

Fig S4. Alignment of protein sequences of cucumber Csa3M006660 and the closest homologs from 25 other plants species using CLUSTAL 2.1 The tyrosine residue created by the non-synonymous single nucleotide polymorphism (SNP) locus is shown in solid red boxes and the PHD domain is indicated with an empty red boxes.

XP_011652709.1[Cucumis_sativus]	-----MSISILESCKK-RKRRPKLFGFQTFGDPG-SPINPTG--PFRENIRIFLQQCAE
XP_007216520.1[Prunus_persica]	-----MSIPILEACKK-RKRRPKIYGFSSFCDPG-CPIGPNG--PFRDNIRLFLQECAE
XP_008244388.1[Prunus_mume]	-----MSIPILEACKK-RKRRPKIYGFSSFCDPG-FPIGPNG--PFRDNIRLFLQECAE
XP_018505942.1[Pyrus_x_bretschneideri]	-----MSIPILEACKK-KKRRPKIFGLQTFCDPG-CPISLIG--PFRDNVRFVFLQECAE
OAY60550.1[Manihot_esculenta]	-----MSLPVLETCKR-RKRRPKVYSFHSFGDPG-CPMNPTG--PFRDNIRLFLQECAE
XP_008381356.1[Malus_domestica]	-----MSIPILEACKK-KKRRPKIFGLQSFCDPG-CPISLIG--PFRDNIRFVFLQECAQ
XP_018816590.1[Juglans_regia]	-----MSISILEACKK-RKRRPKLYGFQNFCDPG-CPIDPKG--AFRDNIRLFLQECAD
XP_002263205.1[Vitis_vinifera]	-----MSIPILEACKK-RKRRPKLFGFHTFADPG-CPINPTS--HFCDNIRIFLRECAE
XP_004288593.1[Fragaria_vesca_subsp._vesca]	-----MMIPTLEASKK-RKRRPKVYGFHSFGEPG-YPIPLG--PFRDNIRLFLQQCAE
XP_017981172.1[Theobroma_cacao]	-----MSIPIIETCRK-RKRRPKLFLGRSFAEPG-CPINPTG--PFRDNIRFVFLKQCAE
XP_006372523.1[Populus_trichocarpa]	-----MSIPNLENCKK-RKRWPKLYDFNTFCEPD-CPINPRG--PFRDNMRLFLQQCAE
XP_011038253.1[Populus_euphratica]	-----MSIPNLENCKK-RKRWPKLYDFNTFCEPD-CPINPRG--PFRDNMRLFLQQCAE
XP_012086460.1[Jatropha_curcas]	-----MSLPFLEACRK-RKRRPKLYNFHSFGDPG-CPISPMG--PFRDNIRIFLQECAV
XP_006494662.1[Citrus_sinensis]	-----MSISTLESCKK-RKRRPKLFGFHTFMESG-CPISPTG--AFRDNVRQFLSACGE
XP_006421081.1[Citrus_clementina]	-----MSISTLESCKK-RKRRPKLFGFHTFMESG-CPISPTG--AFRDNVRQFLSACGE
XP_002533478.1[Ricinus_communis]	-----MSIPVLQTCKMMRKRKTQVYNFHSFGDPG-SAINPTG--PFRDNIRAFLQECAE
XP_010108961.1[Morus_notabilis]	-----MSIPIIEACKK-RKRRPKLFAFNAFGDES-GIPRFRC--PFRDKVRIFLKECAE
XP_003616245.2[Medicago_truncatula]	-----MSFSIIDASKK-RKRWTKIFPLQSFADPG-CPISPSG--PFRENVRLFLQEAGE
OAP18009.1[Arabidopsis_thaliana]	-----MPVPIIETCRK-RKRKPKVYNLQRFGEDG-FPIQRNG--AFRDQIRVFLRDCAE
BAK05033.1[Hordeum_vulgare_subsp._vulgare]	MAAK---MVISLGSSRR-RKRGEVLRFRDQFCQPG-YPAQLAG--AFRDNVRTLLGLAHL
CDM85226.1[Triticum_aestivum]	-----MNVNRPPLKKARTRAEARDFAGFPAAT--DGGAVG--TFREAVRGFLARHAR
XP_008657002.1[Zea_mays]	-----MNVNRPPLKRARARVEARDFARFPAAG--DCGAAG--TFREAVRGFLAKHAR
EAZ44935.1[Oryza_sativa_Japonica_Group]	MAPK---MVISLGSSRR-RKRGEMLFRFEAFQCPG-YPANFAGAGGFNRDNVRTLLGFAHL
XP_002460302.1[Sorghum_bicolor]	MAAANKTMVISLGSSRR-RKRGEMLFRFESFCQPG-YAPLAGGGAFRDNVRALLGLAHL
XP_003544360.1[Glycine_max]	-----MSFALIEACKK-RKRLPKFFRFNSFGDPGVVPIAPSG--PFRDNVRFVFLQNAGE

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XP_003578202.1[Brachypodium_distachyon]   MAAK---MVINLGSSRR-RKRGEVLFREFESFCQPG-YPAQLAG--PFRDNVRTLLGLAHL
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XP_011652709.1[Cucumis_sativus]           IEDY-----RIQEMPIWCTLLVHENKS-----FVVPLYTIEEDVKLSP-KPYC
XP_007216520.1[Prunus_persica]             LEDY-----SVQGMPTWCTLLVHDNRS-----LVVPLYTIEEDVKTSERP-FC
XP_008244388.1[Prunus_mume]                LEDY-----SVQGMPTWCTLLVHDNRS-----LVVPLYTIEEDVKTSERP-FC
XP_018505942.1[Pyrus_x_bretschneideri]     REDY-----TVRGMPIWCTLLVHDNRS-----LVVPLYTIEEDVKTSEEP-FC
OAY60550.1[Manihot_esculenta]              PEDY-----NVEGMPIWCTLLVIESNN-----FVVPLYTIEENVHFSPNP-FC
XP_008381356.1[Malus_domestica]            REDY-----TVRGMPIWCTLLVHDNRS-----LVVPLYTIEEDVKTSEEP-FC
XP_018816590.1[Juglans_regia]              LHEN-----DIHAMPTWCTLLVHETRK-----FVVPLYTFEEDVKCSPRPYK
XP_002263205.1[Vitis_vinifera]            LEDY-----NVDGMPTWCTLLVNENRG-----FVVVPLYTIEESVKYAAKP-FC
XP_004288593.1[Fragaria_vesca_subsp._vesca] LESY-----SLLGMPVWCTLLVHDDRS-----LVLPLYTIEENVKSDNP-FC
XP_017981172.1[Theobroma_cacao]           PEDY-----CVNGMPIWCTLLVHENKS-----SVVPLYTIKEDVKLSSNP-FC
XP_006372523.1[Populus_trichocarpa]       PEDY-----KVEGMSIWCTLLVIESKN-----FVVPLYTIEEDVKESVRP-FC
XP_011038253.1[Populus_euphratica]        PEDY-----KVEGMSIWCTLLVIESKN-----FVVPLYTIEEDVKESVRP-FC
XP_012086460.1[Jatropha_curcas]           RQDY-----TIEGMPIWSTLLVIESNS-----FVVPLYTIEENVKYSSNP-FC
XP_006494662.1[Citrus_sinensis]           LEDY-----KVEGMSIWCTLLVHESSE-----IVFPLYTIEEHVRHSPQP-YC
XP_006421081.1[Citrus_clementina]         LEDY-----KVEGMSIWCTLLVHESSE-----IVFPLYTIEEHVKHSPQP-YC
XP_002533478.1[Ricinus_communis]          PEDY-----NVDGMPVWCTHLAIESKS-----TVLPLYTIEENANDSPNP-FC
XP_010108961.1[Morus_notabilis]           VEDY-----QVLGMPIWCTLLVHENRN-----LVIPLYTIEETVKDSPLKSYK
XP_003616245.2[Medicago_truncatula]       LEDY-----TVMGNPLWCTFLIHEKKN-----LMVFPYALEEEVYNSSHP-FC
OAP18009.1[Arabidopsis_thaliana]          IEDY-----DIRGMPVWCTLLSHETKS-----SLIPLYIVEENVKHSSEP-YC
BAK05033.1[Hordeum_vulgare_subsp._vulgare] EAG-----VQGETRCWSFQLELHRHPP-----TVVRLFVVEEEVAASPHR-QC
CDM85226.1[Triticum_aestivum]             LLPLPSIFSPAAAAAPPHELLTWRVSLRVGEEGAEEDAGGCGVELNVVEEDVLRSR-SVYC
XP_008657002.1[Zea_mays]                  LLPLPSIFSPAAAAAPPHELLIWRVSLRVGEAGEEESGG--GVELNVVEEDVLRSR-SVYC
EAZ44935.1[Oryza_sativa_Japonica_Group]   EAG-----VHGETKCSWFQLELHRHPP-----TVVRLFVVEEEVAASPHR-QC
XP_002460302.1[Sorghum_bicolor]           EAGG-----AHGDTKCSWFQLELHRHPP-----TVVRLFVVEEVDASPHR-QC
XP_003544360.1[Glycine_max]               LEGY-----TVSGNPLWCILLIHDNSN-----AMAPLYTIEEHVDHSSHP-FC

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XP_003578202.1[Brachypodium_distachyon]	EAG-----VQGETRCWSFQLELQRHPP-----TVVRLFIVEEEVAASPRR-QC
	* * * *
XP_011652709.1[Cucumis_sativus]	DQCRCGWSNHFVSKRKYHIVIPDDRWNKRLDDGGFDLDD-----
XP_007216520.1[Prunus_persica]	DHCRCCTGWSNHFVSKRKYHIIIPMDDEWHKPLEDGICDLP-----
XP_008244388.1[Prunus_mume]	DHCRCCTGWSNHFVSKRKYHIIIPMDDEWHKPLEDGICDLP-----
XP_018505942.1[Pyrus_x_bretschneideri]	DQCRCCTGWSNHFVSKRKYHMIIPVEDEWHKPDNGILNLP-----
OAY60550.1[Manihot_esculenta]	DHCRCCTGWSNHFVSKRKYHVIIP IAGEWSKRLEEGALDLH-----
XP_008381356.1[Malus_domestica]	DQCRCCTGWSNHFVSKRKYHMIIPVDDEWHKPLDNGILDLP-----
XP_018816590.1[Juglans_regia]	DHCRCAGWSNHFVSKRKYHLIIPADEDWNKPLDDDLIDLQ-----
XP_002263205.1[Vitis_vinifera]	DHCRCCTGWSNHFVSKRKYHIIIPIDDEWKNPLDDGVFDLQ-----
XP_004288593.1[Fragaria_vesca_subsp._vesca]	DHCRCCTGWSNHFVSKRKYHMIIPMNDDWKNPLDDDLIFDLS-----
XP_017981172.1[Theobroma_cacao]	DHCRCCTGWSNHFVSKRKYHVVIPNDRDWNKPLEDGVLNH-----
XP_006372523.1[Populus_trichocarpa]	DLCRCNGWSHNSVSKRKYHMIIPVDSEWSQKLEDGVCDLQ-----
XP_011038253.1[Populus_euphratica]	DLCRCNGWSHNSVSKRKYHMIIPVDSEWSQKLEDGVCDLQ-----
XP_012086460.1[Jatropha_curcas]	DHCRCCTGWSNHFVSKRKYHLIIPNDSEWNEQLEG-VFDLQ-----
XP_006494662.1[Citrus_sinensis]	DQCRCGWSNHFVSKRKYHWIIPIDCDWKNPLEDGVFDLQ-----
XP_006421081.1[Citrus_clementina]	DQCRCGWSNHFVSKRKYHWIIPIDCDWKNPLEDGVFDLQ-----
XP_002533478.1[Ricinus_communis]	DHCRCCTGWSNHFVSKRKYHVIIPIDEEWKNRLEEGVFDVH-----
XP_010108961.1[Morus_notabilis]	DHCRCCTGWSNHFVSKRKYHFLIPSDSRWNKPLDESVDV-----
XP_003616245.2[Medicago_truncatula]	DHCRCVGSNHFVSKRKYHFIIPMDDGWHKPLNEEALDDQ-----
OAP18009.1[Arabidopsis_thaliana]	DHCRCCTGWSNHFVSKRKYHFIIPIDTEWSLPLEDDAFDSQ-----
BAK05033.1[Hordeum_vulgare_subsp._vulgare]	HLCRVIGWGRHLICKRFHFVLP-KRESSVETDGLCYGIG-----GADKAS-----
CDM85226.1[Triticum_aestivum]	DQCRVVGWSGHPVCGKRYHFI IENDSIQAGRRRTCCLCRGTMAAAESRCLLCNFDMEG
XP_008657002.1[Zea_mays]	DQCRVVGWSGHPVCKRYHFI IENDSSHLSGRRRTCCLCRGTMAAGESRCALCNFMDMG
EAZ44935.1[Oryza_sativa_Japonica_Group]	HLCRHIGWGRHLICKRYHFLLP-RRESAAEADGLCFAINHGGGG-GAEKASSK-----
XP_002460302.1[Sorghum_bicolor]	LLCRHVIGWGRHLICKRFHFVLP-KRELSVEADGLHYGINHG-----PEKPS-K-----
XP_003544360.1[Glycine_max]	DHCRCVGSNHFVSKRKYHFIIPMDNGWHKPLDESDIDNQ-----

XP_003578202.1[Brachypodium_distachyon] HLCRLIGWGRHLICSKRFHFLP-KRESTVETDGLCYGISSSHGGGGTEKASSK-----
 ** ** *

XP_011652709.1[Cucumis_sativus] -----Q-----THLLHGLIHCNGFGHLLCVNGIEGGSKFLCGREVMDLWDRICTNLR
 XP_007216520.1[Prunus_persica] -----THLLHGLIHCNGYAHLVCVNGLEGGSKHLCGREIMDLWDRVCTNLR
 XP_008244388.1[Prunus_mume] -----THLLHGLIHCNGYAHLVCVNGLEGGSKHLCGREIMDLWDRVCTNLR
 XP_018505942.1[Pyrus_x_bretschneideri] -----THLLHGLIHCNGFAHLVCINGLEGGSKHLYGREIMDLWDRICTNLR
 OAY60550.1[Manihot_esculenta] -----THILHGMHCNGFGHLLCINGIEGGSKFLCGREIMDLWDRICANLR
 XP_008381356.1[Malus_domestica] -----THLLHGLIHCNGFAHLVCINGLEGGSKHLYGREIMDLWDRICTNLR
 XP_018816590.1[Juglans_regia] -----NHLHGLIHCNGFGHLICINGIEGGSKYLCGREIMDLWDRICTNLG
 XP_002263205.1[Vitis_vinifera] -----THLLHGMHCNGFGHLLCINGIEGGSGYLCGREIMDLWDRICITLR
 XP_004288593.1[Fragaria_vesca_subsp._vesca] -----THLLHGLIHCNGFAHLVCINGHEGGSKHLCGREIMDLWDRICLSLR
 XP_017981172.1[Theobroma_cacao] -----SHLLHGLIHCNGFGHLLCINGIEGGSKYLCGREIMDLWDRICEILR
 XP_006372523.1[Populus_trichocarpa] -----THLLHGLIHCNGFGHLLCINGREGGSKYLCGREIMDLWDRICASLR
 XP_011038253.1[Populus_euphratica] -----THLLHGLIHCNGFGHLLCINGREGGSKYLCGREIMDLWDRICASLR
 XP_012086460.1[Jatropha_curcas] -----NHLHGLIHCNGFGHLLCINGIEGGSKILCGREIMDLWDRICANLQ
 XP_006494662.1[Citrus_sinensis] -----THILHGLIHCNGFGHLLSINGIEGGSGYLCGREIMDLWDRICTNLR
 XP_006421081.1[Citrus_clementina] -----THILHGLIHCNGFGHLLSINGIEGGSGYLCGREIMDLWDRICTNLR
 XP_002533478.1[Ricinus_communis] -----THILHGLIHCNGFGHLLCINGIEGGSKTLSGREIMDLWDRICINLR
 XP_010108961.1[Morus_notabilis] -----Q-----SHLLYGLIHCNGFGHLLGINGMEGGSKYLFGREIMDLWDRICGKLT
 XP_003616245.2[Medicago_truncatula] -----SHLLHGVHCNGYGHVCLNGIEGGSKFLSGREIMDLWDRICTNLR
 OAP18009.1[Arabidopsis_thaliana] -----SHVLHGLIHCNGFGHLVCVNGMESGSKYLCGREIVDFWDRICNSLG
 BAK05033.1[Hordeum_vulgare_subsp._vulgare] -----KGTATSRGHLHGVHNLNGYGHVGLHGFEGGSDVSVGHQIMDLWDRICSAH
 CDM85226.1[Triticum_aestivum] EELEECGYLHLLDSSHLLHAVVHANGYGHLLRVNGREGGSRHLTGRDIMSFDRLCKVLH
 XP_008657002.1[Zea_mays] EEIEECAYLHLLDDPTHLLHAVVHANGYGHLLRVNGREGGSRFLTGRDIMSLWDRICSAH
 EAZ44935.1[Oryza_sativa_Japonica_Group] -----GTTTASSRGHLHGVHNLNGYGHVVALHGFEGGSDVSVGHQIMDLWDRICSAH
 XP_002460302.1[Sorghum_bicolor] -----G---TATSRGHLHGVHNLNGYGHVVALHGFEGGSEFVAGHQIMDLWDRICSSLN
 XP_003544360.1[Glycine_max] -----KHLHGVHCNGYGHLLCVNGIEGGSKILSGREIDLWDRICTNLR

XP_003578202.1[Brachypodium_distachyon]	-----GGTGTASSRGHLLHGVVHLNGYGHLVGLHGFEGGSDFVSGHQIMDLWDRICSAIH * * * * * * * * * * * * * * *
XP_011652709.1[Cucumis_sativus]	TRKITVEDLSKKRSMDLRLLHGVAYGHPWFGRWGYRFCRGSFGVKEHHYSRALEILSSLE
XP_007216520.1[Prunus_persica]	TRKITVEDVSKKRSMDLRLLHGIAYGHSWFGRWGYRFSHGSGVTEHNYERALEILSSLE
XP_008244388.1[Prunus_mume]	TRKITVEDVSKKRSMDLRLLHGIAYGHSWFGRWGYRFSHGSGVTEHNYERALEILSSLE
XP_018505942.1[Pyrus_x_bretschneideri]	TRKISVEDASKKRSMDLRLLHGVAYGHSWFGRWGYRFSHGSGVTAHNYERAIEILSSLA
OAY60550.1[Manihot_esculenta]	ARKVSVEDVSKKRSMDLRLLYGVAYGHPWYGRWGYKFCRGSFGVTKHYNRAIEILSSLE
XP_008381356.1[Malus_domestica]	TRKISVEDASKKRSMDLRLLHGVAYGHSWFGRWGYRFSHGSGVTAHKYERAIEILSSLA
XP_018816590.1[Juglans_regia]	TRKITVEDVSKKRSMDLRLLYGVAYGHSWFGRWGYRFCRGSFGVAEHNYDRAIEVLSLE
XP_002263205.1[Vitis_vinifera]	TRKITVEDSSKKRFMDLRLLHGVAYGHPWFGRWGYRFSHGSGVKEPNYERAIEILSSLE
XP_004288593.1[Fragaria_vesca_subsp._vesca]	TRKITVEDASKKRSMELRLLHGVAYGHPWFGRWGYKFCRGSFGVKEHIYNRAIEILSSLE
XP_017981172.1[Theobroma_cacao]	ARKISVEDVSKKHGMDLRLLHGVAYGHTWFGRWGYKFCRGSYGVSEKNYGRAIEILSSSE
XP_006372523.1[Populus_trichocarpa]	TRKITVEDVSKKRSMDLRLLYGIAYGHPWFGRWGYKFCRGSFGVTEPIYFKAIEILSSME
XP_011038253.1[Populus_euphratica]	TRKITVEDVSKKRSMDLRLLYGIAYGHPWFGRWGYKFCRGSFGVTEPIYFRAIEILSTME
XP_012086460.1[Jatropha_curcas]	ARKISVQDVSKKRSMELRLLYGVAYGHSWFGRWGYKFCRGSFGVKLQNYNQAIEILCSLE
XP_006494662.1[Citrus_sinensis]	TCKVTVEDVSKKKSMDLRLLHGVAYGHSWFGRWGYKFFHGSFGVREQNYNRAIEILSSLE
XP_006421081.1[Citrus_clementina]	TCKVTVEDVSKKKSMDLRLLHGVAYGHSWFGRWGYKFFHGSFGVREQNYNRAIEILSSLE
XP_002533478.1[Ricinus_communis]	ARKISVEDVSKKRSMELRLLYGVAYGHSWFGRWGYKFCRGSFGVTEHNYNSAIEILSSLA
XP_010108961.1[Morus_notabilis]	ARKITVADASKKRSMELRLLHGVAYGHPWFGRWGYGFCRGSFGVKDFNYKRAIEILCSLE
XP_003616245.2[Medicago_truncatula]	ARYIAVEDASRKRSMDLRLLHGVAYGHSWFGRWGYGFCRGSFGVTQQNYDEAIEILGSLV
OAP18009.1[Arabidopsis_thaliana]	ARMITVEDLAKKRSMELRLLYGVAYGHSWFGRWGYKFCRGSFGVTKNEYENAIEALGSLE
BAK05033.1[Hordeum_vulgare_subsp._vulgare]	VRRVSLVDTARKGHMVLRLHGVAYGDTWFGRWGYRGRPSYGVVALQSYQQSLHALQSIP
CDM85226.1[Triticum_aestivum]	VRKVTVMDISKKQGM DYRL LHAI TTGHPWYGEWGYKFGAGSFAHTSDTYQEAVNVLSGIH
XP_008657002.1[Zea_mays]	VRKVTVMDISKKHGM DYRL LHAV ISGHPWYGGWGYKFGAGSFALTSDTYRNAVDMLSSIN
EAZ44935.1[Oryza_sativa_Japonica_Group]	VRTVSLVDTARKGHMELRLLHGVAYGETWFGRWGYRGRPSYGVVALPSYRQSLHVLGSMF
XP_002460302.1[Sorghum_bicolor]	VRKVSVDLDTARKGHMELRLLHGVAYGDTWFGRWGYRFRGRPSYGVVALPSYRQSLHALQSVF
XP_003544360.1[Glycine_max]	ARKIAVEDVSKKRSMDLRLLHGVAYGHSWFGRWGYRFCRGSFGVREYREYNEAMTMLGSLG

XP_003578202.1[Brachypodium_distachyon]	VRKVSLVDTARKGHMVLRLHLGVAYGDTWFGRWGYRGRPSYGVTLQSYQQSLHALQSV
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XP_011652709.1[Cucumis_sativus]	LDKIMHEVDYSDRGREVKQIIRHYRNLSETQLITLKDLLKFMLTVKY-VSAIEKKTVP
XP_007216520.1[Prunus_persica]	LERIIQAFSDMDQCDELKQIIRYYKNLSETQLITIKDLLRFMLTVKA-SVPAQKKSLMAT
XP_008244388.1[Prunus_mume]	LERIIQAFSDMDQCDELKQIIRYYKNLSETQLITIKDLLRFMLTVKA-SVPAQKKSLMAT
XP_018505942.1[Pyrus_x_bretschneideri]	LERILQDFIDMDGCEELKQIIRYYRNLSETKLVTIKDLLRFMLTVKS-SVPGQKKSLMXX
OAY60550.1[Manihot_esculenta]	LDKIIQDFKNSDQCKEMKQIIHYRDLSETLLMTFKDLLRFMLTVKS-CPCAQRKRSMAP
XP_008381356.1[Malus_domestica]	LERILQDFIDMDXCEELKQIIRYYRNLSETKLVTIKDLLRFMLTVKS-SVPGQKKSLMGP
XP_018816590.1[Juglans_regia]	LDKTIQDFSTMEKRREIKQLILHYRYMSETQLVTIKDLLRFMLTIKS-RAPLQINKPAAA
XP_002263205.1[Vitis_vinifera]	LDQIIEDFGCTDRCMKIRQIFRFYRDLSETQLITLKDILRIMLTLKS-RAPVQKKMNIVP
XP_004288593.1[Fragaria_vesca_subsp._vesca]	LEKIIQDFSDMDQYEELKQIIRYYRNLSETQLVTIKDLLRFMLTVKA-CFPAKRNSLLPT
XP_017981172.1[Theobroma_cacao]	LDKINQDFSDREQCRQIKCIIQHRYRVLSESQLVTIKDFKFLMLTIKS-RSAVQKKSVTAI
XP_006372523.1[Populus_trichocarpa]	LEKIIQDFSDTSLSKSIKQIIHYKDLSPQLITFKDLLRFMLAIRS-CPCVWKKQSMTA
XP_011038253.1[Populus_euphratica]	LEKIIQDFSDTSLSKSIKQIIHYKDLSPQLITFKDFLRFMLAIRS-CPCVWKKQSMTA
XP_012086460.1[Jatropha_curcas]	LDKIIIEEFKDKVHQEMKQIISFYRNFSETPLITFKDLLRFMLIVKS-CPCAQKKRIDS
XP_006494662.1[Citrus_sinensis]	LDNIIQDFCGTDLCREMKQIFHNYRDISETLLLTLKDLLRFMLTVKS-CASAQKKTIMTT
XP_006421081.1[Citrus_clementina]	LDNIIQDFCGTDLCREMKQIFHHYRDMSETLLLTLKDLLRFMLTVKS-CASAQKKTIMTT
XP_002533478.1[Ricinus_communis]	LNKIIQDFSNTNEYKEMKQIMIDYYRNLSETQLITFRDLLRFMLTIKS-CPCAQKKRLAA
XP_010108961.1[Morus_notabilis]	LDRIIEDFNETEQAKEIKQIIRLYRDLSETQLITLNELLRFMLTVKS-RAVGKPIITASI
XP_003616245.2[Medicago_truncatula]	LDDIVRDLSKTKYHKDVKQMIIRFYRDMSETHIITIRELLRFMLTIKS-RRPVSKMTVTF
OAP18009.1[Arabidopsis_thaliana]	IDQIEFDGELRQSKEINQVFRYYREMSEGLKTFRDLLRFMLTIKS-HASPQKLLPVTP
BAK05033.1[Hordeum_vulgare_subsp._vulgare]	LCVLPHLS--CFSQELPLVVTKYQAISGHKLLNLGDLLRFMLELRT-----
CDM85226.1[Triticum_aestivum]	LALYSSHRS--PIRTPQNNTIALYWSLSDRQLVTVRDLFRFIMHLLHQARKDAE-----
XP_008657002.1[Zea_mays]	LALYFSHRS--QIRTPQNNTIALYWALSNRQLVTLRDLFRFIMHLLHQGGK-----
EAZ44935.1[Oryza_sativa_Japonica_Group]	LCVLPHLS--CFSQELPMVVTKYQAISGHKLLSLGDLLRFMLELRA-----
XP_002460302.1[Sorghum_bicolor]	LCVLPHLS--CFSQDLVVVTKYQAISGHKLLNLGDLLRFMLELRT-----
XP_003544360.1[Glycine_max]	LDMIVKDLSETKYKTEIQIIRCYRDMSETHIISLRDLLRFMLTVKSSRAPVPKITDTYS

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XP_003578202.1[Brachypodium_distachyon] LCVLVPHLAC-CFGQELPMVVTKYQAI SGHKLLDLGDLLRFMLELRT-----
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XP_011652709.1[Cucumis_sativus] AKSP-----PPCRQSLQRNKQQSLVKE-KQIRYRKFATAISNMDSRWP
XP_007216520.1[Prunus_persica] SAFSSS-----TAKP--ATRAAHQIKPLMMKEKSVRYRKFTTVIAHMDSRWP
XP_008244388.1[Prunus_mume] SAFSSS-----TAKP--ATRAALQIKPLMK-EKSVRYRKFTTVIAHMDSRWP
XP_018505942.1[Pyrus_x_bretschneideri] AEVSSF-----IVKS--ATKATLQVKPSMK-EKSAKCRKFSTILAHMDSRWP
OAY60550.1[Manihot_esculenta] --TASP-----SISKYLTRVAS-QKKPLMK-EKCIRYRKFSVLGTLDSRWP
XP_008381356.1[Malus_domestica] AEVSSF-----IVKS--ATKATLQVKPSMK-EKSAKCRKFSTILAHMDSRWP
XP_018816590.1[Juglans_regia] P-----PTSNSKPSIRNKPLVK-EKSLKYRSFTALAN-MDSRWP
XP_002263205.1[Vitis_vinifera] DL--PA-----SSTLKPSTRRSLQNRPLK-DKTMKFKKFSTLITNMDSRWP
XP_004288593.1[Fragaria_vesca_subsp._vesca] AKPADV-----MEKARPATRESLKI KPPMK-EKSSKYRKFTVVSVMDSRWP
XP_017981172.1[Theobroma_cacao] TA--PS-----ASSQRNFIRISLPKKATSK-EKSSKCRKFTSVIAHMDSRWP
XP_006372523.1[Populus_trichocarpa] T-----TTSKPPINIVL-RRKPLIK-EKCMKYRNFSVLGTMDSRWP
XP_011038253.1[Populus_euphratica] T-----TTSKPPINIVL-RRKPLIK-EKCMKYRNFSVLGTMDSRWP
XP_012086460.1[Jatropha_curcas] -----NVKSSMVIAS-QKKPVVK-EKYTRYRKFSVLGTLDSRWS
XP_006494662.1[Citrus_sinensis] TK--PS-----K-----RMTLRNKSVVK-DKSVNYKRFSAVVAKMDSRWS
XP_006421081.1[Citrus_clementina] TK--PS-----K-----RMTLRIKSVVK-DKSVNYKRFSAVVAKMDSRWS
XP_002533478.1[Ricinus_communis] DATASS-----SAPKSTARVAALQKKPLVK-QKCTRYRKFSLLIGSLESRWP
XP_010108961.1[Morus_notabilis] SSSSSSLFSS-----ISKPFTRTGLLHQSTKPFMKDSKPVYKFKFSTVIANMDSRWP
XP_003616245.2[Medicago_truncatula] SPNAVSDTDSPCSTSAFMSRNASKPVLSSSRNFTMK-EKSARYKFKFSTAVANMDSRWP
OAP18009.1[Arabidopsis_thaliana] PLLTDS-----PHQKRSSRLLLKSDVADNDKSPKYRNYSTVAANLGSRWP
BAK05033.1[Hordeum_vulgare_subsp._vulgare] -----RLPATSVTAMDYRGIMSDASCRWS
CDM85226.1[Triticum_aestivum] -----MSKPAMDEHREVESNVLCMWT
XP_008657002.1[Zea_mays] -----MSKPSADKHKELTSNELCAWT
EAZ44935.1[Oryza_sativa_Japonica_Group] -----RLPATSVTAMDYRGIMSEASCRWS
XP_002460302.1[Sorghum_bicolor] -----RLPATSVTAMDYRGIMSEASCRWS
XP_003544360.1[Glycine_max] ---AASDSTS----SALTSRNSTKHTLPN-RSN-SMK-EKSVRYKFKFSSAVTNMDSRWP

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XP_003578202.1[Brachypodium_distachyon] -----RLPATSVTAMDYRGIMSDASCRWS
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XP_011652709.1[Cucumis_sativus] ARRLEYAAEVIVKALEEKK-----SDKFSHGGNGMTRQDVRDAARLHIGDTGLLDYVLKS
 XP_007216520.1[Prunus_persica] QRRLEFAADVIVNALQEKK-----ERDFSHGG--MTRQDVRDARLHIGDTGLLDYVLKS
 XP_008244388.1[Prunus_mume] QRRLEFAADVIVNALQEKK-----ERDFSHGG--MTRQDVRDAARLHIGDTGLLDYVLKS
 XP_018505942.1[Pyrus_x_bretschneideri] TRRLEFAADVIVNALQEKK-----ES--GHGG--MTRQDVRDAARLHIGDTGLLDYVLKS
 OAY60550.1[Manihot_esculenta] TRRLEYAAEVIVNTLKEKK-----ADKLSKGG--MSRQDVRDAARMHIGDTGLLDYVLKS
 XP_008381356.1[Malus_domestica] TRRLEFAADVIVNTLQEKK-----ES--GHGG--MTRQDVRDAARLHIGDTGLLDYVLKS
 XP_018816590.1[Juglans_regia] ARRLEYAAEVIVNALKVKK-----EGKFCHGG--MTRQDLRDAARLHIGDTGLLDYVLKS
 XP_002263205.1[Vitis_vinifera] ARRLEYAADVIVNALREKRA----SECTH-DG--MTRQEVDAARMHIGDTGLLDYVLKS
 XP_004288593.1[Fragaria_vesca_subsp._vesca] AKRLEFAADVIVSALKEKK-----EKDFKNGG--MARQDVRDAARLHIGDTGLLDYVLKS
 XP_017981172.1[Theobroma_cacao] AKRLEYAAEVIVDALKEHKS----EFCH--GG--MTRQDLRDAARMHIGDTGLLDYVLKS
 XP_006372523.1[Populus_trichocarpa] TRRLQYAAEVIVDALKAKK-----EDKHSQEG--MTRQDVRDAARMHIGDTGLLDYVLKS
 XP_011038253.1[Populus_euphratica] TRRLQYAAEVIVDALKAKK-----EDKHSQEG--MTRQDVRDAARMHIGDTGLLDYVLKS
 XP_012086460.1[Jatropha_curcas] KKRLEYAAEVIVSALKEKR-----TDKFSQQG--MTRQDVRDAARMHIGDTGLLDYVLKS
 XP_006494662.1[Citrus_sinensis] ARRLESAAEVIVNALQEQA----ENLGHGGG--MSRQKLDAARMHIGDTGLLDYVLKS
 XP_006421081.1[Citrus_clementina] ARRLESAAEVIVNALQEQA----ENLGRGGG--MSRQKLDAARMHIGDTGLLDYVLKS
 XP_002533478.1[Ricinus_communis] ARRLEYTAGVIVDALKAKKK----ADKYSHGG--MTRQDVRDAARMHIGDTGLLDYVLKS
 XP_010108961.1[Morus_notabilis] PRRLEFAADVIVGALKEKK-----EDCFGNGG--MTRQDVRDAARLHIGDTGLLDYVLKS
 XP_003616245.2[Medicago_truncatula] TRRLEFAAQVIVEALKEDK-----AMKPGSSG--MTRQDVRDAARLHIGDTGLLDYVLKS
 OAP18009.1[Arabidopsis_thaliana] VRRLIFAAEVIVESLKEK-----ALKQNG--MTRQDVRDSARLHIGDTGLLDYVLKS
 BAK05033.1[Hordeum_vulgare_subsp._vulgare] AKRVDMAARAVVDALRRSE----AP----AARWVTRQEVDAARTYIGDTGLLDFVLKS
 CDM85226.1[Triticum_aestivum] NEDINRAEAAMLKVLRAVQ-----AGRWVSWRALRGAASKAVDSQELLDYSLRG
 XP_008657002.1[Zea_mays] KEDLHRAEGAMLKVLQVVQ-----TGQWVSWRALRGAASKAVDSQELLDYSLRG
 EAZ44935.1[Oryza_sativa_Japonica_Group] AKRVDMAARAVVDALRRAEP-----AARWVTRQEVDAARAYIGDTGLLDFVLKS
 XP_002460302.1[Sorghum_bicolor] AKRVDMAARAVVDALRRTEP-----PARWVTRQEVDAARAYIGDTGLLDFVLKS
 XP_003544360.1[Glycine_max] TRRLEFAAQVIVDALKENK-----TVKLGSGG--MTRQDVRDAARLHIGDTGLLDYVLKS

XP_003578202.1 [Brachypodium_distachyon]	AKRVDMAARAVVDALRRPASASDRAPGMPAAPRWVTRQEV RDAARAYIGDTGLLDFVLKS
	* * * *
XP_011652709.1 [Cucumis_sativus]	LNNVIVGN-QIVRRAVNPKTRILEYTIHEL R-----NGIQLTEEQ-----ESTENSE----
XP_007216520.1 [Prunus_persica]	LSNVIVGN-HIVCRAVNPTTRILEYTVHDL T---DGVKVSQPENE-----VLPQSLP----
XP_008244388.1 [Prunus_mume]	LNNVIVGN-HIVCRAVNPTTRILEYTVHDL T---DGVKVSQPENE-----ILPQSLP----
XP_018505942.1 [Pyrus_x_bretschneideri]	MNNVIVGN-HIVCRAVNPATRILEYTVHDL A---DGVKVSEPGKE----IVAQSFQ----
OAY60550.1 [Manihot_esculenta]	MNNVIVGT-HVVRRAVNPTTKILEYSIDEL NGGVRPVRVTEPEAD----VVPEPLP----
XP_008381356.1 [Malus_domestica]	MNNVIVGN-HIVCRAVNPATRILEYTVHDL A---DGVKVSEPGKE----IVAQSFQ----
XP_018816590.1 [Juglans_regia]	MNNVVVGN-HIVCRTVNPTTRILEYSINEL G----NEAISEPEIE----LLPKPLP----
XP_002263205.1 [Vitis_vinifera]	MNNVIVGN-HVVCRAVNPATRVLEYTLKEL G---KGLVSELESE----MLPKPFP----
XP_004288593.1 [Fragaria_vesca_subsp._vesca]	LNNVIVGN-QVVCRSVNPTTRILEYTVHDL D---DDDKVSEPEKE----ILPPPPQ----
XP_017981172.1 [Theobroma_cacao]	MNNVIVGC-HIVRRAIN-TSRILEYTIIDD ID---NGFKAPEAELE----IHHKPLPDA--
XP_006372523.1 [Populus_trichocarpa]	MNNVVVGK-YVVQRAVNPKTRILEYSIDE FGDGIIPVK-SEPES-----ETVP----
XP_011038253.1 [Populus_euphratica]	MNNVVVGK-YVVQRAVNPKTRILEYSIEE FGDGIIPVK-SEPES-----ETVP----
XP_012086460.1 [Jatropha_curcas]	MNNVIVGN-HVVHRAMNLETRILEYSIDE LD---NRKVKVTEPEEE----EVADPIP----
XP_006494662.1 [Citrus_sinensis]	MNNVIVGS-HIVHRAVNPATRILEYTIHDL C---DGAGISEPGPE----ISDEPLP----
XP_006421081.1 [Citrus_clementina]	MNNVIVGS-HIVHRAVNPATRILEYTIHDL C---DGAGISEPGPE----ISDEPLP----
XP_002533478.1 [Ricinus_communis]	MNNVIIGG-HVVRRAVNPKTKILEYSIDE LGKENRSAGLTEIEA----AVPEPLP----
XP_010108961.1 [Morus_notabilis]	LNNVIVGN-QIIRRAVNPATRILEYTIHEV G-----EKVSEEQEL----VSNIPSP----
XP_003616245.2 [Medicago_truncatula]	LNNVIVGN-YVVRRTVNSSSRILEYTIDEL R---KGHQAPEMEHG-VLTVADKPQVESST
OAP18009.1 [Arabidopsis_thaliana]	MNNVVVGD-VLVRRYVDPITRILHYTIQDL D---DAVKAKEPKKK-EAVVLEEITPLR--
BAK05033.1 [Hordeum_vulgare_subsp._vulgare]	LGNHIVGN-YVVRRAMNPVTKVLEYCLE DVS---SVLPASVGAGAGVPAGHGKMRVR--
CDM85226.1 [Triticum_aestivum]	LRGKLMDDGHFIAVRCNTETSAIEYRLE TYS---NQSPVDATVFG-----PS-----
XP_008657002.1 [Zea_mays]	LGGKQLDNGLCAVRCNAGTSAIEYRLES S---VRSPANAAATFG-----PS-----
EAZ44935.1 [Oryza_sativa_Japonica_Group]	LGNHIVGN-YVVRRTMNPVTKVLEYCLE DVS---SVLPAVAAGGG--VPAQGKMRVR--
XP_002460302.1 [Sorghum_bicolor]	LGNHIVGN-YVVRRAMNPVTKVLEYCLE DVS---SVLPAVGGGG-----GKMRVR--
XP_003544360.1 [Glycine_max]	LNNVIIGN-YVVRMNPSTRILEYTIHDLG ---KGSKAPEENKPEVMAHADQQVVES--

XP_003578202.1 [Brachypodium_distachyon]	LGNHIVGN-YVVRAMNPVTKVLEYKLEDVS----SVLLSHG-----GKMRVR--
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XP_011652709.1 [Cucumis_sativus]	----PTVTPGKDIYNDVLCIYRSIFLDYP-----ESEMVELATQGVLDISKH
XP_007216520.1 [Prunus_persica]	---SASLVPGVDVYNDVLYLYEYHLLGYP-----ESELVELATRAILDTKH
XP_008244388.1 [Prunus_mume]	---SASLVPGVDVYNDVLYLYEYHLLGYP-----ESELVELATRAILDTKH
XP_018505942.1 [Pyrus_x_bretschneideri]	---SATLFPQVDVYNDVLYLYEYHLLGYP-----ESELVDLATRAVLDAKH
OAY60550.1 [Manihot_esculenta]	---VLPLIPGADLYGDMAYLYTKVLLNYP-----ESEVIELASQTVLDISKH
XP_008381356.1 [Malus_domestica]	---SATLFPQVDVYNDVLYLYEYHLLGYP-----ESELVDLATRAVLDAKH
XP_018816590.1 [Juglans_regia]	---ASTLVPGFDVHSDLVAVYKLNLLDYK-----KLNVELATQVVDISKH
XP_002263205.1 [Vitis_vinifera]	---EQSIVPGADVNDVVIYLYRNVLLNYP-----DSELVELATRAVLDSKH
XP_004288593.1 [Fragaria_vesca_subsp._vesca]	---AAPVSGIDVYSDVLYLYEYHLLGYP-----ESGLVELATQAVLDISKH
XP_017981172.1 [Theobroma_cacao]	---LPALVPGTDVYDDVVYLYNNVLLDYP-----ESEFLELATQAVLDISKH
XP_006372523.1 [Populus_trichocarpa]	---AQPLLPGADVNDVVFVYENLVFNYP-----ESELVEVATQAILDSKH
XP_011038253.1 [Populus_euphratica]	---AQPLLPGADVNDVVFVYENLVFNYP-----ESELVEVATQAILDSKH
XP_012086460.1 [Jatropha_curcas]	---VPSLVPGADLYGDMGYLYMKVLMNYP-----ESELVETATQAILDSKH
XP_006494662.1 [Citrus_sinensis]	---PLALETGSDVYSEVVYLYMNVLLNYP-----ESELVALATQAVLDISKH
XP_006421081.1 [Citrus_clementina]	---PLALETGSDVYSEVVYLYMNVLLNYP-----ESELVALATQAVLDISKH
XP_002533478.1 [Ricinus_communis]	---AAP-VPGADLYADLGYYLYKVVLLNYP-----ESELAEELATQTILDSKH
XP_010108961.1 [Morus_notabilis]	---ARIVPGVDVYNDVLFYLYKHLMEYP-----DSEFVDLATQTILDTKH
XP_003616245.2 [Medicago_truncatula]	LSSSSSSVPGNDVYSDVVYLYKNVLLGYP-----DSEAVELAVQTILDCRH
OAP18009.1 [Arabidopsis_thaliana]	--ILTPLKPGADVGDLLLLYTNVLLNYP-----ESELVRSATQAILDSKH
BAK05033.1 [Hordeum_vulgare_subsp._vulgare]	----FHLTRAQLMRDLVHLYRHVLEKEP-----SQALTTGAFGAIPVAVRMILDIKH
CDM85226.1 [Triticum_aestivum]	---VEHLAHLRFLYDALLNPEIMLSSQP-----EVVGASAHNAAARILDCKQ
XP_008657002.1 [Zea_mays]	---VDQLLHDLRFLYDALLNPESMLSSQP-----EVVGASAHSAAKIIDCKQ
EAZ44935.1 [Oryza_sativa_Japonica_Group]	----FQLTRAQLMRDLVHLYRHVLEKEP-----SQALTGGAFGAIPVAVRMVLDIKH
XP_002460302.1 [Sorghum_bicolor]	----FQLTRAQLMRDLTHLYRHVLEKEP-----SQALTTGAFGAIPVAARMVLDTKH
XP_003544360.1 [Glycine_max]	----SWMLGNDVYSDFLYLYKNVLLGYP-----DSEAVDTAVQTILDSRY

XP_003578202.1[Brachypodium_distachyon]	-----FHLTRAQLMRDLVHLYRHVLKEPPTQLPLTASAGSGAAAFGAIPVAVRRVLDVKH * *
XP_011652709.1[Cucumis_sativus]	FAKEWPLQDEE-EHLLT----FI IKLMPRLTFHTDLELKSD-FMPSGEVVVLPLHTTIG
XP_007216520.1[Prunus_persica]	FVKECSFRDEE-EQLLT----FICQLLPSLMDMDIEFKRE----LPPGEIVVMPLHATIG
XP_008244388.1[Prunus_mume]	FVKECSFRDEE-EQLLT----FICQLLPSLMDMDIEFKRE----LPPGEIVVMALHATIG
XP_018505942.1[Pyrus_x_bretschneideri]	FVKECPFRDDE-EQWLT----FFCQLLPSSTDKEIEFKRG----MPPGEVVVMPLHATIG
OAY60550.1[Manihot_esculenta]	FVKEWPFDEE-DQLLR----FICQVMPNMIDLEANFNRE----LPPGEIVVLPLHATVA
XP_008381356.1[Malus_domestica]	FVKECPFRDDE-EQWLT----FFCQLLPSSTDKEIEFKRG----LPPGEVVVMPLHATIG
XP_018816590.1[Juglans_regia]	FVKEWPFDEA-DQYLR----FICRLLPSFYDIETELNGK----FPPGEIVVVPLHATVG
XP_002263205.1[Vitis_vinifera]	FVKEWPFSDDED-DQLLR----FVCHMPSLSELE-IFTRE----LPPGEFIVVPPYATVG
XP_004288593.1[Fragaria_vesca_subsp._vesca]	FVKECSVRDDT-EKLLT----LFCQILPSFTDKEIDFKRD----LPPGEIVVMPLNATVG
XP_017981172.1[Theobroma_cacao]	FVKERPFRDED-DQLLR----FFCQVMPNLFGAENILTKK----SPAGELVTVPLHATVL
XP_006372523.1[Populus_trichocarpa]	FVKEWPFVRVEN-DQLLS----FICQVMPTWNDLEAKFHRK----APPGEIIVLPLHASVL
XP_011038253.1[Populus_euphratica]	FVKEWPFVRVEN-DQLLS----FICQVMPTWNDLEAKFHRK----APPGEIIVLPLHASVL
XP_012086460.1[Jatropha_curcas]	FVKEWPFENEE-DQLLR----YICQVMPNIEAGTKFTRE----LPPGEIIMLPLHATVA
XP_006494662.1[Citrus_sinensis]	FVKEWPFRDED-DQFLR----FKCQVMPSFVDSETDLTAK----LPPGELVMIPLHSTVL
XP_006421081.1[Citrus_clementina]	FVKEWPFRDED-DQFLR----FKCQVMPSFVDSETDLTGK----LPPGELVMIPLHSTVL
XP_002533478.1[Ricinus_communis]	FVKVWPFKDEE-DELLR----FICQVMPNIIHLEVELKKE----LPPGEIVVLPLHSTVA
XP_010108961.1[Morus_notabilis]	LVKEWPFRDEE-DQLLT----FVCRLLP-R-SFGDG-----IAEIVRVPLHATIS
XP_003616245.2[Medicago_truncatula]	FVKEWKLDEM-EQVLT----FICHLKPNFVENKSDLKGP-----SCGEIVTVPLHATVR
OAP18009.1[Arabidopsis_thaliana]	FIKEWPIWDNN-DTVLQ----FLCRINPSLVDVRSEQTTE----LPPGELVTVPLQATVY
BAK05033.1[Hordeum_vulgare_subsp._vulgare]	FVKDYHEGMTGTN-----SGVGVHVVYISLCCTLIVRNGSSE-LVPPYETVTVPAHATVG
CDM85226.1[Triticum_aestivum]	FIKHYDESAPESPPNP-----ILLAVRCSIELLDHPKDYT----APPVELVLLPATATLG
XP_008657002.1[Zea_mays]	FIKHYDEHALRTPSNP-----FLLCVRCSIELLDHPKDYT----TPPEELVLLPASATLG
EAZ44935.1[Oryza_sativa_Japonica_Group]	FVKDYHEGQAAASS---NGGGFGPHINLCCTLVSNGSPE-LAPPYETVTLPAHATVG
XP_002460302.1[Sorghum_bicolor]	FVKDYHEGFAPINS---VGAG---HVHMLNCCTLVVRNGSPELVAPPYETVTLPAHATVG
XP_003544360.1[Glycine_max]	FVKEWVVRDEMKEQVLT----FICRLQPNFVDKHELKGL-----ACGEVVVVPLHATVG

XP_003578202.1[Brachypodium_distachyon]	LVKDYHEAIMAAATANNSVGGIVGHVYVNMCCTLVVRDGSPE-LVPPYETVTVPAHATVG * *
XP_011652709.1[Cucumis_sativus]	EVKEAAEKALRDITYVTEQFEVLAIENLENYE--DREVI FGAVESGAELFVKGMGIDLD-
XP_007216520.1[Prunus_persica]	ELKLAETALRDITYCITERFVVKGIEGLDEME--DMEVLFGVVQSGAEVGVVGTGIDLD-
XP_008244388.1[Prunus_mume]	ELKLAETALRDITYCITERFVVKGIEGLDEMD--DMEVLFGVVQSGAEVGVVGTGIDLD-
XP_018505942.1[Pyrus_x_bretschneideri]	ELKRAAESALRDITYCITEQFVVMGIEGLEEMD--DMEVLFGVAESGAEVGVVSGIDLD-
OAY60550.1[Manihot_esculenta]	ELKQAATSALRDSYCI LEKFVVT EIERMEELD--DWELLFGAVESGADLFMRGDGMDLN-
XP_008381356.1[Malus_domestica]	ELKRAAESALRDITYCITERFVVMGIEGLDEMD--DMEVLFGVAESGAEVGVVSGIDLD-
XP_018816590.1[Juglans_regia]	ELKQAVENALRDITYCITEGFLVIEIKELEELE--DGEVLFGAVESGVVLCVVRGIDLE-
XP_002263205.1[Vitis_vinifera]	ELKETVERTLRDITYCIMEQVVVTEIEDMEGMT--DEEVLFGTIESGSEVWVRGTGMDLE-
XP_004288593.1[Fragaria_vesca_subsp._vesca]	ELKQEAENALRDITYCITEQFVVT EIKGLEESD--DMDVLAGTVQSGTEVGVVSGIDLD-
XP_017981172.1[Theobroma_cacao]	DLKQAVEKALRDITYCIMDKLVVTDIVDLGEMD--DKDVLFGALES GAKILVSGSGIDLD-
XP_006372523.1[Populus_trichocarpa]	ELKQEAESALRDITYCMLERFVVI EIEHMENLD--DKDLLCKFVESGAEIFVKGYGMDIN-
XP_011038253.1[Populus_euphratica]	ELKQEAESALRDITYCMLSFVVI EIEHMENLD--DKDLLCKFVKSGAEIFVKGYGMDIN-
XP_012086460.1[Jatropha_curcas]	ELKRAAENALKDTYYILENFVVT EIELMEELE--DWEVLFGVVESGSELFMKNGVDLN-
XP_006494662.1[Citrus_sinensis]	ELKEAAESALRDITYCIMENLGVTDVNNMQKLD--DGELLFGAVESGSQVWIQGYGIDSD-
XP_006421081.1[Citrus_clementina]	ELKEAAESALRDITYCIMENLVVTDVGNMQKLD--DGELLFGAVESGSQVWIQGYGIDSD-
XP_002533478.1[Ricinus_communis]	ELKQAAENALRDITYCIMENFEVTEINQMEELM--DEELLFGSVESGAELFMRNGMDLN-
XP_010108961.1[Morus_notabilis]	DLKEAVECALRDITYCVTEEIEVVEIDGLEEVE--DEEVLFGRVESGTEIRVRGVVDTE-
XP_003616245.2[Medicago_truncatula]	DLKQTAEALRDITYCIAERLIVTDIKELMDVE--DEEVI FGQIESGVKLSVRGIGIDLC-
OAP18009.1[Arabidopsis_thaliana]	DLKQAI EETFRDITYCILSNFVVT EIDEVEED-----MSLIGSCSALTVRGHGIDLE-
BAK05033.1[Hordeum_vulgare_subsp._vulgare]	ELKWEVQR LFRDMYGLRTFTAECVVGIGAG--LDASPALGLIGVSTVVVEGVVGEQQE
CDM85226.1[Triticum_aestivum]	ELKMLAARVFQETYLMFHSFQAEQLPEFPNLS--DTPVKHVLGPSQLVVRVGRCTGDHR
XP_008657002.1[Zea_mays]	DLKVQASKAFQETYLMFQSFQTEQLPDFPNFS--DTPVKHVLGSGQLLRVGRCTGDYR
EAZ44935.1[Oryza_sativa_Japonica_Group]	ELKWEAQRVFSEMYLGLRFSFAADSVVGVGAD--QEGLPVLGLVDVGSVAVVQGSVGEQIN
XP_002460302.1[Sorghum_bicolor]	ELKWEVQR LFRMYLGLRTFTAESVAGVGVV--KDACPVLGLIDVGSVAVVIEGTVVEQQQ
XP_003544360.1[Glycine_max]	DLKRAEAALRDITYCIAERLIVTDIKELMDVS--DEEVLFGLIQSGVELCVRGIAIDLL-

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XP_003578202.1[Brachypodium_distachyon] ELKWEVQRLFRDMYLALRTFTAESVVGIGIGPQQEASPVLGLIGVGSTVVVEGVVGSLLQ
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XP_011652709.1[Cucumis_sativus] -----TPLKYQGGV---GTWKVRCVCGTGDDDDGERMVACDICEVWQHTRCCGID
XP_007216520.1[Prunus_persica] -----TPLRYEGGS---DTWMVRCECGARDDDGERMVACDICEVWQHTRCCGIE
XP_008244388.1[Prunus_mume] -----TPLRYEGGS---DTWMVRCECGARDDDGERMVSCDICEVWQHTRCCGIE
XP_018505942.1[Pyrus_x_bretschneideri] -----TPLRYEGGS---DTWMVRCECGARDDDGERMVACDICEVWQHTRCCGIE
OAY60550.1[Manihot_esculenta] -----TELRYEGGP---DNWKVRCCEGAQDDDDGERMVACDICEVWQHTRCNGIE
XP_008381356.1[Malus_domestica] -----TPLRYEGGS---DTWMVRCECGARDDDGERMVACDICEVWQHTRCCGIE
XP_018816590.1[Juglans_regia] -----NRLRYQSGA---DTWMVRCECGARDDDGERMVACDLCEVWQHTRCCGIE
XP_002263205.1[Vitis_vinifera] -----AELKYEGGS---DNWRVSCCEGALDDDGERMVACDICEVWQHTVCSGID
XP_004288593.1[Fragaria_vesca_subsp._vesca] -----TPLRYQGGG---DTWMVRCECGATDDDGERMVACDICEVWQHTRCCGME
XP_017981172.1[Theobroma_cacao] -----SNLRHEGGA---DNWIVRCECGAQDDDDGERMVSCDICEVWQHTRCCGIE
XP_006372523.1[Populus_trichocarpa] -----SQLRYEGGS---DNWKVRCCEGACDDDDGERMVECDICEVWQHTRCNGID
XP_011038253.1[Populus_euphratica] -----SQLRYEGGS---DNWKVRCCEGACDDDDGERMVECDICEVWQHTRCNGID
XP_012086460.1[Jatropha_curcas] -----TELRYEAGP---DNWKVRCCEGAQDDDDGERMVACDICEVWEHTRCNGID
XP_006494662.1[Citrus_sinensis] -----SKLRYEGGN---DKWIVKCECGAQDDDDGERMVACDICEVWQHTRCHGIE
XP_006421081.1[Citrus_clementina] -----SKLRYEGGN---DKWIVKCECGAQDDDDGERMVACDICEVWQHTRCLGIE
XP_002533478.1[Ricinus_communis] -----TELRYESGP---DNWKVRCCEGAEDDDGERMVACDICEVWQHTRCNGIE
XP_010108961.1[Morus_notabilis] -----GPLMHQGGC---DPWKVVCECGARDDDGERMVACDICEVWQHTRCCGIE
XP_003616245.2[Medicago_truncatula] -----TPLKYQGGG---DNWKVRCCEGAQDDDDGERMVACDICEVWQHTRCCGID
OAP18009.1[Arabidopsis_thaliana] -----SKLKCQGGC---DTWMVKCIICRARDDDGERMISCDVCEVWQHTRCCGID
BAK05033.1[Hordeum_vulgare_subsp._vulgare] PAEEGD-QRKKAAAVCEGGGDV--GERVVDVCVGAADDDGERMACDICEAWQHTRCAGVA
CDM85226.1[Triticum_aestivum] -----RIVQFRMERGL---ENWTVDCITCGAKDDDDGERMMACDAGVWQHTRCSGIS
XP_008657002.1[Zea_mays] -----RIVQFRMERGL---ENWTVDCSCGAKDDDDGERMLACDICGVWQHTRCSGIS
EAZ44935.1[Oryza_sativa_Japonica_Group] GEDHERKEEAAAAAVCEGSGG--GERVVDACAGAVDDDDGERMACDICEAWQHTRCAGIA
XP_002460302.1[Sorghum_bicolor] LADEGVQPGNEAAAVSEGGGD--SERIVDCACGADDEDGERMACDICEAWQHTRCAGIK
XP_003544360.1[Glycine_max] -----TPLKYQGESESADNWKVRCCEGAQDDDDGERMVACDICEVWQHTRCYGID

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XP_003578202.1[Brachypodium_distachyon]  AEEEEESDEQRNGAVCEGSD---GERVVDCACGADDDDDGERMACCDICEAWQHTRCAGVA
                                         * * * * *
XP_011652709.1[Cucumis_sativus]         DADNVPLLFVCAACCDLGLQ--KI-----
XP_007216520.1[Prunus_persica]          DADTVPPLFVCSACCVSLVPP--KFEP-CDR-TLFCLSLIFWTVRNGGSESLAFLENAT
XP_008244388.1[Prunus_mume]             DADTVPPLFVCSACCVSLVPP--KFEP-CLR-FDCSDAFSIFCTH-----
XP_018505942.1[Pyrus_x_bretschneideri]  DADTVPPLFVCSACCVSLVPP--RIEP-CLR-FDCSDAFSICCRH-----
OAY60550.1[Manihot_esculenta]           DSGTVPPLFVICAGCCDSLGH--RGES-QEE-LENSDILLMIP-----ATEYVAQFLE-
XP_008381356.1[Malus_domestica]         DADTVPPLFVCSACCVSLVPP--RIEP-CLR-FDCSDAFSICCRH-----
XP_018816590.1[Juglans_regia]          DTEAVPPLFVCSGCCVSLGTL--KTEA-SCA-FECSDTLLMST-----DTFGLELGY-
XP_002263205.1[Vitis_vinifera]         DSETVPPLFVCPKCCALLVPA--RSES-SD-----CGRVQLAP-----VYQFGMELLY-
XP_004288593.1[Fragaria_vesca_subsp._vesca] DAEVPRFLFICSTCYVSLVPP--KTEPAALR-FDCSTAFLEWRH-----
XP_017981172.1[Theobroma_cacao]        DSEAVPPLFVCPGCCASLGP--MSES-PLT-YQSSDILLDS-----ETVYGM--LEY
XP_006372523.1[Populus_trichocarpa]     DADTVPQLFVICSGCCDSSLPG--KTET-HQR-FESSDILLMIPAAIG-YGAEAAEPFYE-
XP_011038253.1[Populus_euphratica]     DADTVPQLFVICSGCCDSSLPG--KTET-HQR-FESSDILLMIPAAIG-YGAEAAEPFYQA
XP_012086460.1[Jatropha_curcas]        DSKTVPPLFICTECCNSVVKP--TNEL-QVE-FENSDDLMLVP-----PNAYVAELVK-
XP_006494662.1[Citrus_sinensis]        DSGTVPPLFVCPRCCSSFAPS--RTES-SFR-FLGSDILLVP-----ETEYGAERVVF
XP_006421081.1[Citrus_clementina]     DSGTVPPLFVCPRCCSSFAPS--RTES-SF-----
XP_002533478.1[Ricinus_communis]       DSEAVPPLFVCTRCCDSMIKS--RKKV-KVE-IGNSEDLLMIPAIFQDFANDGIGMLL--
XP_010108961.1[Morus_notabilis]        DAETVPPLFVCSACCDLVLPL--RANHEPSP-DALSDDLTP-----QVDYSLAIGY-
XP_003616245.2[Medicago_truncatula]   DSETVPPLFVCSGCCDSLMP--RIESSSFGMVDCADSFVLSPE-----PTHLLEYGY-
OAP18009.1[Arabidopsis_thaliana]       DSDTLPLFVCSNCCFEAEQ--RKVLQPKYEFPSSENVFLLESADDFGDRCLGMIFP
BAK05033.1[Hordeum_vulgare_subsp._vulgare] DTEDVPHVFLCSRCDNDVASFPALNC-----
CDM85226.1[Triticum_aestivum]         DFEEVPEKFCRKCASPRKGGKGGGGGGGGGGRMEMASAGRCKDEIGSSVGGAGKIGRL
XP_008657002.1[Zea_mays]              DFEEVPEKFCRKCASPRKGDG--RGGGGSNGGGTMEVTASGRCKDEIGASVGGAGKYGRM
EAZ44935.1[Oryza_sativa_Japonica_Group] DTEDAPHVFLCSRCDNDVVSFPFNC-----
XP_002460302.1[Sorghum_bicolor]       DTDDAPHVFLCSRCDNDVLSFPPLSC-----
XP_003544360.1[Glycine_max]           DSETVPPLFVCTGCCDVLVPSRTEAFAFG--VDSVDSFLISED-----PTTLLEDYEG

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XP_003578202.1[Brachypodium_distachyon]	DADDVPHVFLCSRCDNDVLSFPSFNC-----
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XP_011652709.1[Cucumis_sativus]	-----
XP_007216520.1[Prunus_persica]	T-----
XP_008244388.1[Prunus_mume]	-----
XP_018505942.1[Pyrus_x_bretschneideri]	-----
OAY60550.1[Manihot_esculenta]	-----
XP_008381356.1[Malus_domestica]	-----
XP_018816590.1[Juglans_regia]	-----
XP_002263205.1[Vitis_vinifera]	-----
XP_004288593.1[Fragaria_vesca_subsp._vesca]	-----
XP_017981172.1[Theobroma_cacao]	DNCIRILP
XP_006372523.1[Populus_trichocarpa]	-----
XP_011038253.1[Populus_euphratica]	-----
XP_012086460.1[Jatropha_curcas]	-----
XP_006494662.1[Citrus_sinensis]	NDDIGMSL
XP_006421081.1[Citrus_clementina]	-----
XP_002533478.1[Ricinus_communis]	-----
XP_010108961.1[Morus_notabilis]	-----
XP_003616245.2[Medicago_truncatula]	-----
OAP18009.1[Arabidopsis_thaliana]	EENYLL--
BAK05033.1[Hordeum_vulgare_subsp._vulgare]	-----
CDM85226.1[Triticum_aestivum]	ATVG----
XP_008657002.1[Zea_mays]	ATVG----
EAZ44935.1[Oryza_sativa_Japonica_Group]	-----
XP_002460302.1[Sorghum_bicolor]	-----
XP_003544360.1[Glycine_max]	Y-----

XP_003578202.1[Brachypodium_distachyon]
