

Supplemental Figure S2. Names, accession numbers, and amino acid sequence of all CPTs used in the phylogenetic analysis in Figure 2.

Solanum CPTs

>SlCPT1 [*Solanum lycopersicum*, GenBank accession NM_001247704]
MSSLVLQCWKLSSPSLILQQNTSISMGAFAKGIHKLQIPNSPLTVSARGLNKISCSLNLQTEKLCYEDNDND
LDEELMPKHIALIMDGNRRWAKDKGLEVYEGHKHIIIPKLKEICDISSKLGIIITAFAFSTENWKRKSEEV
DFLLQMFEEIYDEFSSRSGVRSVSIIGCKSDLPMTLQKCIALTEETTKGNKGLHLVIALNYGGYYDILQATKS
IVNKAMNGLLDVEDINKNLFQLELESKCPNPDLLIRTGGEQRVSNFLLWQLAYTEFYFTNTLFPDFGEEDL
KEAIMNFQQRHRRFFGGHTY

>SlCPT2
MNSSIVSQHFFISLKSLLDQCWKSPPSSISMGEFVKGIHDKLQILKPLTMSDRGLSKIISCSLSLQTEKL
RYDNDNDLLEHEELIPKHIALIMDGNRRWAKAKGLEVYEGHKLIIPKLKEICDISSKLGIVITAFAFS
TENWKRKSEEVDLFMLQLEFFEFNEFLRFGVRSVIGCKSNLPMTLQKCIALTEETTKGNKGLHLVIALNYG
GYYDILQATKSIVNKAMNGLLDVEDINKNLFQLELESKCPNPDLLIRTGGEQRVSNFLLWQLAYTEFYFTN
TLFPDFGEKDLKAILNFQQRHRRFFGGHTY

>SlCPT3
MEGVNGKKVGHLCENISSFVRQCIFSVILSVGPVPSHIAFIMDGNRRYSKKQNLDDGNHRAGFSALINMLK
YCYELGVKYITVYAFSIDNFKRRPEEVVSLMMLQEKIDELTKEESIVNRLGIRIYFQGNLKLSDHVR
LAERAMVKTSGNSKAILSICVAYTSTDEIVHAVQESCEEKWEIRKLDVNNDGSNLIRLEENVKDKNEHRIG
VTNVDRHMYMSVCPDPDIIIRTSGATRLSNFLLWQSSHCLLYSPAALWPEIGLRHLIIVWILDFQRNYLYLK
EKKKQS

>SlCPT4
MAFSLQLQQIFVSYTRFCSQPKSITNPLISLKLPSIHPLAFAQNAAVSNIDTGVAIDGSAEEVSLPPQLR
RELMPKHVALIMDGNRRWAKMRGLPVALGYEAGIRAVRKIIELCGNWGIMVLTFLAFSSDNWLRPKVEVDI
LMSLFERALNDELENFAREGIRISIIIGDSSKLPKSLQDLIAKAVKTTKENSRLHLVAVNYSGQHDVVQAC
QTIAQKVKDDIIETKDINSFLIEQELQTNCFPCPDLLIRTSSELRLSNFLLWQLAYSELFFSHSWPDF
GEAEFLEALCSFQQRQRRYGRQSS

>SlCPT5
MAFSFQLQQVFPFPVKFCSQPKSIKQIFPNLTKRLPIHPLASAQNNATSNIDHNYIAMDESSINEEEVPL
PTELSRELMPKHIAVIMDGNRRWAKRRGLPVALGYAAGIRVLRNFVKLSYNWGISALTLFASFSENWFRPK
AEVDLLMGLFDKVLKDELENLARTGIRLSIIIGDASQLPKSLQDLIDKAVMATKANSRLHILVAINYSQYD
VVQACQTIAQRVKDGNIEPEDINSLLEVEQELQTKCTEFPSPDLLIRTSSELRLSNFLLWQLAYTELFSSH
QWPDFGEAEFLEALCSFQQRQRRYGGQSS

>SlCPT6
MNSLFGVRPIVKSSYNYVYTLPSISCGGHFFKVSNSLSLYDDHRRTRIEIIRNSELIPKHVAIIMDGNRRWA
KARGLPVQEGHKFLAPNLKNICNIISSKLGIVITAFAFSTENWNRSEEEVDLFMLRLEFFEFMRLGVRV
SLIGGKSKLPKTLQQVIELTEEVTKSNEGLHLMALNYGGQYDMLQATKNIASKVKDGLIKLEDIDYTLFE
QELTTKCAKFPKPDLLIRTGGEQRISNFLLWQLAYSELYFTNTLFPDFGEEALMDAIFSFQRRHRRFFGGHT
Y

>SlCPT7
MLSGLGSLPPSPDNKLIITNNQYNYRTNLANVCSNNVNAVGDQLVTLPEGLKHVAVIMDGHRRWAKNKG
LTVKQGHRAEGEKIQVLRTRLCQWGVKVLTIIFAFSTENWVRLEEEVDLFMLKLFLELIGSQEILDEWTRDGR
RVSFIGDKSIFSKSLQEALAVMEERTKFNSGLHVI IAINYSGRQDILQATKSIAIKVKNGDLTVKDIDQSL
FEQELDTHCTEFSEPDLLIRTSSEKRVSNFMLWQLAYTELYFANKLFPDMEEADFI EALTSFKSRQRRYGG
KKI

>ShzFPS [*Solanum habrochaites*, GenBank accession ACJ38408]
MGAFKGIHKLQIPNSPLTVSARGLNKISCSLSLQTEKLCYEDNDNDLDEELMPKHIALIMDGNRRWAKDKG
LDVSEGHKHLFPKLKEICDISSKLGIVITAFAFSTENWKRKAKGEVDFLMQMFEEELYDEFSSRSGVRVSIIG
CKSDLPMTLQKCIALTEETTKGNKGLHLVIALNYGGYDILQATKSIVNKAMNGLLDVEDINKNLFQDELE
SKCPNPDLLIRTGGDQVRVSNFLLWQLAYTEFYFTKTLFPDFGEEDLKEAIIINFQQRHRRRFGGHTY

Arabidopsis thaliana CPTs

>AtCPT1 [GenBank accession NP_565551]
MLSLSSDSSLLSLLFLFLIPCLFITSYIGFPVFLKLIKLIKAAARDNEKRDEGTYVVREDGLQRELMP
RHVAFILDGNRRWAKRAGLTTSQGHEAGAKRLIDIAELCFELGVHTVSAFAFSTENWGRDKIEIDNLMSLI
QHYNKSNIKFFHRSEVRVSVIGNKTKIPESLLKEIHEIEEATKGYKNKHLIMAVDYSKGFDIMHACKSLV
KKSEKGLIREEDVDEALIERELLTNCSDFPSPDLMIRTSGEQRISNFFLWQLAYSELFFSPVFWPDFDKDK
LLEALASYQRRERRFGCRV

>AtCPT2 [GenBank accession NP_179921]
MMTTRNGSLRFFNHTFSFYDEATCVVREEELQRELMPRHVSFILDGNRRWAKRDGLTTAQGHEAGTKRIIE
IAEVCFELGIHTVSAFAFSTENWGRDKFEVKCLMSLFNHLYKSNIQYFQRKEVRVSVIGNKTKIPESLLKE
IHEIEEATKATRISISSWHLVKKSEKGLIREEDVDEALIERELLTNCSDFPSPDLMIRTSGEQRISNFFLW
QLAYTELFYSPVLWPDFDKDKLLEALASYQGRERRFGCRV

>AtCPT3 [GenBank accession NP_565420]
MAELPGQIRHIGGRMSQLLEQIYGFSSRSLFRVISMGPIPCHIAFIMDGNRRYAKKCGLLDGSQGHKAGFSA
LMSMLQYCYELGIKYVTIYAFSIDNFRKPEEVESVMDLMLEKIKSLEKESIVHQYGIRVYFIGNLALLN
DQVRAAAEKVMKATAKNSRVLLICIAYNSTDEIVQAVKSKSCINKSDNIEASNYKHEDSDSDIEGTDMENQ
EKKIQLVDIEENMQMSVAPNPDLIRSSGETRLSNFLLWQTGNTQLCSPAALWPEIGLRHLLWAILNFQRN
HSYLEKRKKQL

>AtCPT4 [GenBank accession NP_200859]
MNNTREEVGEFTQIFNALMSLMRKFIKVLVVGPIPTNISFIMDGNRRFAKKNLEGLDAGHRAGFISVKY
ILQYCKEIGVPYVTLYAFGMDNFKRGPEEVKCVMDLMLEKVELTIDQAVSGNMNGVRIIFAGDLNSLNERF
RAATKKLMELTEENRDLIVVVCVAYSTSVEIVHAVRDCVRKSKTGDGSSALELSDIEECMYTSVVPVVDL
VVRTGGDRLSNFMTWQTSRALLHRTEALWPELGLWHLVWAILKFQRMQDYLQKKKKLH

>AtCPT5 [GenBank accession NP_200858]
MNTLEEVDSTHIFNALMSLMRKFLFRVLCVGP IPTNISFIMDGNRRFAKKNLIGLDAGHRAGFISVKYI
LQYCKEIGVPYVTLHAFGMDNFKRGPEEVKCVMDLMLEKVELAIDQAVSGNMNGVRIIFAGDLDSLNEHFR
AATKKLMELTEENRDLIVVVCVAYSTSLEIVHAVRDCVRKCTNGDDLVLLELSDVEECMYTSIVVPVVDL
IRTGGDRLSNFMTWQTSRLLHRTEALWPELGLWHLVWAILKFQRMQDYLTKKKKLD

>AtCPT6 [GenBank accession NP_568882]
MLSILSSLLSLLFLFIISCFITSHFWFPLSLPKILGFIKITSSRDDYDNEQRDEGTYVVGVEELQRELMP
RHVAVIMDGNRRWAKRAGLTTSQGHEAGAKRLIEFSELCKLGIHTVSAFAFSTENWGRHKIEVKCLMSLI
QHLYKSKIYQYFQREETRVSVIGNLTKIPESLLRTVQEIEEATRYSKHHLLILADYSGRLDILRACKSIVK
KSEKGLIREEDVDEALIERELLTNCTEFPSPDLLIRTSGEQRISNFFLWQLAYTELFSPVFWPDFDKDKL
LEALVSYQRRERRFGCRV

>AtCPT7 [GenBank accession NP_200685]
MLSLRVPTPTSDFDRRYQAGDLERRWRLSRDSFLSFPKFEENRGFRFGVKSSKSDVSFTAAEEEEETLPEE
LHAELMPKHVAIIMDGNRWAKNRGLQPWDGHRAGVEALKEIVELCGKWIQVLTVFAFSTDNWIRPRIEI
DFLFLSFLERSLKTEFQNLAKNNVRISIIIGDSSKLPKSLLRVINEVEEVTKNNTRLQLIVAVGYSKYDVLQ
ACRGIARRVKDGEIEVEEIDERLIEELETNCTEFPPDLLIRTSSELVSNFLLWQLAYTELFQAQELWP
DFGRSGFIEALMSFQQRQRRFGGRKS

>AtCPT8 [GenBank accession NP_568883]
MLSMLWFLLSLLSLLLLLPCLRPCFPKAGSLKNNKKIDKGTYYVVGEEETPKELQRELMPRHVAVIMDGNRRW
AKQTGLLTSQGYEAGAKRLLLEFADLCFKLGINTVSAFAFSTENWGRHKIEVKCLMYLFQRYLKSQIQQFFQS
KEIRVSVIGNLAKIPESLLRVTHELEEEATKSYKKKHLILAIIDYSGRFDILGACKNIVKKSEQGLIREEEDVD
ETLTERELQTRCTEFSPDLLIRTSGEQRISNFFLWQLAYTEFFFSVLPDFDKQKFI EALVSYQRRDRR
FGSRL

>AtCPT9 [GenBank accession NP_568884]
MLSLSFVVFVFTFLALFLIPGLFISRRLNVPLSLTNILRFIKIIASKYDDEEERNEKRGTMGEKQKRGRNIMP
KHVAVILDGNRRWAEKRGLTSEGHEAGARRLMENAKDCFAMGTNTISLFAFSTENWERPEDEVKCLMALF
EKYLASDMPYLRSDKIKISVIGNRRTKLPELGLIEEVEEATKSYEGKNLIIAIDYSGRYDILQACKSLAN
KVKDGLIQVEDINEKAMEKELLTKCSEFPNPDLLIRTSGEQRISNFFLWQSAYTELYFPTVLWPDFGAEAY
LEALTWYQQRQRRFGRRV

Populus trichocarpa CPTs

>PtCPT1 [GenBank accession XP_002298315]
MPRHVAVIMDGNARWARQRFSAASAGHEAGGRSLRELKSCCEWVIRVLTVFVAFSYDNWTRPKMEVVFL
SLFERMLQSELDNFMKRGIRVSTIGDSSRLPELKKLISDIEEKTRDNCRLHLILAVSYSGKYDVTQACKS
IAHKVKDGIQLEDIDESLLEQELETNCAQYPCPDLLIRTSSELRI SNFLLWQLAYTELFFAEALWPDFGK
AEFIEALTSYQQRQRRYGGRR

>PtCPT2 [GenBank accession XP_002313383]
MPRHVAVIMDGNARWARQRFIALSAGHEAGARSLRELVELCCDWGVRVLTVFVAFSYDNWIRPKVEVDFL
MSLFRMLKSELNDFVRQGARVSTIGDSSRLSESLKKLISDVEEKTNDNSRLHLIVAVSYSGKYDVTQAC
KSIAQKVKDGTQLEDIDESLLEQELETNCAEYPCPDLLIRTSSELRI SNFLLWQLAYTELFFAEALWPD
FGKAEFVEALTSYQQRQRRYGGRR

>PtCPT3 [GenBank accession XP_002300185]
MPRHVAVIMDGNARWARQRMGLTPSGHEAGVRSLEKFI RLCQWGIKVVTVFVAFSIDNWTRPKKEVDIVMT
MIENLLKSGLDLDFIREGTRVSIIGDTSRVPKSLQRTICDIEEMTRENSKFHFIMAISYSGTYDVVQACKSV
AQKVKDGIQVEDINESAVQEQLETKCCEFPDLPDLLIRTSSELRI SNFLLWQSAISELFFAKALWPDFGKA
DFVEALTSYQHRQRRYGGRR

>PtCPT4 [GenBank accession XP_002337819]
MKNTSKDKAIEILGKLVFLRKSMIHIIISVGPLPNHIAFIMDGNVRCATFYAFSIDNFKQRPDGIQPLMD
SFLEHVEGLMKEDSLVSRYGIRVYFQGNLELLEPVRLLAENAMLATAHNSKLLLVICIAYTSTNVIVHAV
QESCREKWGGIIVLNEAEPEENEKNDGESFVKVTDVDKNMYMAIAAEPDILIRTSGDTRL SYFLLWQTTT
TYLYFPSAFWPEIGFRHLLWAILNFQRHHQYLNKRKKQM

>PtCPT5 [GenBank accession XP_002307209]
MDKHRGSRSELFGSLGSFFRKCFCILSMGPIPNHFAFIMDGNRRYAKKEKLEEGAGHRAGFSVLMSML
KYCYELGVTVYVTIYAFSIEFNFKRKPDEVQNLMDLILEKIEGLLKEESLVNKGIRVYFIGNLKLKSKPVR
VAAEKVMKATANNTKCVLLICIAYTSCDEIVQAVHESCKNKWEEIQPCNSHKSFSGRVEEKLLVDLSILK
VVDIESHMYMSVAPNPDIVIRSSGETRLSNFLLWQTSNCLLYSPNALWPDMLWHLVWAVLDFQRNHSYF
EKKKKQF

Vitis vinifera CPTs

VvCPT1 [GenBank accession CAN61413]
MRQSLKLGKQQRDEQVVSVDIVTWRFSWVNTKVDDESRDSDRPATRPPPSATRLYVSVLREFTKQNPQIP
SVATTSKRFGFRSILTVMQLGFDMEKRGSGSGSIFENLGTFLRKCIFSVLSVGPINHIAFIMDGNRRFA
KKQNLIEGAGHKVGYLALMSMLRYSYELGVKYVTIYAFSIEFNFKRPEEVQSVMDLMQEKIEQLINEESIL
NHFVGRVHFIGNLKLKLSAPVRLAERAMLV TACNSKAVLSICVAYTSTNEIMHAVEESC VKKWEIRELNA

SGVDCGLTKLEGYKGEAQDLINLTDIEKHYMAVAPDPDILIRTSGETRLSNFLLWQSQYCYLYSPSVLW
PEIGFWHLLWAVLNFQRNHFYLEKKKKQL

>VvCPT2 [GenBank accession XP_002279235]

MLSFRFPISADNARHTFKSKHSSCTFRSNRIDSFSFPPI SVPRFHKLRTAKTDVVGEEEEAREVNERAEGF
PDGLRRELMPEHVAVIMDGNVRWAQKRGLPAASGHQAGVRSRLRELVLGCKWGIKVLVSVFAFSYDNWSRS
EGEVGFLMSLIERVVKAELPNFGREGIRVSVIGDLSKLPQLKLIIDVEETTKENSRLQFIVALSYSGQ
CDILQACKNIGYKVKDGLIEPEDINKSLIEQELQTNCTEFPPDLLIRTSSELVSNFMLWQIAYTELCF
FSTLWPDFGKDEFVEALSSFQKRQRRYGRN

>VvCPT3 [GenBank accession CBI25938]

MEVVVKAGSLGVWAASGENGSFVFSVSHIPNHIAFIMDGNRRYAKKWKLEEGAGYKAGFLALLSMIKYCYK
LGVKYIAIYAFSIDNFRRRPQEVQYVMDLMHEKIQGLLKEQSVNQHVCVVYTSSEIVHSVQESCKDKWG
ETQVLNPSKGCNVGGDEIQDYSIIKLVLDLEKHYMRFAFPDILIRTSGLSNFLLWQATTCLLYCPTAL
WPEVGLRHLMWAVLNFQRNHSYLEKKKKQS

Oryza sativa CPTs

>OsCPT1 [GenBank accession NP_001044851]

MQSFSSFCRSLGAMRQAANTMLPSHSPAATHQLPTSPRRSTRPAPPPPCPCPRAGAAPAAESLLPGCLRAE
SLPRHVAVVMDGNARWARARGLPSAAGHEAGRRALEETVRLSRAWGIRALTAFVAFSNENWSRPKVEVDFLM
RLFERVIHDSVAEFLREGIRLRVIGDSSRLPVSLQKIAREAEETTRNNSQLDLTLAISYSGRRDIVQACRK
LAQKVQSKALAAEDIDEALFADELETSCAADEFPYPDLLIRTSSELRLSNFLLWQSAYSELFFTTNLWPDF
GEADYLEALCSFQSRDRRFVGRKL

>OsCPT2 [GenBank accession NP_001056920]

MLGSLMSYSPVSDSKTENTDELIATGVLASLQNFIRKCI VAVLSYGPMPKHIAFIMDGNRRYAKFRS IQEG
SGHRVGFSA LIALSLCYEMGVKYYITVYAFSIDNFKRDPTEVKSLMELMEEKINELLENRNVINKVNCKIN
FWGNLDMLSKSVRVAEKLMTAENTGLVFSVCMYPYNSTSEIVNAVNVCAERRDILQREDADSVANNGV
YSDISVADLDRHMY SAGCPDPDIVIRTSGETRLSNFLLWQTTFSHLQNPDPDWPEFSFKHLVWAILQYQRV
HPSIEQSRNLAKKQL

>OsCPT3 [GenBank accession NP_001060237]

MLGSLISYSPSVNPKTENPDELIATGVLASLQNFIRKCI VAVLSYGPMPKHIAFIMDGNRRYAKFRS IQEG
SGHRMGFSALIASLLCYEMGVKYYITVYAFSIDNFKRDLTEVKSLMELMEEKINELLENRNVINKVNCKIN
FWGKLDMLSEPVVAAEKL MVSTAENKGLVFSVCMYPYNSTSEIVIAVNVCAERRDILQREDVDSVANNGV
HSDISVADLDHMY SAGCPDPDIVIRTSGETRLSNFLLWQTTFSHLQNPDPDWPEFSFKHLVWAILQYQRV
HPYIEQSRNLAKKQL

Zea mays CPTs

>ZmCPT1 [GenBank accession NP_001149894]

MLLPHSSASATATTRGLALAAAAPPPRPTARPRRARLLPPRARAETHATGVGADRAAEALLQSGLRRESL
PRHVAVVMDGNSRWARERGLTPADGHKAGGRNLERVVALSRAWGIRALTAFVCSRENLSRPKAEVDYMMGL
SEWLGIDNIDKLSRQGI RLVIGDAKMPASLRSAAAQADEATRQNSQLHVMLAICYSGRWD MVQACRELA
REAQANRLSPDDIDESIIAGKLATSAAGEFSCPDLVIRTSSEMRLSNFLLWQSAYSELFFTAKMWPDFGEA
EYLEALRSFQGRDRRFQSKLL

>ZmCPT2 [GenBank accession NP_001151824]

MMLLALHSPSTGTVAWRRRRPAPLPAISRRIIRPSFALSTAAATDTSTGHAPATADREAPLLQLLHSG
VRAESLPRHVGLVIDGHARWARARGLSVSEGHAVGRRTVEHTVRLSRAWGIRVLTVFACSHENMTTRPKAE
MDFFMQLYEGFIRDNDVQFCREGIRLHLIGDSPGLPASLLRAAREANQLATQSESEMVLMLAMGYSGRDI
LRACQELATEVQRNLLRPEDIDEAL IAGKLGTSIAGGELSYPDIVIRTSSELRLSNFLLWQSAFAELFFSD
VMWPDFGEDEYLGALRSYQTRQRRFGQRK

>ZmCPT3 [GenBank accession ACN26437]
MSSSTAPAPAAAMAVDDAEDDQLASMSTEDDIRASRLLDNEIRVLKDELQRTNLELESFKEKIKENQDKIK
LNKQLPYLVGNFVEILEMNPEDAEKEDGANIDLDSQRKKGCVLKTSTRQDPKAENPNEMVTAGVLSLQNL
FLRKCLIASLSYGPMPKHIAFIMDGNRRYAKFRSMQEGAGHRMGFSTLIASLMYCYEMGVKYITVYAFSID
NFKRDPSEVESLMQLMEEKINELLENQSVINKIKCKINFWGNLDDLLEPVRLLAAEKLMASNTAGTGLVFSI
CMPYNSTSEIVNAVSEVCAERMEMFQSEHIGDCNGHAANNNGVRSEISVAELDRHMYSAGCPDPDIVIRTSG
ETRLSNFLLWQTTFSHLQNPDPPLWPEFSFRHLVWAILQYQRVYPALEHNRKLAKKQL

>ZmCPT4 [GenBank accession NP_001131688]
MVGSLIFPTPNVDPKAENPNEMVTAGVLSLQNLFLRKCLIAILSYGPMPKHIAFIMDGNRRYAKFRSMQEG
AGHRMGFSTLIASLMYCYEMGVKYITVYAFSIDNFKRDPSEVESLMQLMEEKINELLENRSVINKINCKIN
FWGNLDDLLEPVRLLAAEKLMASNTAGTGLVFSICMPYNSTSEIVNAVSVQCAERMEMFQSEHIGECNGHAA
NNGVRSEISVADLDRHMYSAECPDPDIVIRTSGETRLSNFLLWQTTFSHLQNPDPPLWPEFSFRHLVWAVLQ
YQRVYPALEHNRKLAKKQL

>ZmCPT5 [GenBank accession NP_001150939]
MLFSRSPAATNQPLVPSRRTLSPCPRAGATPAPVADAALLPGGLRAESLPRHVAVVMDGNSRWARARGL
PSAAGHEAGRRALEEVVRLSRAWGVRTLTAFVAFSHENWSRPKVEVEFLMGQFERAIRESVAEFLREGIRLR
VIGDSSRLPVSLQRTAREAAEATRNNSQLDLTLAISYSGRRDIVQACRTLAQKVRDKLLEPEDIDESLQFAG
ELETSHANGNELPYPDLVIRTSGELRLSNFLLWQSAAYELFFTDTLWPDFGEADYLQALVSFQSRDRRFGV
RKL

Sorghum bicolor CPTs

>SbCPT1 [GenBank accession XP_002461923]
MLSRFLSVTARRLRTRHPTRRLHAGAGAVVAPPAPAQAALVQSGIRPESLPRHVAVVMDGNRRWAQARGML
TAEGHEAGRRALEHTIWRSHAWGIRALTVFVAFSQQENFGRPKASPTRADLVLTNCSFLHSLNLKMEVDYVMG
LIERTIRDNIDEYARNGIRMHVIGDPSRRPASLQNAAREAEEMTRNNSQLHLMMLATCYSGRWDIVRACREL
AGEVQGNLLMPEDIDESLLASKLATGVAGEFSCPDVIRTSGEVRLSNFLMWQSAYSELYFTDTLWPDFGE
AEYLQALTSFQNRERRRFGQRNA

>SbCPT2 [GenBank accession XP_002461959]
MMLLSHSSSTTTTTTTTTWRLLAAAAPPPARRRRLPPRARAADTTTGVSGAADRAAEALLQSGLRPESLP
RHVAVVMDGNSRWARARGLTPADGHKAGGRNLERIVGLSRAWGIRALTAFVCSRENLSRPKAEVDYMMGLS
EWLIGDNIDKLSRQGIQVIGDATQMPASLRSAAEQADEATRHNSQLHVMLAICYSGRWDMVQACRELVR
EAQAGRLSPDDVDESIVAGKLATSAAGHGEFSCPDVVRTSGELRLSNFLLWQSAYSEFFFTDKMWPDFGE
AEYLEALRSFQARDRRRFGQSKLL

>SbCPT3 [GenBank accession XP_002460671]
MMNAQHYSAPSAGAVVAWHRRPAPSPAISRCARIIRPSPLALSSAAATTGTRTAPATTPDPEAPPLQRLRLS
GVRAESLPRHVGLVIDGHARWARARGLSVSEGHAVGRRTVERTVRLSRAWGIRALTVFACSHENMTRPKEE
IDFFMKLYKGFIRDNVDEFREGIRLHLIGDSPGRPASLLRAAREAEATRGNSEMVMLAIGYSGRRDIL
RACRELAAEVQRDLRPEIDIDEALIAGKLGTSVAAGGELSCPDVIRTSGELRLSNFLLWQSAFSELF
SDVMWPDFGEDEYLRALRSYQTRRRRFGQRIPCP

>SbCPT4 [GenBank accession XP_002458791]
MPFSSHSPAATSQLLAPSRRTLPLPCPRAGATPAEAVALPGGLRAESLPRHVAVVMDGNSRWARARGL
PSAAGHEAGRRALEEVVRLSRAWGVRALTAFVAFSHENWSRPVEVEFLMGQFERAIRESVAEFLRDGIRLR
VIGDSSRLPVSLQKIAREAAEATRNSNSQLDLTLAISYSGRRDIVQACRNLAQKVHDKLLRPEDIDETIFAD
ELETSHANAELPNYPDLLIRTSGELRLSNFLLWQSAAYELFFTDTLWPDFGEADYLEALVSFQSRDRRFGV
RKL

>SbCPT5 [Phytozome accession Sb10g004720]

MAGSLISPSVLDKTEKPNEMITSGVLSSLQNFLHKCLIAILSYGPMPKHIAFIMDGNRRYAKFRSMQOG
AGHRMGFSALIASLLYCYEMDVKIITVYAFSIDNFKRDPSEVEALMQLMEEKINELFENRSVINKINCKIN
FWGNLDDLCEPVRLLAAEKLMASNTGLVFSVCMYPYNSTSEIVNAVSEVCAERRELLQSEHAGECNGHAA
NNGVHSEISVADLDRHMYSGCPDPDIVIRTSGETRLSNFLLWQTTFSHLQNPDPDWPEFSFRHLVWAILQ
YQRAYPYLEQNRKLLAKKQL

Bacterial, Yeast and Animal CPTs

>ScRER2 [*Saccharomyces cerevisiae*, GenBank accession P35196]
METDSGIPGHSFVLKWKTNIFSRTRLRANCVPRHVGFIMDGNRRFARKKEMDVKEGHEAGFVMSRILELC
YEAGVDTATVFAFSIENFKRSSREVESLMTLARERIRQITERGELACKYGVRIKIIIGDLSLLDKSLLEDVR
VAVETTKNNKRATLNICFPYTGREEILHAMKETIVQHKKGAAIDESTLESHLYTAGVPPDLLIRTSQSVSR
LSDFLIWQASSKGVRIELLDCLWPEFGPIRMAWILLKFSFHKSFLNKEYRLEEGDYDEETNGDPIDLKEKK
LN

>EcUPPS [*Escherichia coli*, GenBank accession P60472]
MMLSATQPLSEKLPAGHCRHVAIIMDGNGRWAKKQKIRAFGHKAGAKSVRRRAVSFAANNGIEALTLYAFS
SENWNRPAQEVSALEMELFVWALDSEVKSLHRHNVRRLRIIGDTSRFNSRLQERIRKSEALTAGNTGLTLNIA
ANYGGRWDIVQGVRLAEKVQQGNLQPDQIDEEMLNQHVCMHELAPVDLVIRTGGEHRISNFLLWQIAYAE
LYFTDVLWPDFDEQDFEGALNAFANRERRRFGGTEPGDETA

>SycCPT1 [*Synechocystis* sp. PCC6803, GenBank accession NP_442758]
MTIKPVILETLPPDLLDQQLPQHVAVIMDGNGRWAKQGRMPRIMGHQRGVDSLKNLLRCCDDWGIAALTA
YAFSTENWGRPLEEVEFLMTLFRVLRRELKEMMAENVRIRFVGNLTSLSRSLQDEIARSMEDTKNNTGI
RFTVATNYGGRQEIIVHVCQAIAREVQSGKLPETIDEGVVEKYLYTEGLSHPDLLIRTSQELRISNFLLW
QMAYAEIYVTSTLWPDFDRQAFHLALRDYQQRHRRFGKV

>SyCPT1 [*Synechococcus* sp. PCC 7335, GenBank accession ZP_05035408]
MHAYSVLPPDDINPLCVPKHVAVIMDGNGRWANQRCLPRVAGHRQGARVLKDLLRCCCKDWGIEALTAYAFS
TENWKRPTTEVDFLMVLFKEMMLKELMAMHQEGVVRVFIGDLSALPPILQKEMNLAVEETANNTAIDFNV
AVNYGSRSEITMACQQAIAQKVEQGAVTACEVTEDMIAEHLYTQGSDDLLIRTSQEQRLSNFLLWQLAYT
EMVFTDAFWPDFDRAQFHRALLIYQRRDRRFGNASDAVLLQKAKEKAALTA

>SyCPT2 [*Synechococcus* sp. PCC 7335, GenBank accession ZP_05038282]
MTAKALDSSRLPTDLAQQMPSHVAVIMDGNGRWAKSRGLPRIMGHRKGVDTLKKLLRCCRDWGEVALTA
YAFSTENWGRPTKEVDFLMTLFRVLRQELQEMMEENVRIEFVGDLLALPETLQKEIDRAVTLTKENYGI
RFSVATNYGGRQEIILQACRAIATQVKQGHLPEDIDESLFSRHLTYSDISDPDLLIRTSQEMRISNFLLW
QLAYSEFYITDTLWPDFDTSEFHQAMKAFQRRERRRFGKVN

>NpCPT1 [*Nostoc punctiforme* PCC 73102, GenBank accession YP_001865547]
MPQHIAVIMDGNGRWATSRGLPRIAGHRQGASTLKEKLLRCCCKDWGIKALTAYAFSTENWQRPIEEVDFLM
HLFERLLHRELAQMHQEGVRIISFIGDLSALPKSLQMEMERSMTETLNNQAIHFTVAVNYGSRNEITRVCR
QVAQLVEQGELSAEQVNESLVEQHLYTADTPEPDLLIRTSQEMRLSNFLLWQMAYTEMYFTDILWPDFNR
EAFHQALLSYQSRDRRFQVKASLSA

>NpCPT2 [*Nostoc punctiforme* PCC 73102, GenBank accession YP_001869224]
MTAQQTQLQDLPTDLKRELLPQHVAVIMDGNGRWAKRQGLPRIMGHKRGVDALKDLLRCCQDWGIQALTA
YAFSTENWKRPEEVEVDFLMTLFRVLRQELREMEENVQIKFVGNLQALPRSLQQEISRSMEETKDNNGI
RFSVATNYGGRQEIILQACQAIKQVQGLLQPDINEQVFESHLYTAGITDPDLLIRTSQEMRLSNFLLW
QMAYGEIYITDALWPDFDRAEFHRALCAYQQRERRRFGKV

>SpUPPS [*Streptococcus pneumoniae*, GenBank accession ZP_02710481]
MFGFFKDKAVEVEVPTQVPAHIGIIMDGNGRWAKKRMQPRVFGHKAGMEALQTVTKAANKLGVKIVITVY
AFSTENWTRPDQEVKFIMNLPVEFYDNYVPELHANNVRIQMIGETDRLPKQTFEALTKAEELTKNNTGLI

LN FALNYGGRAEITQALKLISQDVLDAKINPGDITEELIGNYLFTQHLPKDLRDPDLIIRTS GELRLSNF
LPWQ GAYSELYFTDTLWPDFDEAALQEAILAYNRRRHRFFGGV

>MtDPS [*Mycobacterium tuberculosis*, GenBank accession NP_216877]
MARDARKRTSSNFPQLPPAPDDYPTFPDTSTWPVVFPELPAAPYGGPCRPPQHTSKAAAPRIPADRLPNH
VAIVMDGNRWATQRGLARTEGHKMGAEVVIDIACGAIELGIKWSLYAFSTENWKRSPEEVRFLMGFNR
DVVRRRRTLTKKLGVRIRWVGSRPRLWRSVINELAVAEEMTKSNDVITINYCVNYGGRT EITEATREIAR
EVAAGRLNPERITESTIARHLQRPDIPDVDFLRTSGEQRSSNFMLWQAAYA EYIFQDKLWPDYDRDLW
AACEEYASRTRRF GSA

>HsCIT [*Homo sapiens*, GenBank accession BAB14439]
MSWIKEGELSLWERFCANIIKAGPMPKHIAFIMDGNRRYAKKCQVERQEGHSQGFNKLAE TLRWCLNLGI
LEVTVYAFS IENFKRSKSEVDGLMDLARQKFSRLMEEKEKLQKHGVCIRVLGDLHLLPLDLQELIAQAVQ
ATKNYNKCFLYVCFAYTSRHEISNAVREMAWGVEQGLLDPSDISESLLDKCLYTNRSPHPDILIRTSGEV
RLSDFLLWQTS HSCLVFQPVLPWEYTFWNLF EAILQFQMNHSM LQQKARDMYAEERKRQQLERDQATVTE
QLLREGLQASGDAQLRRLRRLHKL SARREERVQGF LQALELKRADWLARLGTASA

>DrDPPS [*Danio rerio*, GenBank accession NP_998352]
MSWIREEKLSLLERLTANILKAGPMPKHVAFIMDGNRRYAQKEHKERQEGHTQGF EKLAETLRWCLNLGI
HEVTVYAFS IENFKRSKEEVDGLMELARQKFSRLLTEQENLEKHGVCIRVLGDLTLLPEDLQTLIAKAVV
STRAHNKCF LNVCFA YTSRHEIANAVKEMAWGVEQGLIKSSDVSEVLLSECLYSSNSPNPDL LIRTSGEV
RLSDFLLWQTSYSCLVFQSVLWPEYSFWNLCEAILQFQMSHRSIQKARELHREEQVLQ QMESDRTCVAEI
LQHRGNGKPMDGQSQQNALLNYSSSREERVGF LNTLQHKRDAFFDDLSSQAVVA

Other plant CPTs

>LLA66 [*Lilium longiflorum*, GenBank accession DQ911525]
MISHELKWKKNNDNQFAPTKFFSNVTSLLRRFFFAVLSVGPMPRHIAFILDGNRRY GKKWKLKEGESHNIG
FLT LVRILRYCCEMGVEYVTLYAFS IDNFNRKPNEVQYVMNLIRENTQALVRDLDTVNRLGVRVNF IGRLD
LLDGPLREAARTVMKATAGNTRIVLWVCTAYTSTEEIVHGVQGA VEDEWARLRMEG TKREISLEDLEGKMY
FERNPDPDILIRTSGETRLSNFV LWQTSFCLLYAPRCLWPDLSLRHLVWAVLLYQRSYAYLEKAKKYKLEV
NGQGRSLTPECMAAFTAASSYIQF

>HbHRT1 [*Hevea brasiliensis*, GenBank accession BAB71776]
MELYNGERPSVFRLLGKYM RKGLYSILTQGPIPTHIAFILDGNRRFAKHKHKLPEGGGHKAGFLALLNVLT
YCYELGVKYATIYAFS IDNFRRKPHEVQYVMDLMLEKIEGMIMEESIINAYDICVRFVGNL KLLSEPVKT
AADKIMRATANNSKCVLLI AVCYTSTDEIVHAVEESSELNSNEVCNNQELEEANATGSGT VIQIENMESY
SGIKLVDLEKNTYINPYPDV LIRTSGETRLSNYLLWQTTNCILYSPHALWPEIGLRHV VVAVINFQRHYS
YLEKHKEYLK

>HbHRT2 [*Hevea brasiliensis*, GenBank accession BAB83522]
MELYNGERPSVFRLLGKYM RKGLYSILTQGPIPTHIAFILDGNRRFAKHKHKLPEGGGHKAGFLALLNVLT
YCYELGVKYATIYAFS IDNFRRKPHEVQYVMDLMLEKIEGMIMEESIINAYDICVRFVGNL KLLDEPLKT
AADKIMRATAKNSK FVLLLAVCYTSTDEIVHAVEESSKDKLKSDEICNDGNGDCVIKIEEMEPYSEIKLV
ELERN TYINPYPDV LIRTSGETRLSNYLLWQTTNCILYSPHALWPEIGLRHV VVAVINCQRHYSYLEKHK
EYLK