

Supplementary Materials: The *AaDREB1* Transcription Factor from the Cold-Tolerant Plant *Adonis amurensis* Enhances Abiotic Stress Tolerance in Transgenic Plant

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Supplemental File 1. The DREB proteins of plants used for phylogenetic analysis in Figure 1.

>AaDREB1gi|324983867|gb|ADY68770.1| DREB1/CBF transcription factor [Adonis amurensis]

MDYSQYGYPPSSPIYSSSSSSQGDITASQASHKRKSGRKKFTETRHPYIRGVRQRNGAKWVSEIRDRSKKN
SSIWLGTFPTPGMAARAYDVAALALRGSAPLNFVDSAWLLPRPKSSSAQDIKLAASEAAQAFAPTATSS
SSSSSPMNLRVPEPSSMFWDEEAMFNMPSSLDNMAEGMLLTPPSMQERFSCEDVDFNMELSLWND

>ShCBF3 gi|171191051|gb|ACB45086.1| [Solanum habrochaites]

MFYSDPRIESSSSDSIRANHSDEEVILASNNPKKPAGRKKFRETRHPVYRGRKRNSGKWWCEVREPNNK
TRIWLGTFPTAEMAARAHVAAIALRGRSACLNFADSAWRLPTPASSDTKDIQAAAAEAESFRPLKSEE
EESVVKDQSTTPDDMFFMDEEALFCMPGLLNTMAEGLMVPVPPQCTEMGDLVEADDMPPLWSYSI

>RcDREB1B gi|255575393|ref|XP_002528599.1| [Ricinus communis]

MEFKQDPSPIPSSSTNSHQNNHPNPHSPSMATKKRKAQRKKFQETRHPVYNGVRRRNGKWWSELRQPYNNK
SRIWLGTFPSPDMAARAYDVAAFALRGDSASLNFPEVHLLPQARSTSIKDIQYAAEAADQSVSGGGG
GSDVDHLFQCSSSSLSFCSSTIEGSDNVGKDWKNMNMFLDEEELFNMPALLDSMAEGLILTPPAMKKG
FNWNNVEDDPVDLFFWTD

>AtCBF1 gi|18416562|ref|NP_567721.1| [Arabidopsis thaliana]

MNSFSAFSEMFGSDYEPQGGDYCPTLATSCPCKPAGRKKFRETRHPYIRGVRQRNSGKWWSEVREPNNKT
RIWLGTFQTAEMAARAHVAAALALRGRSACLNFADSAWRLRIPESTCAKDIQAAAAEAALAFQDETCDTT
TTNHGLDMEETMVEAIYTPSEQEGAFYMDEETMFGMPTLLDNMAEGMLLPPPSVQWNHNYDGEGDGDVSL
WSY

>IcCBF1 gi|71983373|gb|AAZ57434.1| [Iris lactea var. chinensis]

MNSFSAFSEMGLSDYEPQGGDYCPTLATSCPCKPAGRKKFRETRHPYIRGVRQRNSGKWWSEVREPNNKT
RIWLGTFQTAEMAARAHVAAALALRGRSACLNFADSAWRLRIPESTCAKDIQAAAAEAALAFQDETCDTT
TTNHGLDMQETMVEAIYTPSEQEGAFYMDEETMFGMPTLLDNMAEGMLLPPPSVQWNHNYDGEGDGEVPL
WSY

>ScCBF2 gi|171191061|gb|ACB45094.1| [Solanum commersonii]

MFPSYYSEPLAQLSSSSSIDNSNHYSNNFSDDEEVINLASNNPKKPAGRKKFRETRHPVFRGIRMRNS
GKWWCEVREPNNKSRIWLGTFPTAEMAARAHVAAALALRGRSACLNFADSVWRLPIPASSNSKDIQAAAA
EAAEIFRPSSLEEESEEVSGECSNTTTPETPEKALSMNEEAQVNSFFMDEEALFYMPGLIANMAEGLMLP

LPQCLEIGDYVEADHAYISLWNYSI

>AtCBF2 gi|157273079|gb|ABV27118.1| [Arabidopsis thaliana]
MNSCSAFSEMFSGDYESPVSSGGDYSPKLATSCPCKPAGRKKFRETRHPIYRGVQRNSGKWVCELREP
KKTRIWLGTFTAEMAARAHVAAIALRGRSACLNFADSAWRLRIPESTCAKEIQKAAAEASNFQDEMC
HMTTDAHGLDMEETLVEAIYTPESQDAFYMDEEAMLGMSLLDNMAEGMLLPSPSVQWNYNFDVEGDDD
VSLWSY

>CbCBF gi|98980426|gb|AAY21899.2| [Chorispora bungeana]
MNSFSAFSEMFSGDYESPVSSGGDYSPKLATSCPCKPAGRKKFRETRHPIYRGVQRNSGKWVCELREP
KKTRIWLGTFTAEMAARAHVAAIALRDRSACLNFADSAWRLRIPESTCAKEIQKAAAEALNFQDEMC
HMTTDAHGLDMEETLVEAIYTPESQDAFYMDEEAMLGMSLLDNMAEGMLLPSPSVQWNYNFDVKGDDD
MSLWSY

>ScCBF3 gi|171191059|gb|ACB45092.1| [Solanum commersonii]
MDIFRSYSDPQLESSSSFSDDTTYNPNRANHSDEEVILASNNPKPAGRKKFRETRHPVYRGVRRNS
GKWVCEVREPNNKTRIWLGTFTAEMAARAHVAAIALRGRSACLNFADSAWRLPTPASSDTKDIKAAA
EAAKSFRLKSEESVVTGDTSTPDDMFFMDEEALFCMPGLLTNMAEGLMVPVPPQCTEMGDHVEADDM
PLWSYSI

>AaDREB1A gi|294335527|gb|ADE62311.1| [Ageratina adenophora]
MATLIQFNTPYTSLADNIPTTESSSTSDYSTGTSFSDEEVLASKNPKRAGRKKFRETRHPVYRGVRR
RDSGKWVCEVREPNNKTRVWLGTYPTADMAARAHVAAALMRGRSACLNFADSLWRLPIPESSNVKDIQK
AAVKAAEAFRPTETDVAVIEESNELTGNVFCVDDSEIFEMQGLADMAEGMMLPPPRTIEYDNCQDDLEF
FVDASLWSF

>AaCBF gi|125950487|gb|ABN58746.1| [Ageratina adenophora]
MATLIPFNTPYTSLADNIPTTESSSTSDYSTGTSFSDEEVLASKNPKRAGRKKFRETRHPVYRGVRR
RDSGKWVCEVREPNNKTRVWLGTYPTADMAARAHVAAALMRGRSACLNFADSLWRLPIPESSNVKDIQK
AAVKAAEAFRPTETDVAVIEESNELTGNVFCVDDSEIFEMQGLADMAEGMMLPPPRTIEYDNCQDDLEF
FVDASLWSF

>PpDREB gi|148927433|gb|ABR19831.1| [Prunus persica]
MDMFSQALSDSPDQPESSSFSDASVTTLPASSDENVILASSRPPKRRAGRRVFKETRHPVYRGVRRNN
KWVCELREPNNKSRIWLGTFTAEMAARAHVAAALAFRGKLACINFADSAWRLPLPASMDTMDIRRAAA
EAAEGFRPAEFGGLSSGSSDEKEMNLSVDMKNSLCLFYLDDEEMFDMPLIDNMAQGLLLSPPQCSAG
YLNWDDVETEADAKLWSFSI

>RcDREB1A gi|255537271|ref|XP_002509702.1| [Ricinus communis]
MDHHIFSQSDPFPFNSNSITRDSPTLSDACSAPGGSSHSDEEVILASNLPPKAGRRVFKETRHPVFRG
VRRRNGNKWVCEVRPNKKSRIWLGTYPTEMAARAHVAAALALRGKSACLNFSADSAWRLPIPSSTARE
IRRIAAEAESFRPQEFGCPGEQNSSTEDHPSGACCEDESKTTPFMDAEEVFDMPSSLVEMAQGLLLSPL
RFEEVDVGTDWNGLENDFDISLWSD

>AtCBF4 gi|15242244|ref|NP_200012.1| [Arabidopsis thaliana]

MNPFYSTFPDSFLSISDHRSVPVSDSSECSPLASSCPKRRAGRKKFRETRHPYIRGVRQRNSGKWVCEVR
EPNKKSRILWLTGTFPTVEMAARAHVAALALRGRSACLNFAWSAWRLRIPETTCPKEIQKAASEAAMAFQN
ETTTEGSKTAAEAEAAEGVREGERRAEQNGGVFYMDDEALLGMPNFFENMAEGMLLPPPEVGNHND
FDGVGDVSLWSFDE

>EgCBF1D gi|193161381|gb|ACF15447.1| [Eucalyptus gunnii]
MAAPGNFPDEEVRASHHPKRRAGRKKFRETRHPVYRGVRLRDSGKWVCEVREPRKKSRIWLTGTFPTVEM
AARAHVAALALRGRSACLNFAWSAWRLPVPASADTKDIQKAAAKAAVAFQPVSESESDVMSGDEKKSPS
EEGMLFDDDEDVFGMPGLLTNMAEGMLLPPPCGGDGYGGEDDGNLDAYVSLWSYSL

>BpCBF2 gi|145952336|gb|ABP98988.1| [Betula pendula]
MDVFSQYSWESESAMHLSDEEIQLASRNPKKRAGRTKFKETRHPVYRGVRRRNSGKWVCEVREPKNQSR
IWLGTFTPTAEMAARAHVAALALRGRSACLNFAWSAWRLPLPASGTAKDIQRTAVEAAEAFRPTETKAVE
ERQPSEGVFFMDEEAVFGMPGLLVNMAEGMLLPPPYCVGDDDVYGGDDVEAHADVSLWSYSI

>LhCBF3 gi|171191040|gb|ACB45078.1| [Solanum habrochaites]
MFYSDPRIESSSDSFRANHSDEEVLASNNPKKAPGRKKFRETRHPVYRGVRRRNSGKWVCEVREPKNK
SRIWLTGTFPTAEMAARAHVAALALRGRSACLNFAWSAWRLPTPASSDTKDIQKAAAEAAESFRPLKSEE
EESVVKDQSTTPDDMFFMDEEALFCMPGLLTNMAEGLMVPVPPQCTEMGDHVEADDMPVLSYSI

>VrCBF1B gi|39578540|gb|AAR28672.1| [Vitis riparia]
MDSDEEFSASSSSSSRTSSNPSDSLPLQCIQGHKRKAGRKKFRETRHPYIRGVRQRNGNKWVCEVREP
LKKSRILWLTGTFPTPEMAARAHVAALALRGRFASLNFAWSAWRLPRPKSSSAEDIQVAALEATKAFNPTA
PSSSSLASALDNMSGVADSKKVLTPSPNVESPKLKSQRMVLEVSPVDTKRSEKVGDGSTPVMDEEAMFN
MQGLINSMAEGLLLTPPAMCKGFSWDDATDSDHIDLWDD

>VaCBF1 gi|156186801|gb|ABU55657.1| [Vitis aestivalis]
HEEFSASSSSSSRTSDSNPSDSLPLQCIQGHKRKAGRKKFRETRHPYIRGVRQRNGNKWVCEVREPLKKS
RIWLTGTFPTPEMAARAHVAALALRGRFASLNFAWSAWRLPRPKSSSAEDIQVAALEATKAFNPTAPSS
SLASALDNMSGVADSKKVLTPSPNVESPKLKSQRMVLEVSPVDTKRSEKVGDGSTPVMDEEAMFNMQGL

>VrCBF1A gi|39578538|gb|AAR28671.1| [Vitis riparia]
MDSDEEFSASSSSSSRTNSNPSDSLPLQCIQGHKRKAGRKKFRETRHPYIRGVRQRNGNKWVCEVREP
LKKSRILWLTGTFPTPEMAARAHVAALALRGRFASLNFAWSAWRLPRPKSSSAEDIQVAALEATKAFNPTA
PSSSSLASALDNMSGVADSKKVLTPSPNVESPKLKSQRMVLEVSPVDTKRSEKVGDGSTPVMDEEAMFN
MQGLINSMAEGLLLTPPAMCKGFSWDDATDSDHIDLWDD

>VvCBF1 gi|39578542|gb|AAR28673.1| [Vitis vinifera]
MDSDEEFSASSSSSSRTNPSSDSLPLQCIQGHKRKAGRKKFRETRHPYIRGVRQRNGNKWVCEVREP
LKKSRILWLTGTFPTPKMAARAHVAALALRGRFASLNFAWSAWRLPRPKSSSAEDIQVAALEATKAFNPTA
PSSSSLASALDNMSGVADSKKVLTPSPNVESPKLKSQRMVLEVSPVDTKRSEKVGDGSTTVSMDEEAMFN
MQGLINSMAEGLLLTPPAMCKGFSWDDATDSDHIDLWDD

>VvCBF3 gi|254952727|gb|ACT97164.1| [Vitis labrusca x Vitis vinifera]

MESERDQSSPSSSSSSSSQTKCSISSSPVHKRKRKAGRKKFRETRHPVYRGVQRNGNRWVCEVLDPKNKSRI
WLGTFPAPEMAARAHDAALAFRQDFAALNFPDSASRLPRAKSSSARDIQVAALAAAMAFRPAAPSSSSSS
HISHVTACSELETSCSEDSPQLSRKKVGVGTLEDESSQSAPHGSSTVFMDEEALFNMPGLINSMAEG
LLLAPPTMLGGFSWDDTTSYTDLSLWDD

>RcCBF gi|255582828|ref|XP_002532187.1| [*Ricinus communis*]
MEKNDSSSTCKLSPCSPCSHISHQATLAPAKKRKAGRTKFKETRHPYIRGVRRRNGNKWVCEVREP NLKS
RIWLGTYPTPEMAARAHDAALAFRGEFASLNLYLDSAWILPRPKSSSHEDIKRAALEAAEAFKPSSTDLS
STSPSSSSSSASSKPSHEDDLRFLMDTQDENEKVLNNGNSSMNIEPCPNVSIERNECSVTSFLD
DEALFNMPVLLDSMAEGLILTPPSIRRGFNWDDMAFAVDLTLWRD

>VrCBF2 gi|39578544|gb|AAR28674.1| [*Vitis riparia*]
MDLDRESSASSTSPSRANLVSSDPRCPSRCIPHKRKTGRKKFRKTRHPYIRGVRQRNENKWWSEVREPS
KKSRIWLGTFPTPEMAARAHDAALALRGHFASLNFPDSAWRLPRARSSSAGDVQFAAIQAAKAFQQPPS
SSSSTPFVMDNMSAGSRKILETSSVVDTPQLKSQKQVGVSSMDSKSWEKAGDGFPTAFVDEEAVFNMPG
LIDSMAEGLLLTPPAMCEGFSWDDAVSHIDLWHDHFLS

>PtCBF6 gi|134038598|gb|AB048367.1| [*Populus trichocarpa*]
MCLLCPTYVTSCFMKNKAGRKKFKETRHPVYRGVRRRNGNKWVCEVREP NLKSRIWVGTFKSPEMAARAH
DVAALALKGELAAALNFLDSALILPRAKSSSARDIQRAALAAATEVLGRSASSCSSSSSPDHKKLSCVPNHS
NATFFDEEALFNMPGLLDSMAEGLILTPPAMARGVYWDMACTDLTLWEDDYLDLSDQ

>ShCBF2 gi|171191053|gb|ACB45088.1| [*Solanum habrochaites*]
MDIFESYYSNLLVSSLSSLSMSDTNNINHYPNEEILASNYPKKPAGRKKFRETRHPVYRGVRRKNS
GKVVCEVREP NLKSRIWLGTFPTPEMAARAHDAALALRGRSACLNFADSAWRLPIPASSNSKDIQKAAA
EAAEIFRPLKESEEVSGESPETSENVQESSYFVDEEALFFMPGLLANMAEGLMLPPPQCLEIGDHYVELA
DVHAYMPLWDYSI

>StCBF2B gi|171191066|gb|ACB45098.1| [*Solanum tuberosum*]
MDIYSDPLAESSISDTNNHYPNFSDEEVINLASNNPKKPAGRKKFRETRHPVYRGVRRMRNSGKWWC
EVREP NLKSRIWLGTFPTPEMAARAHDAALALRGRSACLNFADSAWRLPIPASSNSKDIQKAAAEEAE
IFRPESEEVSGECSSSTTPETLENTFFMKEESSLFMDEEALFYMPGLIVNMAEGLMLPPPQCLEIGDHYV
ELVDMHAYMPLWNYSI

>StCBF4 gi|171191046|gb|ACB45083.1| [*Solanum tuberosum*]
MDQLNKNSLILASNNPKKPAGRKKFRETRHPVYRGVRRMRNSGKWWCEVREP NLKSRIWLGTFPTAEMAA
RAHDVAALALRGRSACLNFADSAWRLPIPASSNSKDIQKAAAEEAEIFRPESEESERVASSEMHESSIFFMN
DEGRESSFFMDEEALFDMPGLIANMAEGLMLPPPQCAEVEDHYMEADDAYMPLWNY

>LeCBF1 gi|18535580|gb|AAK57551.1| [*Solanum lycopersicum*]
MNIFETYYSDSLILTESSSSSSSSSFSEEEVILASNNPKKPAGRKKFRETRHPYIRGIRKRNSGKWWCEV
REP NLKTRIWLGTFPTAEMAAARAHDAALALRGRSACLNFSDSAWRLPIPASSNSKDIQKAAAQAVEIFR
SEEVSGESPETSENVQESSDFVDEEALFFMPGLLANMAEGLMLPPPQCAEMGDHCVETDAYMITLWNYSI

>StCBF2A gi|171191065|gb|ACB45097.1| [*Solanum tuberosum*]

MFPSYYSEPLAELSPSSSSSSISDNSNHYYNNNFSDEEVINLASNNPKKPAGRKKFRETRHPVFRGIRM
RNSGKWVCEVREPNNKKSRIWLGTFPTAEMAARAHDVAALALRGRSACLNFAADSVWRLPIPASSNSKDIQK
AAAEAAEIFRPSESEEVSGECSNITTPETPEKALSMNEEAQVNSFFMDEEALFYMPGLIANMAEGLMLPL
PQCLEIGDYVEADHAYISLWNYSI

>HbCBF1 gi|66269671|gb|AA43213.1| [Hevea brasiliensis]
MDVFPQYSDSLPFATHSCSLHYPESSSTLSDTCSALRANLSDEEVLLASSYPKKRAGRKKFRETRHPIYRG
VRRRNSGKWVCEIREPNKKSRIWLGTFPTAEMAARAHDVAALALRGRSACLNFAADSSWRLPVPASREAKD
IRKAAAEAAAMAFQPEGTEGFSGELKQENKWTTESAPEDVFYMDDEAVFAMPGLLASMAEGLMLPPPQCV
GSGGEDGEMDAADVLSWFSI

>StCBF3 gi|212525374|gb|ACJ26758.1| [Solanum tuberosum]
MDIFRSYSDPQIESSSSFSDDTTYNPNRANHSDEEVILASNNPKKPAGRKKFRETRHPVYRGVVRMRN
SGKWVCEVREPNNKTRIWLGTFPTAEMAARAHDVAALALRGRSACLNFAADSAWRLPTPASSDTKDIQAAA
AEAAESFRPLKSEEEVVTGDQSSTPDDMFFMDEEALFCMPGLLTNMAEGLMVPPPQCTEMGDHVEADD
MPLWSYSI

>PtDREB68 gi|224058611|ref|XP_002299565.1| [Populus trichocarpa]
MPNDRQEASSFSDDSSSTRVHSDDEEVLLATSFPKKRAGRRIIFRETRHPVFRGVKRNGNKWVCEMREP
NKKKSRIWLGTYPTAEMAARAHDVAALALRGRSACLNFAADSAWRLPVPVSKDSKDI TRAAEAAELFRPQEF
GGHPAKQQDSNAEAVFAMPGENDVFFEEAVFDMPGLLVDMAEGLLLSPPRYVRNDCNDLDHMENGSDLSL
WSY

>RhDREB1B gi|209171188|gb|ACI42860.1| [Rosa hybrid cultivar]
MDGGFSAFPQYDHTQYPPFGSDLPSSSHSDNNSGNGVGRMNSDEEVMLAATYPKKRAGRKKFKETRH
PVYRGVRRRNSGKWVCEVREPNNKTRIWLGTFPTAEMAARAHDVAALSLRGRSACLNFAADSAWRLPVPAS
TSAKDIQTAAQAAEAFRPTGEESEVSGSVTATEAELEPVFCMDEEDVFGMPGLLANMAEGLMLSPPHY
NSYGGDDMEGYADVLSWYSI

>StCBF5 gi|171191045|gb|ACB45082.1| [Solanum tuberosum]
MDQLNKSSILASNNPKKPAGRKKFRETRHPVYRGVVRMRNSGKWVCEVREPNNKKSRIWLGTYPTAEMAA
RAHDVAALALRGGSAACLNFAADSAWRLPTPASSDTKDIQAAAEEAESFRPLKSEEEVSTGDQSSTPDN
MFFMDEEALFCMPGLLTNMAEGLMVPPPQCTEMGDHVEADDMPLWSYSI

>PtCBF4 gi|145322756|gb|ABP64695.1| [Populus trichocarpa]
MPNDRQEASSFSDDSSSTRVHSDDEEVLLATSFPKKRAGRRIIFRETRHPVFRGVKRNGNKWVCEMREP
NKKKSRIWLGTYPTAEMAARAHDVAALALRGRSACLNFAADSAWRLPVPVSKDSKDI TRAAEAAELFRPQEF
GENDVFFKEAVFAMPGENDVFFEEAVFDMPGLLVDMAEGLLLSPPRYVRNDCNDLDHMENGSDLSLWSY

>NtDREB4 gi|190333406|gb|ACE73696.1| [Nicotiana tabacum]
MNIFGDHNFDPILPTLSTLLPAAESSTSSDSSGSSGSTPNYSDEEVMLASNYPKKRAGRKKFRETRHPVY
RGIRRRNSNKWVCEVREPNNKKSRIWLGTFPTAEMAARAHDVAALALRGRSACLNFAADSAWRLPIPTSA
AAKDIQKATVEAAETFRPVESHRENFKETIIVDQVIQELVAELPDNVLFMDEEALFCMPRLLVNMAEGLMLPP
PQCIIDGYEMEADHADMSLWSYINSMAEGLLLTPAMCKGFSWDDATDSHIDLWLNDD

>PtDREB69 gi|224053977|ref|XP_002298067.1| [Populus trichocarpa]
MVMGGSNSFSPDKQESSLSLLSDSSGSQQDSPSSNEKVLLATSRPKKRAGRRIFKETRHPVYRGRVRRN
GDKWVCELREPNNKSRIWLGTYPTPEMAARAHDAALAFRGKSACLNFAWSAWRLPVPISNEAKDIRRAA
SEAAELFRSDLGQVMEDFRREDRGEVCSSTNDDIRDLPSENVGYIDEEAEFNMPGLLASMAEGLLLSP
PHYTGDWNDGEIDADWSLWSS

>BpCBF1 gi|145952334|gb|ABP98987.1| [Betula pendula]
MDVFSQYSSESSESGAMHLSDEEIRLASRNPKKRAGRKKFKETRHPVYRGRVRRRNSGKWVCEVREPNNKQSR
IWLGTFTPEMAARAHDAALALRGRSACLNFAWSAWRLPVPASGTAKDIQRATAEAAEEFRPAESKAVE
DRQPSESLFFMDEEAVFGMPGLMINMAEGMLLPPPYCVGDDDGYGDDVMEAHAEVSLWSYSI

>PtDREB67 gi|224131624|ref|XP_002328068.1| [Populus trichocarpa]
MEFENHSPSISLRLQNLCKPCNNPINYIYNLQKQERPVTVLKKKKAGRKKFKETRHPVYRGRVRRNNGN
KVVCEVREPNNKSRIWLGTFPEMAARAHDAALALRGRSACLNFAWSAWRLPVPASGTAKDIQRATAEAAEEFRPAESKAVE
AALNDPFSMVMSCPNNCSEKVSHPNALFFDEEALFNMPGLLDMAEGLILTPPVMQRGFNWDDMACS
TDLTLWEED

>S1CBF1 gi|267799530|gb|ACY79412.1| [Solanum lycopersicoides]
MNIFETYNSDSLILIESSSSSSSSSSSFSEEEIILASNNPKRPAGRKKFRETRHPVYRGRVRRNNGN
VCEVREPNNKTRIWLGTFTPEMAARAHDAALALRGRSACLNFAWSAWRLPVPASSNSKDIQKAAAEAA
EIFRPLSESEEEVSGESDNSTPETPENVEEVQESSFFVDEEALFFMPGLLANMVEGLMLPPPQCAEMG
DHYVETDAYMITLWNYSI

>LhCBF1 gi|72068957|dbj|BAE17131.1| [Lycopersicon hirsutum]
MNIFETYNSDSLIESSSSSSSSSSSFSEEEIILASNNPKRPAGRKKFRETRHPVYRGRVRRNNGN
CEVREPNNKTRIWLGTFTPEMAARAHDAALALRGRSACLNFAWSAWRLPVPASSNSKDIQKAAAEAAE
IFRPLKESEEEVSGESDNSTPETPENVEEVQESSDFVDEEALFFMPGLLANMAEGLMLPPPQCAEMGDHYVET
DAYMITLWNYSI

>ShCBF1 gi|171191052|gb|ACB45087.1| [Solanum habrochaites]
MNIFETYNSDSLIESSSSSSSSSSSFSEEEIILASNNPKRPAGRKKFRETRHPVYRGRVRRNNGN
REPNNKTRIWLGTFTPEMAARAHDAALALRGRSACLNFAWSAWRLPVPASSNSKDIQKAAAEAAEIFR
PLKESEEVSGESDNSTPETPENVEEVQESSDFVDEEALFFMPGLLANMAEGLMLPPPQCAEMGDHYVETDAY
MITLWNYSI

>S1CBF3 gi|45826358|gb|AAS77819.1| [Solanum lycopersicum]
MFYSDPRIESSFSFSDSIRANHSDEEVLASNNPKRPAGRKKFRETRHPVYRGRVRRNNGN
KTRIWLGTFTPEMAARAHDAALALRGRSACLNFAWSAWRLPTDSSDTKDIQKAAQAEEIFRPLKS
EEEEVVKDQSTTPDDMFFMDEEALFCMPGLLTNMAEGLMVPVPPQCTEMGDHVEADDMPPLWSYSI

>PtDREB70 gi|224122476|ref|XP_002318846.1| [Populus trichocarpa]
MDLFSHYSDPSPFGATDFWVFNENNGINQEQCSYSPVLSDSISSNVTTTRVQPAPNFSDEEVMLASRNP
KKRAGRKKFRETRHPVYRGRVRRRNSGKWVCEVREPNNKSRIWLGTFPEMAARAHDAALALRGRSACLN
FAWSAWRLPVPASSEAKDIQKAAAEAAAGFRPEGCVGGELMRTGDEGEKAAETTAEAGEEVFYMDDEAV
FGMPGLLANMAEGLMLPPPHCGGGGDGWDNMENIDADMPLWSFSI

>PtCBF1 gi|134038590|gb|AB048363.1| [*Populus trichocarpa*]
MLASRNPKKRAGRKKFRETRHPVYRGRVRRRNSGKVVCEVREPNKKSRIWLGTFPTAEMAARAHDAALAL
RGRSACLNFAWSAWRLPVPASSEAKDIQKAAAEAGGFRPEGCVGGELMRTGDEGEKAAETTAEAGEEVF
YMDDEAVFGMPGLLANMAEGMLLPPPHCGGGGDGWDNMENIDADMPLWSFSI

>AbCBF1 gi|156186811|gb|ABU55662.1| [*Ampelopsis glandulosa* var. *brevipedunculata*]
TNPSSNSLLPLQCISHKRKAGRKKFRETRHPYRGRVQRNGNKVVCEVREPLKKSRIWLGTFPTPEMAA
RANDVAALALRGHFASLNFPSAWSLPRPKSSAPEDIQVAALEATKAFNPTAPSSSSLSSASDSMSGVAG
SKKVLETSLVDSPNLLTQRKVLEVSSVDSKRSEKVGDSMTVFMDEEALFNMPGLIDSMAEGLIL

>CaCBF2 gi|156186831|gb|ABU55671.1| [*Cissus antarctica*]
VNPVSSDSRWSSRCIPHKRKNRKKFRETRHPYRGRVQRNANKVVSEVREPRKKSRIWLGTFPTPEMAA
RAHDVGAALSLRGHSTSLNFPDSAWLLPRASSSSVGDILAAIQAAKAFQPPASSSSSSSIVIDNMSTGSR
KILQTSSVVDSPHKSQKKVSEASSVDSKRLEKAGDGFPTGFVDEEAVFNMPCLIDSMAEGLLL

>CaCBF1 gi|156186816|gb|ABU55664.1| [*Cissus antarctica*]
INPNSSDLLLLQRIGPKRKRKAGRKKFRETRHPYRGRVQRNGNKVVCEVREPFKKSRIWLGTFPTPEMAA
RAHDVAALALRGHFASLNFPSAWRLPRPMSSSAEDIQVAALEATKAFNPTAPSSSSLSSALDNMSGVAD
SKKVLKTPPSVSPKLRQRKFLEVPSVDTKRSEKVGDSITVFMDEEALFNMPGLIDSMAEGLLL

>PiCBF1 gi|156186807|gb|ABU55660.1| [*Parthenocissus inserta*]
LQCI GHKRKAGRRKFRERTRHPYRGRVQRNGNKVVCEVREPLKKSRIWLGTFPTPEMAARAHDAALALALR
GHFASLNFPSAWRLPRPKSSSAEDIQIAALEATKSFNPTAPSSSSLASALDSMSGVPGSKKVLETSPSV
ESPKLKSQRKVLEVSSVDTKVADGSMTVFMDEEAVFNMPGLINS

AtDREB1a	....MNSF.SAFSEMFG.....SDYESSVS.....SGGDYIPTLASS	32
AtDREB1b	....MNSF.SAFSEMFG.....SDYEP.....QGGDYCPTLATS	29
AtDREB1c	....MNSF.SAFSEMFG.....SDYESPVS.....SGGDYSPKLATS	32
AtDREB1d	....MNFYSTFPDSFLS.....IDHRSPPVS.....DSSECSPKLASS	35
AtDREB1E	.....MENDITVAEM	11
AtDREB1F	.....MNNDIILAE	11
EgCBF1D	.....MAAPG.....NFPDEEVLASH	17
NtDREBF4	....MNIFGDHNFDPDIPTLSTSL...LPAAESSTSSD...SGSSGSTPNYSDEEVMLASN	51
PpDREB	....MDMFSQAQLSDSPDQES.....SSFSDASVTTL.....PASSDENVILASS	42
PtDREB69	....MVMGGNSFSPDKQESSLS...SLLSDSSGSQQ.....DSPSSNEKVLATS	44
RcDREB1A	...MDHHIFSQSDPPFPNSNITRDSPTLSDACSAPG.....GSSHSDDEVILASN	49
RhDREB1B	MDGGFSAPQYDHTQYPPFGS.....DLPESSSHSDNNSGNVGRMNLSDDEVMLAAT	54
ScCBF3	....NDIFRSYSDPQLESSES.....FSDTTTYN.....SPNRANHSDEEVLASN	43
Consensus	AP2 domain where the degenerate primers^a	
AtDREB1a	CPKKPAGRKKFRETRHPVIRGVRRRNSCKWVCEWRBPN.KKTRVULGTFCTAEMAARAHD	91
AtDREB1b	CPKKPAGRKKFRETRHPVIRGVRRRNSCKWVCEWRBPN.KKTRVULGTFCTAEMAARAHD	88
AtDREB1c	CPKKPAGRKKFRETRHPVIRGVRRRNSCKWVCEWRBPN.KKTRVULGTFCTAEMAARAHD	91
AtDREB1d	CPKKPAGRKKFRETRHPVIRGVRRRNSCKWVCEWRBPN.KKTRVULGTFCTAEMAARAHD	94
AtDREB1E	KPKKRAGRIFKRETRHPVIRGVRRRNGDKWVCEWRBPI.HQRRVULGTYPTAEMAARAHD	70
AtDREB1F	RPKKRAGRIFKRETRHPVIRGVRRRNGDKWVCEWRBPT.HQRRVULGTYPTAEMAARAHD	70
EgCBF1D	HPKKRAGRKKFRETRHPVIRGVRRRNSCKWVCEWRBPN.KKTRVULGTFCTAEMAARAHD	76
NtDREBF4	YPKKRAGRKKFRETRHPVIRGVRRRNSCKWVCEWRBPN.KKTRVULGTFCTAEMAARAHD	110
PpDREB	RPKKRAGRIFKRETRHPVIRGVRRRNSCKWVCEWRBPN.KKTRVULGTYPTAEMAARAHD	102
PtDREB69	RPKKRAGRIFKRETRHPVIRGVRRRNGDKWVCEWRBPN.KKTRVULGTYPTAEMAARAHD	103
RcDREB1A	LPKKPAGRIFKRETRHPVIRGVRRRNSCKWVCEWRBPN.KKTRVULGTYPTAEMAARAHD	108
RhDREB1B	YPKKRAGRKKFRETRHPVIRGVRRRNSCKWVCEWRBPN.KKTRVULGTFCTAEMAARAHD	113
ScCBF3	NPKKPAGRKKFRETRHPVIRGVRRRNSCKWVCEWRBPN.KKTRVULGTFCTAEMAARAHD	102
Consensus	pkk agr f etrhp rg r r kvv e r p r w lgt t maarahd were designed	
AtDREB1a	VAALALRGRSACLNFDASAURLRIPESCTAKDIQKAAAEAAALAFQDEMCDATTD...HGF	148
AtDREB1b	VAALALRGRSACLNFDASAURLRIPESCTAKDIQKAAAEAAALAFQDETCDDTTTN...HGL	146
AtDREB1c	VAALALRGRSACLNFDASAURLRIPESCTAKDIQKAAAEAAALAFQDEMCHMTTDA...HGL	149
AtDREB1d	VAALALRGRSACLNFDASAURLRIPETTCPKREIQKAAAEAAALAFQNETTTTEGSK...TAA	151
AtDREB1E	VAALALRGRSACLNFDASAURLRIPASVDPDPTTRTAAEAAEMFRPEFSTGIT...VL	126
AtDREB1F	VAALALRGRSACLNFDASAURLRIPASVNDPVTTRVAAEAAEMFRPEVLESGIT...VL	126
EgCBF1D	VAALALRGRSACLNFDASAURLRIPASADTKDIQKAAAEAAALAFQVESESED...VM	131
NtDREBF4	VAALALRGRSACLNFDASAURLRIPASAAKDIQKAAAEAAALAFQTRPVESHRENFKE.IIV	169
PpDREB	VAALALRGRSACLNFDASAURLRIPASMDTMDTRAAAEAAEMFRPEAFGLSSG...SS	159
PtDREB69	VAALALRGRSACLNFDASAURLRIPASINEAKDIQKAAAEAAALAFRTSDLGGQVMEFRR	163
RcDREB1A	VAALALRGRSACLNFDASAURLRIPASSTAREIRRIAAEAAEMFRPQEFGPCGEQ...NS	165
RhDREB1B	VAALALRGRSACLNFDASAURLRIPASAKDIQKAAAEAAALAFRPTGESE...VV	167
ScCBF3	VAALALRGRSACLNFDASAURLRIPASSDTKDIQKAAAEAAALAFRPLKSEEE...154	
Consensus	va rg ac nf dsaur l p i aa f	
AtDREB1a	DMEETLVEA..IYTAE....QSENAFYMHDE....AMFEMPSLLANMAEGHLLPLPSV	196
AtDREB1b	DMEETHVEA..IYTPE....QSEGAFYMHDE....TMFGMPTLLDNMAEGHLLPPPSV	194
AtDREB1c	DMEETLVEA..IYTPE....QSQDAFYMHDE....AMLGMSLLDNMAEGHLLPPSPV	197
AtDREB1d	EAEAAAGEG..VREGERRAEQNGGVFYMHDE....ALLGMPNFFENMAEGHLLPPPEV	204
AtDREB1E	PSA.....SEFDTSD.....EGVAGMMRLAEEPLMSPPRS	157
AtDREB1F	PCAGDDVDLGFSGSG....SGSGSEERNSSSYFGDYEEVSTIMMRLAEGPLMSPPRS	181
EgCBF1D	SGDEKKSPPS..EEG.....MLFDDE....DVFGMFGLLTNMAEGHLLPPRC	172
NtDREBF4	DQVIQELVA..ELPDN.....VLFMDEE....ALFCMPRLIDNMAEGHLLPPPC	213
PpDREB	DEKEMNLV..DMEKN....SSLCLFYLDEE....EMFDMPLIDNMAEGHLLSPPQC	207
PtDREB69	DRGEVCSSTNDDIRDL....PSENVGYIDEE....AEFNMFGLLASMAEGHLLSPPHY	213
RcDREB1A	STEDHPSGACCKDESKT.....TVPFMDAE....EVFDMPSLLVMAEGHLLSPLRF	212
RhDREB1B	SGSVTATEA..ELEP.....VFCMDEE....DVFGMFGLLTNMAEGHLLSPPHY	210
ScCBF3	SVVTTGDQT..STPDD.....MFFMDEE....ALFCMPGLLTNMAEGHLLMVFPPQC	198
Consensus	a	
AtDREB1a	Q.....WNHNHEVDGDDVSLWSY.	216
AtDREB1b	Q.....WNHNYDCEGDVSLWSY.	213
AtDREB1c	Q.....WNYNFDVEGDDVSLWSY.	216
AtDREB1d	G.....WNHN.DFDGVDVSLWSFD	223
AtDREB1E	YID.MN.TSVYVDEEMCYELSLWSY.	181
AtDREB1F	YMEDMTPINNVYTEEMCYELMSLWSYR	208
EgCBF1D	GGD...GYGDEDDGNLD.AYVSLWSYS	195
NtDREBF4	I.....IDG.YEMEADHADMSLWSY.	232
PpDREB	SAG...YLNWDDVETE.ADAKLSWSFS	229
PtDREB69	TG.....DWNDCGID.ADWLSWS.	231
RcDREB1A	EED...VGTDWNGLEND.FDISLWS.	234
RhDREB1B	N....SYGG.DDMEGY.ADVLSWSYS	230
ScCBF3	T.....EMG.DHVEAD..DMPLWSYS	216
Consensus	lws	

Figure S1. The conserved AP2 domain of some dicotyledon DREB genes.