNAVLQSWSEKLSL---QGS-EITASQKNWLNRRKAKL-AR-----	SAWADEE
AT4G03090	: -----KRRKRSIMNADQMGMEKALAEED- LQNSASRQLWADKISQ---KGSEVITSSQKNWLNRRKAKL-AR-----	
SsHB68-1	: -----KLFRIPPAAVEVIRKAFKAEN---ELPPRDVKEN-SREL-----GTSFEKIDKWEKNTRECA- LRDRKAE-	
SsHB88-1	: -----RKGHFGPVVNQKLYEHFKTQ---QYPSRSVKER-AEEL-----GITFRQVSKWEETREHFA-	
SsHB92-4	: -----RKGHFGPVVNQKLYEHFKTQ---QYPSRSVKER-AEEL-----GITFRQVSKWEETREHFA-	WOX
SbHB52	: -----KLFRIPPAAVEVIRKAFKAEN---ELPPRDVKEN-SREL-----GTSFEKIDKWEKNTRECA- LRDRKAE-	
AT4G29940	: -----RMFRLPRNAVEKIRQVFAET---ELPSKAVRDR-AKEL-----SIDPEKVNKWEKNTRECA- LRDRKAE-	
SsHB102-2	: -----EWSARKRLKKVQLETTERVYLR- KRPTNTMISS-VQVT-----NLPKRTIKVWQFQNRARW-KTKQTEV-	
SbHB96	: -----EWSARKRLKKVQLETTERVYLR- KRPTNTMISS-VQVT-----NLPKRTIKVWQFQNRARW-KTKQTEV-	SAWADEE
AT5G11270	: -----RWSAQKRVKKAHIEETKVVYRS---KRPTNAVVS-VQVT-----NLPKRTIKVWQFQNRARW-KTKQTEV-	
SsHB38-1	: -----RKRFRTKFTAEQKQRMQELSERLQWRLQKRDIAVDEWCRDI---GVGKGVFKVWMHNNKHNF-----	
SsHB77	: -----RKRFRTKFTPEQKERMLEFAEKQGWRIQRNDGALDSCDEI---GVKRRVFKVWMHNNKHNL-----	
SsHB87-1	: -----RKRFRTKFTPEQKEQLAFAERLQWRLQKRDIAVDEWCRDI---GVGKGVFKVWMHNNKHNF-----	SAWADEE
SsHB91-1	: -----RKRFRTKFTAEQKQRMQELSERLQWRLQKRDIAVDEWCRDI---GVGKGVFKVWMHNNKHNF-----	
SsHB93-1	: -----RKRFRTKFTPEQKEQLAFAERLQWRLQKRDIAVDEWCRDI---GVGKGVFKVWMHNNKHNL-----	
SbHB64	: -----RKRFRTKFTPEQKERMLEFAEKQGWRIQRNDGALDSCDEI---GVKRRVFKVWMHNNKHNL-----	
AT1G14440	: -----RKRFRTKFTPEQKEQLAFAERLQWRLQKRDIAVDEWCRDI---GVGKGVFKVWMHNNKHNL-----	SAWADEE
SsHB40-1	: MGRPPSTTGAPAFRFLPSEVAEEMEARLQQLNN---GIPSRGVLQI-ADKFSASPERAGKVALQPKQVWVWQFQNRARW-KTKQTEV-	
SsHB44	: MGRPPSTTGAPAFRFLPSEVAEEMEARLQQLNN---GIPSRGVLQI-ADKFSASPERAGKVALQPKQVWVWQFQNRARW-KTKQTEV-	
SsHB78-1	: MEGP-----FRFLPEEVKEMKRLFPVTS---RRLDHILMDE-AVKFSYFRGLAGMTPVKSKQVWVWQFQNRARW-KTKQTEV-	
SbHB27	: MGRPPSTTGAPAFRFLPSEVAEEMEARLQQLNN---GIPSRGVLQI-ADKFSASPERAGKVALQPKQVWVWQFQNRARW-KTKQTEV-	WOX
AT3G18380	: MGRPPS-NGGPAFRFILPEVTEMAILLQHNH---AMPGRHILE-ADKFSASPERAGKVALQPKQVWVWQFQNRARW-KTKQTEV-	
SsHB9	: -----PVRSRWTPKPEQILILIESIFNSGM---VNPPKDETVR-ARKLLER-----FGAVGDANFYWQFQNRARW-KTKQTEV-	
SsHB30	: -----PVRSRWTPKPEQILILIESIFNSGM---VNPPKDETVR-ARKLLER-----FGAVGDANFYWQFQNRARW-KTKQTEV-	
SsHB55-1	: -----DPKPRWNPRPEQIRITAEIFNSGM---INPPRDEIPR-ARMRLQE-----YGQVGDANFYWQFQNRARW-KTKQTEV-	WOX
SsHB57-1	: -----LANARWNPTKEQVAVIEGLYEHGL---RTPSAEQIQI-TGRLRE-----HGATEGKNFYWQFQNRARW-KTKQTEV-	
SsHB82-1	: -----TARSRWAPKPEQILILIESIFNSGM---VNPAKDETAR-ARKLLER-----FGAVGDANFYWQFQNRARW-KTKQTEV-	
SbHB42	: -----DPKPRWNPRPEQIRITAEIFNSGM---INPPRDEIPR-ARMRLQE-----YGQVGDANFYWQFQNRARW-KTKQTEV-	
AT1G20710	: -----STRPRWPTPTTQLOIENIYKEGS---GTPNPRRIKE-TMELSE-----HGQIMEKNFYWQFQNRARW-KTKQTEV-	

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Supplementary Figure S3 Sequence alignment of HD domain of representative HB proteins in each subfamily of *S. spontaneum*, *S. bicolor*, and *A. thaliana*