

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
SSIWLGTFPTPGMAARAYDVAALALRGKSAPLNFVDSAWLLPRPKSSSAQDIKLAASEAAQAFAPTATSS
SSSSSPMNLRVPEPSSMFWDDEAMFNMPSSLDNMAEGMLLTPPSMQERFSCEDVDFNMELSLWND

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

MFYSDPRIESSSSDSIRANHSDEEVILASNNPKKPAGRKKFRETRHPVYRGRKRNSGKWWCEVREPNNK
TRIWLGTFPTAEMAARAHVAAIALRGRSACLNFADSAWRLPTPASSDTKDIQAAAAEAESFRPLKSEE
EESVVKDQSTTPDDMFFMDEEALFCMPGLLNTMAEGLMVPVPPQCTEMGDLVEADDMPPLWSYSI

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

MEFKQDPSPIPSSSTNSHQNNHPNPHSPSMATKKRKAQRKKFQETRHPVYNGVRRRNGKWWSELRQPYNNK
SRIWLGTFPSPDMAARAYDVAALALRGDSASLNFPEVHLLPQARSTSIKDIQYAAEAADQSVSGGGG
GSDVDHLFQCSSSSLSFCSSTIEGSDNVGKDWKNMNMFLDEEELFNMPALLDSMAEGLILTPPAMKGGF
NWNVEDDPVDLFFWTD

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

MNSFSAFSEMFGSDYEPQGGDYCPTLATSCPKKPAGRKKFRETRHPYIRGVRQRNSGKWWSEVREPNNKT
RIWLGTFQTAEMAARAHVAAALALRGRSACLNFADSAWRLRIPESTCAKDIQAAAAEAALAFQDETCDTT
TTNHGLDMEETMVEAIYTPSEQEGAFYMDEETMFGMPTLLDNMAEGMLLPPPSVQWNHNYDGEVPL
WSY

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

MNSFSAFSEMFGSDYEPQGGDYCPTLATSCPKKPAGRKKFRETRHPYIRGVRQRNSGKWWSEVREPNNKT
RIWLGTFQTAEMAARAHVAAALALRGRSACLNFADSAWRLRIPESTCAKDIQAAAAEAALAFQDETCDTT
TTNHGLDMQETMVEAIYTPSEQEGAFYMDEETMFGMPTLLDNMAEGMLLPPPSVQWNHNYDGEVPL
WSY

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

MFPSYYSEPLAQLSSSSSIDNSNHYSNNFSDDEEVINLASNNPKKPAGRKKFRETRHPVFRGIRMRNS
GKWWCEVREPNNKSRIWLGTFPTAEMAARAHVAAALALRGRSACLNFADSVWRLPIPASSNSKDIQAAAA
EAAEIFRPSSLEEESEEVSGECSNTTTPETPEKALSMNEEAQVNSFFMDEEALFYMPGLIANMAEGLMLP

LPQCLEIGDYVEADHAYISLWNYSI

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

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

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

>AaDREB1A gi|294335527|gb|ADE62311.1| [Ageratina adenophora]
MATLIQFNTPYTSLADNIPTTESSSTSDYSTGTSFSDEEVLASKNPKRAGRKKFRETRHPVYRGVRR
RDSGKWVCEVREPNNKTRVWLGTYPTADMAARAHDAALAMRGRSACLNFADSLWRLPIPESSNVKDIQK
AAVKAAEAFRPTETDVAVIEESNELTGNVFCVDDDESIFEMQGLADMAEGMMLPPPRTIEYDNCQDDLEF
FVDASLWSF

>AaCBF gi|125950487|gb|ABN58746.1| [Ageratina adenophora]
MATLIPFNTPYTSLADNIPTTESSSTSDYSTGTSFSDEEVLASKNPKRAGRKKFRETRHPVYRGVRR
RDSGKWVCEVREPNNKTRVWLGTYPTADMAARAHDAALAMRGRSACLNFADSLWRLPIPESSNVKDIQK
AAVKAAEAFRPTETDVAVIEESNELTGNVFCVDDDESIFEMQGLADMAEGMMLPPPRTIEYDNCQDDLEF
FVDASLWSF

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

>RcDREB1A gi|255537271|ref|XP_002509702.1| [Ricinus communis]
MDHHIFSQSDPFPFNSNSITRDSPTLSDACSAPGGSSHSDEEVILASNLPKPAGRRVFKETRHPVFRG
VRRRNGNKWVCEVRPNKKSRIWLGTYPTEMAARAHDAVALALRGKSACLNFSADSAWRLPIPSSTARE
IRRIAAEAESFRPQEFGCPGEQNSSTEDHPSGACCEDESKTTPFMDAEEVFDMPSSLVEMAQGLLLSPL
RFEEVDVGTDWNGLENDFDISLWSD

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

MNPFYSTFPDSFLSISDHRSPVSDSSECSPLASSCPKRRAGRKKFRETRHPYIRGVRQRNSGKWVCEVR
EPNKKSRILWLTGTFPTVEMAARAHVAALALRGRSACLNFAWSAWRLRIPETTCPKEIQKAASEAAMAFQN
ETTTEGSKTAAEAEAAAGEGVREGERRAEQNGGVFYMDDEALLGMPNFFENMAEGMLLPPPEVGNHND
FDGVGDVSLWSFDE

>EgCBF1D gi|193161381|gb|ACF15447.1| [Eucalyptus gunnii]
MAAPGNFPDEEVRRLASHHPKRRAGRKKFRETRHPVYRGVRLRDSGKWVCEVREPRKKSRIWLTGTFPTVEM
AARAHVAALALRGRSACLNFAWSAWRLPVPASADTKDIQAAAKA AVAFQPVSESESDVMGDEKKSPS
EEGMLFDDDEDVFGMPGLLTNMAEGMLLPPPCGGDGYGGEDDGNLDAYVSLWSYSL

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

>LhCBF3 gi|171191040|gb|ACB45078.1| [Solanum habrochaites]
MFYSDPRIESSSDSFRANHSDEEVILASNNPKKPKRAGRKKFRETRHPVYRGVRRRNSGKWVCEVREPKNK
SRIWLTGTFPTAEMAARAHVAALALRGRSACLNFAWSAWRLPTPASSDTKDIQAAAEEAESFRPLKSEE
EESVVKDQSTTPDDMFFMDEEALFCMPGLLTNMAEGLMVPVPPQCTEMGDHVEADDMPVSLWSYSI

>VrCBF1B gi|39578540|gb|AAR28672.1| [Vitis riparia]
MDSDEEFSASSSSSSSRTSSNPSDSLPLQCI GHKRRKAGRKKFRETRHPYIRGVRQRNGNKWVCEVREP
LKKSRILWLTGTFPTPEMAARAHVAALALRGRFASLNFAWSAWRLPRPKSSSAEDIQVAALEATKAFNPTA
PSSSSLASALDNMSGVADSKKVLTPSPNVESPKLKSQRMVLEVSPVDTKRSEKVGDGSTPVFMDEEAMFN
MQGLINSMAEGLLLTPPAMCKGFSWDDATDSDHIDLWLD

>VaCBF1 gi|156186801|gb|ABU55657.1| [Vitis aestivalis]
HEEFSASSSSSSSRTSDSNPSDSLPLQCI GHKRRKAGRKKFRETRHPYIRGVRQRNGNKWVCEVREPLKKS
RIWLTGTFPTPEMAARAHVAALALRGRFASLNFAWSAWRLPRPKSSSAEDIQVAALEATKAFNPTAPSS
SLASALDNMSGVADSKKVLTPSPNVESPKLKSQRMVLEVSPVDTKRSEKVGDGSTPVFMDEEAMFNMQGL

>VrCBF1A gi|39578538|gb|AAR28671.1| [Vitis riparia]
MDSDEEFSASSSSSSSRTNSNPSDSLPLQCI GHKRRKAGRKKFRETRHPYIRGVRQRNGNKWVCEVREP
LKKSRILWLTGTFPTPEMAARAHVAALALRGRFASLNFAWSAWRLPRPKSSSAEDIQVAALEATKAFNPTA
PSSSSLASALDNMSGVADSKKVLTPSPNVESPKLKSQRMVLEVSPVDTKRSEKVGDGSTPVFMDEEAMFN
MQGLINSMAEGLLLTPPAMCKGFSWDDATDSDHIDLWLD

>VvCBF1 gi|39578542|gb|AAR28673.1| [Vitis vinifera]
MDSDEEFSASSSSSSSRTNPSSDSLPLQCI GHKRRKAGRKKFRETRHPYIRGVRQRNGNKWVCEVREP
LKKSRILWLTGTFPTPKMAARAHVAALALRGRFASLNFAWSAWRLPRPKSSSAEDIQVAALEATKAFNPTA
PSSSSLASALDNMSGVADSKKVLTPSPNVESPKLKSQRMVLEVSPVDTKRSEKVGDGSTTVSMDEEAMFN
MQGLINSMAEGLLLTPPAMCKGFSWDDATDSDHIDLWLD

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

MESERDQSSPSSSSSSSSQTKCSISSSPVHKRKAGRKKFRETRHPVYRGVQRNGNRWVCEVLDPKNKSRI
WLGTFPAPEMAARAHVAALAFRQDFAALNFPDSASRLPRAKSSSARDIQVAALAAAMAFRPAAPSSSSSS
HISHVTACSELETSCSEDSPQLESRRKKVGVGTLEDESSQSAPHGSSTVFMDEEALFNMPGLINSMAEG
LLLAPPTMLGGFSWDDTTSYTDLSLWDD

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

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

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

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

>StCBF2B gi|171191066|gb|ACB45098.1| [Solanum tuberosum]
MDIYSDPLAESSISDTNNNHYSNNFSDEEVINLASNNPKKPAGRKKFRETRHPVYRGVRRMRNSGKWWC
EVREP NLKSRIWLGTFPTVEMAARAHVAALALRGRSACLNFADSAWRLPIPASSNSKDIQKAAAEEAE
IFRPESEEVSGECSSSTTPETLENTFFMKEESSLFMDEEALFYMPGLIVNMAEGLMLPPPQCLEIGDHYV
ELVDMHAYMPLWNYSI

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

>LeCBF1 gi|18535580|gb|AAK57551.1| [Solanum lycopersicum]
MNIFETYYSDSLILTESSSSSSSSSFSEEEVILASNNPKKPAGRKKFRETRHPYIRGIRKRNKSGKWWCEV
REP NLKTRIWLGTFPTAEMAAARAHVAALALRGRSACLNFSDSAWRLPIPASSNSKDIQKAAAQAVEIFR
SEEVSGESPETSENVQESSDFVDEEALFFMPGLLANMAEGLMLPPPQCAEMGDHCVETDAYMITLWNYSI

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

MFPSYYSEPLAELSPSSSSSSISDNSNHYYNNNFSDEEVINLASNNPKKPAGRKKFRETRHPVFRGIRM
RNSGKWVCEVREPNNKKSRIWLGTFPTAEMAARAHDVAALALRGRSACLNFAADSVWRLPIPASSNSKDIQK
AAAAEAEIFRPSESEEVSGECNITTPETPEKALSMNEEAQVNSFFMDEEALFYMPGLIANMAEGLMLPL
PQCLEIGDYVEADHAYISLWNYSI

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

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

>PtDREB68 gi|224058611|ref|XP_002299565.1| [Populus trichocarpa]
MPNDRQEASSFSDDSSSTRVHSDVEVLLATSFPKKRAGRRIIFRETRHPVFRGVKRNGNKWVCEMREP
NKKSRIWLGTYPTAEMAARAHDVAALALRGRSACLNFAADSAWRLPVPVSKDSKDI TRAAEAAELFRPQEF
GGHPAKQQDSNAEAVFAMPGENDVFFEEAVFDMPGLLDVMAEGLLLSPPRYVRNDCNDLDHMENGSDLSL
WSY

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

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

>PtCBF4 gi|145322756|gb|ABP64695.1| [Populus trichocarpa]
MPNDRQEASSFSDDSSSTRVHSDVEVLLATSFPKKRAGRRIIFRETRHPVFRGVKRNGNKWVCEMREP
NKKSRIWLGTYPTAEMAARAHDVAALALRGRSACLNFAADSAWRLPVPVSKDSKDI TRAAEAAELFRPQEF
GENDVFFKEAVFAMPGENDVFFEEAVFDMPGLLDVMAEGLLLSPPRYVRNDCNDLDHMENGSDLSLWSY

>NtDREB4 gi|190333406|gb|ACE73696.1| [Nicotiana tabacum]
MNIFGDHNFDPILPTLSTLLPAAESSTSSDSSGSGSTPNYSDEEVMLASNYPKKRAGRKKFRETRHPVY
RGIRRRNSNKWVCEVREPNNKKSRIWLGTFPTAEMAARAHDVAALALRGRSACLNFAADSAWRLPIPTSA
AAKDIQKATVEAAETFRPVESHRENFKETIIVDQVIQELVAELPDNVLFMDEEALFCMPRLLVNMAEGLMLPL
PQCIIDGYEMEADHADMSLWSYINSMAEGLLLTPAMCKGFSWDDATDSHIDLWLNDD

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

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

>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
CEVREPNNKTRIWLGTFTPEMAARAHDAALALRGRSACLNFAWSAWRLPVPASSNSKDIQKAAAEAA
IFRPLKESEEEVSGESDNSTPETPENVEEVQESSDFVDEEALFFMPGLLANMVEGLMLPPPQCAEMG
DHYVETDAYMITLWNYSI

>ShCBF1 gi|171191052|gb|ACB45087.1| [Solanum habrochaites]
MNIFETYNSDSLIESSSSSSSSSSSFSEEEIILASNNPKRPAGRKKFRETRHPVYRGRVRRNNGN
REPNNKTRIWLGTFTPEMAARAHDAALALRGRSACLNFAWSAWRLPVPASSNSKDIQKAAAEAAEIFR
PLKESEEVSGESDNSTPETPENVEEVQESSDFVDEEALFFMPGLLANMVEGLMLPPPQCAEMG
DHYVETDAYMITLWNYSI

>S1CBF3 gi|45826358|gb|AAS77819.1| [Solanum lycopersicum]
MFYSDPRIESSFSFSDSIRANHSDEEVIILASNNPKRPAGRKKFRETRHPVYRGRVRRNNGN
KKTRIWLGTFTPEMAARAHDAALALRGRSACLNFAWSAWRLPTDSSDTKDIQKAAQAEEIFRPLKS
EEEEVVKDQSTTPDDMFFMDEEALFCMPGLLTNMAEGLMVPVPPQCTEMGDHVEADDMPPLWSYSI

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

>PtCBF1 gi|134038590|gb|AB048363.1| [*Populus trichocarpa*]
MLASRNPKKRAGRKKFRETRHPVYRGVRRRNSGKWVCEVREPNKKSRIWLGTFPTAEMAARAHDAALAL
RGRSACLNFAWSAWRLPVPASSEAKDIQKAAAEAGGFRPEGCVGGELMRTGDEGEKAAETAEAGEEVF
YMDDEAVFGMPGLLANMAEGMLLPPPHCGGGGDGWDNMENIDADMPLWSFSI

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

>CaCBF2 gi|156186831|gb|ABU55671.1| [*Cissus antarctica*]
VNPVSSDSRWSSRCIPHKRKNRKKFRETRHPYRGVQRNANKWVSEVREPRKKSRIWLGTFPTPEMAA
RAHDVGAALSLRGHSTSLNFPDASWLLPRASSSSVGDILAAIQAAKAFQPPASSSSSSSIVIDNMSTGSR
KILQTSSVVDSPHKSQKKVSEASSVDSKRLEKAGDGFPTGFVDEEAVFNMPCLIDSMAEGLLL

>CaCBF1 gi|156186816|gb|ABU55664.1| [*Cissus antarctica*]
INPNSSDLLLLQRIGPKRKRKAGRKKFRETRHPYRGVQRNGNKWVCEVREPFKKSRIWLGTFPTPEMAA
RAHDVAALALRGHFASLNFPDASWRLPRPMSSSAEDIQVAALEATKAFNPTAPSSSSLSSALDNMSGVAD
SKKVLKTPPSVSPKLRQRKFLEVPSVDTKRSEKVGDSITVFMDEEALFNMPGLIDSMAEGLLL

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

AtDREB1a	....MNSF.SAFSEMFG.....SDYESSVS.....SGGDYIPTLASS	32
AtDREB1b	....MNSF.SAFSEMFG.....SDYEP.....QGGDYCPPLATS	29
AtDREB1c	....MNSF.SAFSEMFG.....SDYESPVS.....SGGDYSPKLATS	32
AtDREB1d	....MNFYSTFPDSFLS.....IDHRSVPVS.....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.....FDTTTTYN.....SPNRANHSDEEVLASN	43
Consensus	AP2 domain where the degenerate primers^a	
AtDREB1a	CPKKPAGRKKFRETRHPVIRGVRRRNSCKWVCEWRBPN.KKTRIVLGTFFTAEMAARAHD	91
AtDREB1b	CPKKPAGRKKFRETRHPVIRGVRRRNSCKWVCEWRBPN.KKTRIVLGTFFTAEMAARAHD	88
AtDREB1c	CPKKPAGRKKFRETRHPVIRGVRRRNSCKWVCEWRBPN.KKTRIVLGTFFTAEMAARAHD	91
AtDREB1d	CPKKPAGRKKFRETRHPVIRGVRRRNSCKWVCEWRBPN.KKTRIVLGTFFTAEMAARAHD	94
AtDREB1E	KPKKRAGRIFKRETRHPVIRGVRRRNGDKWVCEWRBPI.HQRRVVLGTFFTAEMAARAHD	70
AtDREB1F	RPKKRAGRIFKRETRHPVIRGVRRRNGDKWVCEWRBPT.HQRRVVLGTFFTAEMAARAHD	70
EgCBF1D	HPKKRAGRKKFRETRHPVIRGVRRRNSCKWVCEWRBPN.KKTRIVLGTFFTAEMAARAHD	76
NtDREBF4	YPKKRAGRKKFRETRHPVIRGVRRRNSCKWVCEWRBPN.KKTRIVLGTFFTAEMAARAHD	110
PpDREB	RPKKRAGRIFKRETRHPVIRGVRRRNSCKWVCEWRBPN.KKTRIVLGTFFTAEMAARAHD	102
PtDREB69	RPKKRAGRIFKRETRHPVIRGVRRRNGDKWVCEWRBPN.KKTRIVLGTFFTAEMAARAHD	103
RcDREB1A	LPKKPAGRIFKRETRHPVIRGVRRRNSCKWVCEWRBPN.KKTRIVLGTFFTAEMAARAHD	108
RhDREB1B	YPKKRAGRKKFRETRHPVIRGVRRRNSCKWVCEWRBPN.KKTRIVLGTFFTAEMAARAHD	113
ScCBF3	NPKKPAGRKKFRETRHPVIRGVRRRNSCKWVCEWRBPN.KKTRIVLGTFFTAEMAARAHD	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	VAALALRGRSACLNFDASAURLRIPETTCPKDIQKAAAEAAALAFQNETTTTEGSK...TAA	151
AtDREB1E	VAALALRGRSACLNFDASAURLRIPASVDPDTRRRAAEAAEMFRPEFSTGIT...VL	126
AtDREB1F	VAALALRGRSACLNFDASAURLRIPASVDPDTRRRAAEAAEMFRPEVLESGIT...VL	126
EgCBF1D	VAALALRGRSACLNFDASAURLRIPASVADTKDIQKAAAEAAALAFQVESESED...VM	131
NtDREBF4	VAALALRGRSACLNFDASAURLRIPASVADTKDIQKAAAEAAALAFQVESHRENFKE...IIV	169
PpDREB	VAALALRGRSACLNFDASAURLRIPASVADTKDIQKAAAEAAALAFQVESHRENFKE...IIV	159
PtDREB69	VAALALRGRSACLNFDASAURLRIPASVADTKDIQKAAAEAAALAFQVESHRENFKE...IIV	163
RcDREB1A	VAALALRGRSACLNFDASAURLRIPASVADTKDIQKAAAEAAALAFQVESHRENFKE...IIV	165
RhDREB1B	VAALALRGRSACLNFDASAURLRIPASVADTKDIQKAAAEAAALAFQVESHRENFKE...IIV	167
ScCBF3	VAALALRGRSACLNFDASAURLRIPASVADTKDIQKAAAEAAALAFQVESHRENFKE...IIV	154
Consensus	va rg ac nf dsaur l p i aa f	
AtDREB1a	DMEETHVEA..IYTAE....QSENAFYMHDE....AMFEMPSLLANMAEGHLLPLPSV	196
AtDREB1b	DMEETHVEA..IYTPE....QSENAFYMHDE....TMFGMPTLLDNMAEGHLLPPPSV	194
AtDREB1c	DMEETHVEA..IYTPE....QSQDAFYMHDE....AMLGMSLLDNMAEGHLLPPSPV	197
AtDREB1d	EAEAAAGEG..VREGERRAEQNGGVFYMDDE....ALLGMPNFFENMAEGHLLPPPEV	204
AtDREB1E	PSA.....SEFDTSD.....EGVAGMMRLAEEPLMSPPRS	157
AtDREB1F	PCAGDDVDLGFSGSG....SGSGSEERNSSSYFGDYEEVSTIMMRLAEGPLMSPPRS	181
EgCBF1D	SGDEKKSPTS..EEG.....MLFDDE....DVFGMFGLLTNMAEGHLLPPRC	172
NtDREBF4	DQVIQELVA..ELPDN.....VLFMDEE....ALFCMPRLIDNMAEGHLLPPPC	213
PpDREB	DEKEMNLVS..DMEKN....SSLCLFYLDEE....EMFDMPLIDNMAEGHLLSPPC	207
PtDREB69	DRGEVCSSTNDDIRDL....PSENVGYIDEE....AEFNMFGLLASMAEGHLLSPPHY	213
RcDREB1A	STEDHPSGACCKDESKT.....TVPFMDAE....EVFDMPSLLVMAEGHLLSPLRF	212
RhDREB1B	SGSVTATEA..ELEP.....VFCMDEE....DVFGMFGLLTNMAEGHLLSPPHY	210
ScCBF3	SVVTGDQDT..STPDD.....MFFMDEE....ALFCMPGLLTNMAEGHLLMVPFPC	198
Consensus	a	
AtDREB1a	Q.....WNHNHEVDGDDVSLWSY.	216
AtDREB1b	Q.....WNHNYDCEGDVSLWSY.	213
AtDREB1c	Q.....WNYNFDVEGDDVSLWSY.	216
AtDREB1d	G.....WNHN.DFDGVDG.VSLWSFD	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.