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*      20      *      40      *      60      *      80
AtKCS1  IEMDRERLTAEMAFRDSS-----SAVIRIRRRRLPDLTTSVKLKYVGLKLNHCNVTLFFLIILPLTGTVLVQLTGLTFD : 74
AtKCS2  --MNEHQSDHDMN---TIHVTN-----KCLPNFLLSVRLKYVGLGYHYLISNAIILLP-VGLLAAT-SSSFSLTD- : 65
AtKCS3  -----MDLVLMLLSLLVS----- : 13
AtKCS4  -----MDGAGESGGDGSVGVQIRQTRMLPDFLQSVNLYVGLGYHYLISNLLTCLFLPLAVVISVEASQMNPPD : 69
AtKCS5  -----MSDFSSSVKLYVGLGYQYLNNFLTLLLPVATVAIELLRMGPEE : 47
AtKCS6  -----MPQAMPPEFSSSVKLYVGLGYQYLNHFLSFLLEPIMAVIVAVELLRMGPEE : 52
AtKCS7  -----MESSFHFINE-----ALLITQFTTFHFQFLVAS-- : 28
AtKCS8  -----MKNLKMVF-----FKILFISLMAGLAMKSGSKINVED : 31
AtKCS9  -----MEAAEPGGSVQIRTEENERRKLPNFQSVNMYVGLGYHYLITHLFKLCLVPLMAVLTEISRLTDD : 69
AtKCS10 --MGRSNEQDLLSTEIVNRPNAGSPTFSVVRVRRRLPDFLQSVNLYVGLGYHYLINHAYLATIPVLVLFSAEVSLSREE : 79
AtKCS11 --MDVEQKKP-----LIESSD-----RNLPDFKKSVKLYVGLGYHYLITHGLFSLPVLVIAAQ-ISTFSVTD- : 61
AtKCS12 -----MDLFLFFSLLLS----- : 13
AtKCS13 -----MFIAMADFKILL-----ILILISLFEFLDHLHFFHDDFFS : 34
AtKCS14 -----MFIAMADFKILL-----ILILISLFEFLDHLHFFHDDFFS : 34
AtKCS15 -----MEKEATKMNVP-KGS-----PDFLG-YNLRVYVGLGYIYLSLSFCFFLPPLLLLFIVSRFLP--- : 57
AtKCS16 -----MDYPMKKVKIIFNYLMAHREFKCLFLPMVAIAVEASRLSTQD : 42
AtKCS17 -----MDAN--GGPVQIRTON-----YVGLGYHYLITHFVKLMFLPLMAVLFMNVLSLSLN- : 49
AtKCS18 -----MTSVNKKLYRYVLTNFFNLCLFLPTAFLAGKASRLTIND : 40
AtKCS19 -----MEFLSLSLLLSL----- : 14
AtKCS20 --MSHNQNG-PHRV---PVHVNAEPNPNPNLNFLLSVRLKYVGLGYHYLISNAIILLPLLAATIAN-LSSFTIND- : 72
AtKCS21 -----MNQTIHRVSP-----ISMSISELTTLLSSGVSVF- : 29
SbKCS1  -----MEIMTLLTLPLLAC----- : 14
SbKCS2  ----- : -
SbKCS3  AVMERERLTAELDLAVV-AAEPS-SFVVKIRRRLPDFARSVNLKYVRLGLRSGGIPATWVPLALAPP---LLAAAVYSLV : 75
SbKCS4  -----MELPLLTLWLLAH----- : 14
SbKCS5  AVMERERLTAEMAFRGADGGEPAPSIKIRRRLPDFARNIKLYVGLGIRHGGSP--VLPMLCVP---ATAAAAYSFV : 75
SbKCS6  -----MPTG---GVFSGSVNLYVGLGYQYLNHFLTLLLPVMAATALELARGPEE : 50
SbKCS7  --MAR-EEQALLSTEIMNRDAGSPTFSVVRVRRRLPDFLQSVNLYVGLGYHYLISHGYLATIPVIVLVCGEVGSLSRDE : 78
SbKCS8  --MANQQRHRSIAGMD-----RELFRTRQAALNBARLLYHRLVSRLLLAVTIVVAAQVLPVPPSSAHA- : 62
SbKCS9  -----MLSSKAAAAAAASRLTLPVIVLPLVVS----- : 29
SbKCS10 -----MDIAHRDYLVQVTHHTILGVALLCVLAELEFIFAFRCRTALYLPV : 43
SbKCS11 -----MHRKTKMAKLSLKTWYQLFVDFNFIVAVFVAALRRRWPVS-VDDL : 46
SbKCS12 -----MNTPLHVKFLKTYRLLVNNFVVALAAVAVVPTSPH---EEV : 41
SbKCS13 --MENPAPPTDPAATGAPSSSFS-----RQLPDFQSVRLKYVGLGYHYLISHGLLTPMLVAVH-LSTLSPRD : 69
SbKCS14 --MSAAHQPEPTAFA---AAASCGGGDSTIKNARHRT-STLKQCYH---LAISNALLAP-AVAYASHRFSHHTASD- : 68
SbKCS15 --MSKSETNERS-----STIQSAGHRICSVIKLYQHLMLAVSYALFLAPLILATLVHLHRSHTSADD : 62
SbKCS16 ----- : -
SbKCS17 -----MLSHLGMSS-----VAAAAMLQRAWTFSS-YGII : 27
SbKCS18 -----MNGGAAPASAAAAAATPPHRRLPDFLQSVNLYVGLGYHYLITHLTLMPLMAVILLEAGRTDPPD : 69
SbKCS19 --MADEPRTT-----AAATPS-----SRMPDFKQSVKLYVGLGYHLLISHGLLAPLPGLVAAH-LSTFTLRD- : 61
SbKCS20 -----MSSPPLFGNGKGLKAVCRRVVNIIVVTPATAALVAMARFGPEEQ : 47
SbKCS21 -----MALS---PSQRLLSLYQIVVNVIVAVSITTAVILVAAQFG-FSEH : 43
SbKCS22 -----MSSS---HICKYLLKTVFAKIVDNFTVAVPATAAVIVAATTSRDEF : 44
SbKCS23 -----MNSL---LSLKRKYVQLVNNFTVAVLFAAILLRKGAQLG-LAEI : 43
SbKCS24 -----MIAMILEVTTQLCQDRLL : 18
SbKCS25 --METSAPPNAAAP---PAQQPR-----RRLPDFQSVRLKYVGLGYHYLISHGLLSPMLMALVAVQ-LSTVSPRD- : 65

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*      100      *      120      *      140      *      160
AtKCS1  TFSELVSQLDTRATLTCVLFVLSVLTLYVANRSPKPVYLVDSCYKPEDEKRSVDSFLLTMTTEENGSTFDDTVOEQORIS : 154
AtKCS2  -LTLNLYNKHFLHSSSTLFAALLIFLTYFTTRRRRFLLDLDFACYKEDSSLICRETFMRSQRVGFITEDNLAEQOKIIL : 144
AtKCS3  -----YLIFKIWKRLDSKRDQ-NCYILDYQCHKRESDDRMVTQFSGDILRNKHLRLE-KLLHAI : 73
AtKCS4  LKQLWIHLQYNLVSIIICSAIIVFLGLTYVVMTRPRPVYLVDSCYLPDPHLKAPYARVEHSRLTGDFDSSALEPQRKIL : 149
AtKCS5  ILSVNLNLSHFELLHILCSSFLIFVSTVYFMSKPRTPVYLVDSCYKPPVTCRVPFSSFEHSRLILKDNPKSVEPQRIL : 127
AtKCS6  IINWVNSLQPDFLVQLCSSFVIFSTVYFMSKPRTPVYLVDSCYKPPVTCRVPFATFMEHSRLILKDKPKSVEPQRIL : 132
AtKCS7  -----ACVLIAVFGYFFKPRCIYLLIDSCYQPDFLRAVPSNFEHSLTISGVDFQESLDLQOKIIL : 90
AtKCS8  LQKFSLHTQNNLQISLLELFLVVFVWILYMLTRPKPVYLVDSCYLPESHKLVSIQTLGHARRAREAGMCWVDPQEKIL : 111
AtKCS9  LYQIWLHLQYNLVAIFLSALAFVSTVYIMSRRSPVYLVDSCYLPESLQVKYQKFMHSHKLIEDFNESSELEPQRIL : 149
AtKCS10 IWKKLW---DYDLATVIGFPGVFLTACVYFMSRPRSYYLIDFACYKPSDEHKVTKKEFTELARKSGKFDEETLGGKRIIL : 157
AtKCS11 -LRSWLQYNLISVVCMSLVLFLMTYFMTTRPRPVYLVDSCYKREDESRLCTKKEFMDRSKLTGTSFTEENLEPQRIL : 140
AtKCS12 -----YLFPKIWKLLDSKQDK-DCYILDYQCHKRETDDRMVTQFSGEIVYRNQNLGLTE-KLLHAI : 73
AtKCS13 PFPVKIG-----LLLISIFFYASTTRSKPVYLVDSCYKQPTDSCKISSETFFNMAKGAQLYDETOQMTRIIL : 103
AtKCS14 PFPVKIG-----LLLISIFFYASTTRSKPVYLVDSCYKQPTDSCKISSETFFNMAKGAQLYDETOQMTRIIL : 103
AtKCS15 -----ILAFPLSTFFLILTYHYLTPSSVLDLDFSCYRPPDHLKIKSDFTELAMKSGNFNETALELQKRVL : 123
AtKCS16 LQNFYLYLQNNHSLTMFFLYLALGSTYLMTRPKPVYLVDSCYLPESHKASTQRIQHVRLVREAG-AWMDCEKIL : 121
AtKCS17 ---HLQLYNSTGFIVITLAVGSIIVFMSRPRSYYLIDYSCYLPSSQKVSQKFMNNSLIQDFSETSELEPQRIL : 125
AtKCS18 LHNFLSYLQHNLIIVTLLFAFTVFLVYIYVTRPNPVYLVDSCYLPESHKVSQKVDIFQYIRKADTSSDELKRIQ : 120
AtKCS19 -----LFFVYIFKFKRRNRQNCMMHYKCYKGMEEKLDTETCAKVVQRNKNLGLLE-RELLRTM : 75
AtKCS20 -LSLLYNLRFHFLSATLATALISLSTAYFTTRRRRFLLDLDFSCYKREDPSLICRETFMRSQRVGFITEDNLAEQOKIIL : 151
AtKCS21 -----EIFAGLLVHLIYQIRTRVYVYLLDFTCYRAPDSNRVPMSTLETIYLDKLDQESLDEQARIL : 94
SbKCS1  -----LAAMLARLLVARQRR-RCYLLDYVQYKATDDRKLPTDLCGEIQRNQLLGLLE-KLLHAI : 77
SbKCS2  ---KEMEVGLSPAAVAVACAAAAAAAYAVSRPRPVYLVDLSCYVAGAAHEASRAKTAHFGRGCRGFSDESVAEQKRM : 74
SbKCS3  GADKLY--SLDLLTCVAWLAALAVLLTYVFKRPRPVYLVDACYREADEHAISKEGFLDMTESTGWFNAEALDQTKIT : 153
SbKCS4  -----AMAYLAWTAAARRRQS-RCYLLDYVCHKRDRDLKSTETAGDVIQRNARLGLTD-RELLRVV : 74
SbKCS5  RLDVVIY-SIDLLTCVAWLGATALLTYVYFKRPRPVYLVDACYKPEEQKISKSAFEMTESTGWFNAEALDQTKIT : 154
SbKCS6  LLSLWRSLELDLVLHILCSVFLVFGTIVYVMSRPRPVYLVDACYKPPASCRVPFATFMEHTRLISDDD-KSVREQTRIL : 129
SbKCS7  LWRKVGATYDLATVLAFLAVLAFTISVYIMSRRPVYLIDFACYKPADELKVSKEFIDLARKSGKFDEDSLAEQSRIL : 158
SbKCS8  -ARTLLRAARADAGLVAALAAACACAYAAALRPRPVYLVDLAARREGPAHRATRAESVRFHALAGRFTDESVAEQTRM : 141
SbKCS9  -----ALVFLGLVRLRLRRQRPVYLIDYSCYLPDAERQVNLEVECYFGLKCRYSDDI-DEMRLVY : 90
SbKCS10 -----MAALLFNRRFRRAAAATDDEGLVDLDFSCYKPPRRLRPLVAGLEHLRLIGCFDDGSEVEMAKVI : 109
SbKCS11 AGSLRAV-PPVRIITAVILT--AGVAQERRRRPRDYLVEYGCRRPKCFRAPPATCLEHAFYLYPQVDPVETSIIRLL : 123
SbKCS12 LALVREI-RPVHCLLVLLLA--AAAVAKWRMGRPKDYLVVEYGCRRPKCFRAPPATCLEHAFYLYPQVDPVETSIIRLL : 118
SbKCS13 -VADLWALRNLNLSVACSTLVLVFLGTYYLFTTRPRPVYLVDACYKREPERCTRDTEMRCSRLTGCFDGDSEHQRKIL : 148
SbKCS14 ---VTSFASNPFPVAVSLVLAVALTAYLMRRPRPVYLIDFACYKFGAGHVVTRETFMRQSEAAQVFTDMDHAEQRKIL : 145
SbKCS15 DLIVSARLANPLPFTV--VVVAAMATAYLMRRPRPVYLIDFACYKREGAEHAVTRETMRVLVVGYGFSDDSLAEQRKIL : 140
SbKCS16 -----EPRHRVPFATALHEHGRMLNDLIDEELESMVRILH : 33
SbKCS17 SGLL---PIHVLMLVVLV--AGLAMWRHRRPRDYLVDYGCRRPGDPCYRVPFAMALEHGRMLNDLIDEELESMVRILH : 101
SbKCS18 LRQLWLHLQYNLVSVLVAVLFGATYYLFTTRPRPVYLVDACYKREPAHLQVRFEEFMRHSLCG-FSEDAEQRKIL : 148
SbKCS19 -LADLWQLQYNLVSVLVCTTVLVVATYALTRPRPVYLVDACYKREDDERKCSRARFNCTESLGTFTPENLEQRRIIL : 140
SbKCS20 AGQFREA-RPVHVFVLAFFV--AAATVYLMRPRPVYLIDYACRPTASNCRVPFSTLEHAKQV-PVLDERHRRMTKLL : 123
SbKCS21 IFFLHAL-RPIYLLTALLP--AAFTTYLVNRSYDYLVDYACREKINCRVPLAAFEKHMMLHRLFLDDRWHLETRMI : 120
SbKCS22 TTLHSHV-SNTDVLISGLL--GTAAVAIMRRPRPVYLIDYACREPHNTRVPAAAFVEHVQHV-SQLTERKRLTRILY : 120
SbKCS23 LIWLHAV-THAHLLLLFLLSIGLILYFMYTSHHYYLVDYACREHRTANCRVMSASETEHLHMM-PSLNDNTOQMTRIIL : 121
SbKCS24 TLSTNNL-PIIHILLVFLLI--TVTVRYLIRHRRPVYLVEYTCYKEDSKYRVAPASMEYFHLLA-NLLDDDSLSLSNLY : 94
SbKCS25 -LADLWELRFNLLSVVACSTLVLVFLSTVYFLTRPRPVYLIDFACYKREPERKCTROTVMHCSNLTGTFDDNLEPQRIL : 144

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* 180 * 200 * 220 * 240

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AtKCS1  NRASGLGDDTYLPPRGITSTPPKLNMEARAEAEAVMFGALDLSLEKTKGKAEVGLIIVNCSLENPTPSLSAMIVNHYKMR 234
AtKCS2  ERSGLGQKTYVPEALLRVPPNCSSEARAEAEAVMFGALDLSLEKTKGKAEVGLIIVNCSLENPTPSLSAMIVNHYKMR 224
AtKCS3  VSSGIGCEQTYAPRLVFEFGQP-TLDGLSEMEEFYIDTTEKVLKRNKSPSEITDILVNVVSLNSPTPSLSARITINHYKMR 152
AtKCS4  ERSGLGDDTYVPEAMHYVPPRISMAAAEAEAEAVMFGALDLSLEKTKGKAEVGLIIVNCSLENPTPSLSAMIVNHYKMR 229
AtKCS5  ERSGLGDETCPPAIHYIPTPTMESARAEAEAVMFGALDLSLEKTKGKAEVGLIIVNCSLENPTPSLSAMIVNHYKMR 217
AtKCS6  ERSGLGDETCPPAIHYIPTPTMESARAEAEAVMFGALDLSLEKTKGKAEVGLIIVNCSLENPTPSLSAMIVNHYKMR 202
AtKCS7  ERSGLSDASVPEATVHIEIPNNAISAAEAEAEAVMFGALDLSLEKTKGKAEVGLIIVNCSLENPTPSLSAMIVNHYKMR 170
AtKCS8  ERSGLGQETVYPEGLQCFPELQOQMGASRKEETEVIKALDLSLEKTKGKAEVGLIIVNCSLENPTPSLSAMIVNHYKMR 191
AtKCS9  ERSGLGDETYLPEALHCIPPTMMAAREAEAEAVMFGALDLSLEKTKGKAEVGLIIVNCSLENPTPSLSAMIVNHYKMR 229
AtKCS10  QASGIGDETYVPRSSISSNITMTEKGEAEAEAVMFGALDLSLEKTKGKAEVGLIIVNCSLENPTPSLSAMIVNHYKMR 237
AtKCS11  QRSGLGSESYLPEAVLNVPEPNCMEARAEAEAVMFGALDLSLEKTKGKAEVGLIIVNCSLENPTPSLSAMIVNHYKMR 220
AtKCS12  VSSGIGCEQTYAPRLVFEFGQP-TLDGLSEMEEFYVDSICKLERNQISPKDIDILVNVVSLNSPTPSLSARITINHYKMR 152
AtKCS13  NRSGLGDDTYSPRCMLTSPPTPSMYEARAEAEAVMFGALDLSLEKTKGKAEVGLIIVNCSLENPTPSLSAMIVNHYKMR 183
AtKCS14  NRSGLGDDTYSPRCMLTSPPTPSMYEARAEAEAVMFGALDLSLEKTKGKAEVGLIIVNCSLENPTPSLSAMIVNHYKMR 183
AtKCS15  DQSGIGDESYMPRVVFKPHRVNLRDGEAEAEAVMFGALDLSLEKTKGKAEVGLIIVNCSLENPTPSLSAMIVNHYKMR 203
AtKCS16  ERSGLGQETVYPEGLQCFPELQOQMGASRKEETEVIKALDLSLEKTKGKAEVGLIIVNCSLENPTPSLSAMIVNHYKMR 201
AtKCS17  IERSGLGDETYLPEALHCIPPTMMAAREAEAEAVMFGALDLSLEKTKGKAEVGLIIVNCSLENPTPSLSAMIVNHYKMR 205
AtKCS18  ERSGLGDETYLPEALHCIPPTMMAAREAEAEAVMFGALDLSLEKTKGKAEVGLIIVNCSLENPTPSLSAMIVNHYKMR 200
AtKCS19  ASSGIGDETYLPEALHCIPPTMMAAREAEAEAVMFGALDLSLEKTKGKAEVGLIIVNCSLENPTPSLSAMIVNHYKMR 154
AtKCS20  ERSGLGQKTYVPEALLRVPPNCSSEARAEAEAVMFGALDLSLEKTKGKAEVGLIIVNCSLENPTPSLSAMIVNHYKMR 231
AtKCS21  ERSGLWNTSIFPRSLMIEILKKSIVSVEITFMTHLTSVEDLRLKKNLSPRSIDILVNCVHSPSPSLSAMIVNHYKMR 174
SbKCS1  ANSGTGEETVYSPRNMIIEGAPDRREGMEEMDETFHVLDELFAASARPAVDVIVNCSLENPTPSLSARVVRVYGLR 154
SbKCS2  ERSGLGDRTHFPASLLSVVDMCARTAEESHAIVIFGVDDLLRRAAVAPAEVGLIIVNCSLENPTPSLSAMIVNHYKMR 157
SbKCS3  ERSGLGDRTHFPASLLSVVDMCARTAEESHAIVIFGVDDLLRRAAVAPAEVGLIIVNCSLENPTPSLSAMIVNHYKMR 233
SbKCS4  VRSGLGDETYAPRILEGDDP-TLKDSLEEMDAEFAVAELFA--VSPGDDVIVNCSLENPTPSLSARVVRVYGLR 151
SbKCS5  NRSALGDETYLPPGVQARPPRLNMAEAEAEAEAVMFGALDLSLEKTKGKAEVGLIIVNCSLENPTPSLSAMIVNHYKMR 234
SbKCS6  ERSGLGDDTYSPRCMLTSPPTPSMYEARAEAEAVMFGALDLSLEKTKGKAEVGLIIVNCSLENPTPSLSAMIVNHYKMR 209
SbKCS7  AKSGLGDESYMPRCVPEPANCATVKEGSAEAEAEAVMFGALDLSLEKTKGKAEVGLIIVNCSLENPTPSLSAMIVNHYKMR 238
SbKCS8  ERSAGVDAITHFPASLLSVVDMCARTAEESHAIVIFGVDDLLRRAAVAPAEVGLIIVNCSLENPTPSLSAMIVNHYKMR 221
SbKCS9  SRSGLGQETVYPEGLQCFPELQOQMGASRKEETEVIKALDLSLEKTKGKAEVGLIIVNCSLENPTPSLSAMIVNHYKMR 168
SbKCS10  EASGMCNETVYPPSLHYIPA-ATHADAVQEARAFPTLDDFAKGVPPSRVGLIIVNCSLENPTPSLSAMIVNHYKMR 188
SbKCS11  ERSGLGDETYLPEALHCIPPTMMAAREAEAEAVMFGALDLSLEKTKGKAEVGLIIVNCSLENPTPSLSAMIVNHYKMR 202
SbKCS12  ERSGLGDETYLPEALHCIPPTMMAAREAEAEAVMFGALDLSLEKTKGKAEVGLIIVNCSLENPTPSLSAMIVNHYKMR 197
SbKCS13  ERSGLGDETYLPEALHCIPPTMMAAREAEAEAVMFGALDLSLEKTKGKAEVGLIIVNCSLENPTPSLSAMIVNHYKMR 222
SbKCS14  ERSGLGQCTFFPAVLSNPPNCPMAEAEAEAEAVMFGALDLSLEKTKGKAEVGLIIVNCSLENPTPSLSAMIVNHYKMR 225
SbKCS15  ERSGLGQCTFFPAVLSNPPNCPMAEAEAEAEAVMFGALDLSLEKTKGKAEVGLIIVNCSLENPTPSLSAMIVNHYKMR 220
SbKCS16  OKSALGDETSVDFSRFCIP-DRGTEASCEAEELVIFSAVDFKAFARQVNEEDIDAVIACSFVTLVIVNCSLENPTPSLSAMIVNHYKMR 112
SbKCS17  ERSALGDETSVDFSRFCIP-DRGTEASCEAEELVIFSAVDFKAFARQVNEEDIDAVIACSFVTLVIVNCSLENPTPSLSAMIVNHYKMR 180
SbKCS18  ERSGLSEETVYPEAMHAIIPQPTMANARAEAEAEAVMFGALDLSLEKTKGKAEVGLIIVNCSLENPTPSLSAMIVNHYKMR 228
SbKCS19  ERSGLGDETYLPEALHCIPPTMMAAREAEAEAVMFGALDLSLEKTKGKAEVGLIIVNCSLENPTPSLSAMIVNHYKMR 220
SbKCS20  ERSGLGDETYLPEALHCIPPTMMAAREAEAEAVMFGALDLSLEKTKGKAEVGLIIVNCSLENPTPSLSAMIVNHYKMR 203
SbKCS21  ERSGLGDETSVDFSRFCIP-DRGTEASCEAEELVIFSAVDFKAFARQVNEEDIDAVIACSFVTLVIVNCSLENPTPSLSAMIVNHYKMR 199
SbKCS22  ERSGLGDETYLPEALHCIPPTMMAAREAEAEAVMFGALDLSLEKTKGKAEVGLIIVNCSLENPTPSLSAMIVNHYKMR 200
SbKCS23  ERSGLGQKTYVPEALLRVPPNCSSEARAEAEAVMFGALDLSLEKTKGKAEVGLIIVNCSLENPTPSLSAMIVNHYKMR 200
SbKCS24  ERSGLGDETYLPEALHCIPPTMMAAREAEAEAVMFGALDLSLEKTKGKAEVGLIIVNCSLENPTPSLSAMIVNHYKMR 173
SbKCS25  ERSGLGDETYLPEALHCIPPTMMAAREAEAEAVMFGALDLSLEKTKGKAEVGLIIVNCSLENPTPSLSAMIVNHYKMR 224

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FAE1_CUT1_RppA domain

* 260 * 280 * 300 * 320

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AtKCS1  EDIKSYNLGGMGCSAGLISIDLAKDLQVHRNTYAVVSTENITLNWYFGNDRSMLIPNCLFRMGAAVLLSNRRQDRKR 314
AtKCS2  GNVLSYNLGGMGCSAGLISIDLAKDLQVHRNTYAVVSTENITLNWYFGNDRSMLIPNCLFRMGAAVLLSNRRSDRCR 304
AtKCS3  EDIKVFNLTAGMGCASGLIIDLAKDLQVHRNTYAVVSTENITLNWYFGNDRSMLIPNCLFRMGAAVLLSNRRSLSRR 231
AtKCS4  GNIRSYNLGGMGCSAGLISIDLAKDLQVHRNTYAVVSTENITLNWYFGNDRSMLIPNCLFRMGAAVLLSNRRSDRCR 309
AtKCS5  SNIKSYNLGGMGCSAGLISIDLAKDLQVHRNTYAVVSTENITLNWYFGNDRSMLIPNCLFRMGAAVLLSNRRSDRCR 287
AtKCS6  SNIKSYNLGGMGCSAGLISIDLAKDLQVHRNTYAVVSTENITLNWYFGNDRSMLIPNCLFRMGAAVLLSNRRSDRCR 292
AtKCS7  SDIKSYNLGGMGCSAGLISIDLAKDLQVHRNTYAVVSTENITLNWYFGNDRSMLIPNCLFRMGAAVLLSNRRQDSHK 250
AtKCS8  DNIKSYNLGGMGCSAGLISIDLAKDLQVHRNTYAVVSTENITLNWYFGNDRSMLIPNCLFRMGAAVLLSNRRSDRCR 271
AtKCS9  GNVKSYNLGGMGCSAGLISIDLAKDLQVHRNTYAVVSTENITLNWYFGNDRSMLIPNCLFRMGAAVLLSNRRQDRKR 309
AtKCS10  GNILSYNLGGMGCSAGLISIDLAKDLQVHRNTYAVVSTENITLNWYFGNDRSMLIPNCLFRMGAAVLLSNRRDFRH 317
AtKCS11  GNILSYNLGGMGCSAGLISIDLAKDLQVHRNTYAVVSTENITLNWYFGNDRSMLIPNCLFRMGAAVLLSNRRWDRRH 300
AtKCS12  TDVKVFNLTAGMGCASGLIIDLAKDLQVHRNTYAVVSTENITLNWYFGNDRSMLIPNCLFRMGAAVLLSNRRSLSRR 231
AtKCS13  TDVKVFNLTAGMGCASGLIIDLAKDLQVHRNTYAVVSTENITLNWYFGNDRSMLIPNCLFRMGAAVLLSNRRSLSRR 263
AtKCS14  TDVKVFNLTAGMGCASGLIIDLAKDLQVHRNTYAVVSTENITLNWYFGNDRSMLIPNCLFRMGAAVLLSNRRSLSRR 256
AtKCS15  HNIKSYNLGGMGCSAGLISIDLAKDLQVHRNTYAVVSTENITLNWYFGNDRSMLIPNCLFRMGAAVLLSNRRIDRCR 283
AtKCS16  DNIKSYNLGGMGCSAGLISIDLAKDLQVHRNTYAVVSTENITLNWYFGNDRSMLIPNCLFRMGAAVLLSNRRIDRCR 281
AtKCS17  GNIKSYNLGGMGCSAGLISIDLAKDLQVHRNTYAVVSTENITLNWYFGNDRSMLIPNCLFRMGAAVLLSNRRPDRKR 285
AtKCS18  SNIKSYNLGGMGCSAGLISIDLAKDLQVHRNTYAVVSTENITLNWYFGNDRSMLIPNCLFRMGAAVLLSNRRSDRCR 280
AtKCS19  EDIKSYNLGGMGCSAGLISIDLAKDLQVHRNTYAVVSTENITLNWYFGNDRSMLIPNCLFRMGAAVLLSNRRREARR 289
AtKCS20  GNVLSYNLGGMGCSAGLISIDLAKDLQVHRNTYAVVSTENITLNWYFGNDRSMLIPNCLFRMGAAVLLSNRRDFRH 318
AtKCS21  GNVLSYNLGGMGCSAGLISIDLAKDLQVHRNTYAVVSTENITLNWYFGNDRSMLIPNCLFRMGAAVLLSNRRSDRCR 301
AtKCS22  PDVKSYNLGGMGCSAGLISIDLAKDLQVHRNTYAVVSTENITLNWYFGNDRSMLIPNCLFRMGAAVLLSNRRVDRAD 248
SbKCS10  ADVRETNLGMGCAGLISIDLAKDLQVHRNTYAVVSTENITLNWYFGNDRSMLIPNCLFRMGAAVLLSNRRADAGR 267
SbKCS11  PDVKSYNLGGMGCSAGLISIDLAKDLQVHRNTYAVVSTENITLNWYFGNDRSMLIPNCLFRMGAAVLLSNRRSP---ER 279
SbKCS12  ADVQVNLGGMGCSAGLISIDLAKDLQVHRNTYAVVSTENITLNWYFGNDRSMLIPNCLFRMGAAVLLSNRRSP---ER 274
SbKCS13  GNVLSYNLGGMGCSAGLISIDLAKDLQVHRNTYAVVSTENITLNWYFGNDRSMLIPNCLFRMGAAVLLSNRRSDRCR 308
SbKCS14  GNVSYNLGMGCASGLISIDLAKDLQVHRNTYAVVSTENITLNWYFGNDRSMLIPNCLFRMGAAVLLSNRRSDRCR 305
SbKCS15  GNVSYNLGMGCASGLISIDLAKDLQVHRNTYAVVSTENITLNWYFGNDRSMLIPNCLFRMGAAVLLSNRRSDRCR 300
SbKCS16  DDVQVNLGGMGCSAGLISIDLAKDLQVHRNTYAVVSTENITLNWYFGNDRSMLIPNCLFRMGAAVLLSNRRDFRH 189
SbKCS17  ADVQVNLGGMGCSAGLISIDLAKDLQVHRNTYAVVSTENITLNWYFGNDRSMLIPNCLFRMGAAVLLSNRRSP---ER 257
SbKCS18  GNIRSYNLGGMGCSAGLISIDLAKDLQVHRNTYAVVSTENITLNWYFGNDRSMLIPNCLFRMGAAVLLSNRRADRCR 308
SbKCS19  GNIASYNLGMGCASGLISIDLAKDLQVHRNTYAVVSTENITLNWYFGNDRSMLIPNCLFRMGAAVLLSNRRSARRR 300
SbKCS20  SDVRVNLGGMGCSAGLISIDLAKDLQVHRNTYAVVSTENITLNWYFGNDRSMLIPNCLFRMGAAVLLSNRRSP---DK 280
SbKCS21  SGRVSNLGMGCASGLISIDLAKDLQVHRNTYAVVSTENITLNWYFGNDRSMLIPNCLFRMGAAVLLSNRRSKN---NK 278
SbKCS22  STHHVNLMGMCASGLISIDLAKDLQVHRNTYAVVSTENITLNWYFGNDRSMLIPNCLFRMGAAVLLSNRRSP---DM 277
SbKCS23  GDVRNHLGMGCASGLISIDLAKDLQVHRNTYAVVSTENITLNWYFGNDRSMLIPNCLFRMGAAVLLSNRRSP---SM 277
SbKCS24  RDQVNLGMGCASGLISIDLAKDLQVHRNTYAVVSTENITLNWYFGNDRSMLIPNCLFRMGAAVLLSNRRSP---AN 250
SbKCS25  GNVLSYNLGGMGCSAGLISIDLAKDLQVHRNTYAVVSTENITLNWYFGNDRSMLIPNCLFRMGAAVLLSNRRSDRCR 304

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	* 340	* 360	* 380	* 400	
AtKCS1	SKYSLVNVVRRHKGSDKNNNOVYQKEDERTTIGVSLARELMSVAGDALKTNITTLGPMVLPSEOLMELISLVKRRMFK	394			
AtKCS2	SKYQIHTVRRHKGSDENANNOVYQREDNNKQIGVSLKLNLMALAGEALKTNITTLGFLVLPSEOLLEFATLVARKVFN	384			
AtKCS3	AMFKRCLVRRHHGAREDSNACVQKEDDELHICVHDKTLPKAATRAFDINLKVITPKILPVTELRMMLCLLKK--KL	309			
AtKCS4	SKYRVHVVRRHKGADKARNOVYQEDDTRTEVSLSKDLMALAGETLTKNITTLGFLVLPSEOLLEFMTLVVKKLNF	389			
AtKCS5	AKYKICHLVRRHKGADKSNVVMQDDKNGVGINLSKDLMTIAGEALKANITTLGFLVLPSEOLLELSLGRKIFN	367			
AtKCS6	AKYKSHLVRHKGADKSSYVYQEDDEKHNHVGGINLSKDLMALAGEALKANITTLGFLVLPSEOLLELTSLGRKIFN	372			
AtKCS7	AKYKQHLVRRHKGSDTESVEMVQVDEEKVGVALLSKDLVRSKALKINVVQLGPRVLPSEOLKIIISFQOR---K	327			
AtKCS8	AKYEVVHTVRRHKGSDRSSEVATQEDDEEILGVTLTKNLPVARTLKNITATLGLVLPSEOLLEKFAFIFVKKYFK	351			
AtKCS9	SKYKLVHTVRRHKGAVEKAGNOVYQEDDNEKTKVSLSKDLMALAGEALKANITTLGFLVLPSEOLLEFMTLVTKKLFN	389			
AtKCS10	AKYREHIVRRHKGADRSRSVYQEDDEQCFKHKISRLDMEVCGEALKTNITTLGFLVLPSEOLLEFAALTRRTFSP	397			
AtKCS11	SKYEVVTVRRHKGADKRCGCIQEDDSASKIEMTLSEKDLMAVAGDALKTNITTLGFLVLPSEOLLEFATLVGRKLFK	380			
AtKCS12	AMFKKCMVRRHHGAREESNCCIQAEDDQRFVYKCNLPKAATRAFVENLKVITPKILPVTELRMMLKLLIKKIKI	311			
AtKCS13	SKYEVHTVRRHKGSSKHTQAEKEDSKIVGVALSKDLTVVAGDSLTKNLTALGFLVLPSEOLLELFLVKSRLFR	343			
AtKCS14	SKYEVHTVRRHKGSSKHTQAEKEDSKIVGVALSKDLTVVAGDTLTKNLTALGFLVLPSEOLLELFLVKSRLFR	336			
AtKCS15	AKYQMQVLRHKGMEITSSKSTELREDRDKQGLYVSKDLVMEVGRHALKANITATLGRLEP-----	344			
AtKCS16	AKYEVVHTVRRHKGADRSSEVATQEDDEEILGVTLTKNLPVARTLKNITATLGLVLPSEOLLEKFAFIFVKKYFK	361			
AtKCS17	SKYKLVHTVRRHKGSDENANNOVYQEDDECLTKVSLSKDLMALAGEALKTNITSLGFLVLPSEOLLEFATVAKRIFN	365			
AtKCS18	SKYKLVHTVRRHKGADKRSRVOQEDDESEKICNLSKDLITNVAGTHTKNIATLGLVLPSEOLLEKFAFIFVAKRLLK	369			
AtKCS19	ALMKLVTVRRHKGADDEANSCICIMEDRDGHPFLTRYLKKAARALTKNLQVLEHRLVVKELTRAIVRALK----	309			
AtKCS20	SKYQIHTVRRHKGADNAGNOVYQREDNTEKIGVSLKLNLMALAGEALKTNITTLGFLVLPSEOLLEFATLVARKVFK	391			
AtKCS21	AKYEVHVVRRHKGADKRAKRCVYQEDDSDKQMSITKDVISVAGDMLKMLTSLGFLVLPSEOLLEKFAFIFVQIHLCKKLLK	334			
SbKCS1	AKLRRHVRRHKGADSEANALQMEDDARPCFHLGRELPRAAVHAFIHNLRVLAQKVLPLPELRLTCATFSARL--	311			
SbKCS2	AKYQIHTVRRHKGADKRSRVOQEDDEECVGVSLSKDLMAVAGEALRNTITTLGFLVLPSEOLLELRAATVLRNRFVFR	317			
SbKCS3	AKYRLLHTVRRHKGADDEANSCVYQEDDGAESVGVSLSKDLMAVAGDALKTNITTLGFLVLPSEOLLEKLSLVRVLR	393			
SbKCS4	AKMEKRCVRAHIGASDAHAALQREDGSRVCSLSPALPKAVRAFAVLRRLARVRLVVAELARLARHARRLFF	310			
SbKCS5	AKYRLLHTVRRHKGADDEANNOVYQREDDEKVGVSARELMAVAGDALKTNITTLGFLVLPSEOLLEKLSLVMRRVFR	394			
SbKCS6	AKYRLLHTVRRHKGADKRAKRCVYQEDDQCFKHKISRLDMEVCGEALKTNITTLGFLVLPSEOLLEFFRLVGRKLFN	369			
SbKCS7	AKYQIHTVRRHKGADKRAKRCVYQEDDQCFKHKISRLDMEVCGEALKTNITTLGFLVLPSEOLLEFAGVLRFRHIFP	398			
SbKCS8	AKYRLLHTVRRHKGADDEANNOVYQEDDGAESVGVSLSKDLMAVAGDALKTNITTLGFLVLPSEOLLELRAALLRRAA-	380			
SbKCS9	AKYEVVHTVRRHKGSDAANNAALQMEDDEENLGVALLKDLVRSVAGAAARRHTALGPRVLPSEOLLEKFAFIFVARRVARY---	325			
SbKCS10	VKYREASLTVRRHKGADKRAKRCVYQEDDQCFKHKISRLDMEVCGEALKTNITTLGFLVLPSEOLLELRAATVLRNRFVFR	347			
SbKCS11	ARFRGRVRRHKGADKRAKRCVYQEDDQCFKHKISRLDMEVCGEALKTNITTLGFLVLPSEOLLELRAATVLRNRFVFR	359			
SbKCS12	ARFRGRVRRHKGADKRAKRCVYQEDDQCFKHKISRLDMEVCGEALKTNITTLGFLVLPSEOLLELRAATVLRNRFVFR	354			
SbKCS13	AKYEVVHTVRRHKGADKRAKRCVYQEDDQCFKHKISRLDMEVCGEALKTNITTLGFLVLPSEOLLELRAATVLRNRFVFR	388			
SbKCS14	SKYKLVHTVRRHKGADKRAKRCVYQEDDQCFKHKISRLDMEVCGEALKTNITTLGFLVLPSEOLLELRAATVLRNRFVFR	385			
SbKCS15	AKYQIHTVRRHKGADKRAKRCVYQEDDQCFKHKISRLDMEVCGEALKTNITTLGFLVLPSEOLLELRAATVLRNRFVFR	380			
SbKCS16	ARFRGRVRRHKGADKRAKRCVYQEDDQCFKHKISRLDMEVCGEALKTNITTLGFLVLPSEOLLELRAATVLRNRFVFR	269			
SbKCS17	ARFRGRVRRHKGADKRAKRCVYQEDDQCFKHKISRLDMEVCGEALKTNITTLGFLVLPSEOLLELRAATVLRNRFVFR	337			
SbKCS18	AKYRLLHTVRRHKGADKRAKRCVYQEDDQCFKHKISRLDMEVCGEALKTNITTLGFLVLPSEOLLELRAATVLRNRFVFR	388			
SbKCS19	SKYQIHTVRRHKGADKRAKRCVYQEDDQCFKHKISRLDMEVCGEALKTNITTLGFLVLPSEOLLELRAATVLRNRFVFR	380			
SbKCS20	ARFRGRVRRHKGADKRAKRCVYQEDDQCFKHKISRLDMEVCGEALKTNITTLGFLVLPSEOLLELRAATVLRNRFVFR	360			
SbKCS21	ARFRGRVRRHKGADKRAKRCVYQEDDQCFKHKISRLDMEVCGEALKTNITTLGFLVLPSEOLLELRAATVLRNRFVFR	357			
SbKCS22	ARFRGRVRRHKGADKRAKRCVYQEDDQCFKHKISRLDMEVCGEALKTNITTLGFLVLPSEOLLELRAATVLRNRFVFR	357			
SbKCS23	SRFKMHTVRRHKGADKRAKRCVYQEDDQCFKHKISRLDMEVCGEALKTNITTLGFLVLPSEOLLELRAATVLRNRFVFR	357			
SbKCS24	AKYQIHTVRRHKGADKRAKRCVYQEDDQCFKHKISRLDMEVCGEALKTNITTLGFLVLPSEOLLELRAATVLRNRFVFR	330			
SbKCS25	SKYEVHTVRRHKGADKRCGCIQEDDSASKIEMTLSEKDLMAVAGDALKTNITTLGFLVLPSEOLLELRAATVLRNRFVFR	384			

	* 420	* 440	* 460	* 480	
AtKCS1	LK---VKPVIIPDFKLAFFHFCIHAGGRAVLDELOKNEQLKDWHEPSSRMTLHRFGNTSSSSLYWELAYEAKGRVKAQDR	471			
AtKCS2	VKK---IKPVIIPDFKLAFFHFCIHAGGRAVLDELOKNEQLKDWHEPSSRMTLHRFGNTSSSSLYWELAYEAKGRVKAQDR	462			
AtKCS3	RSSKAGVKAGINFKTGIDHFCIHAGGRAVLDELOKNEQLKDWHEPSSRMTLHRFGNTSSSSLYWELAYEAKGRVKAQDR	389			
AtKCS4	---GKVPVIIPDFKLAFFHFCIHAGGRAVLDELOKNEQLKDWHEPSSRMTLHRFGNTSSSSLYWELAYEAKGRVKAQDR	466			
AtKCS5	---PKWVPVIIPDFKLAFFHFCIHAGGRAVLDELOKNEQLKDWHEPSSRMTLHRFGNTSSSSLYWELAYEAKGRVKAQDR	444			
AtKCS6	---PKWVPVIIPDFKLAFFHFCIHAGGRAVLDELOKNEQLKDWHEPSSRMTLHRFGNTSSSSLYWELAYEAKGRVKAQDR	449			
AtKCS7	WGM---KELVIIPDFKLAFFHFCIHAGGRAVLDELOKNEQLKDWHEPSSRMTLHRFGNTSSSSLYWELAYEAKGRVKAQDR	405			
AtKCS8	P---ELRN---YIPDFKLAFFHFCIHAGGRAVLDELOKNEQLKDWHEPSSRMTLHRFGNTSSSSLYWELAYEAKGRVKAQDR	428			
AtKCS9	---SKLVPVIIPDFKLAFFHFCIHAGGRAVLDELOKNEQLKDWHEPSSRMTLHRFGNTSSSSLYWELAYEAKGRVKAQDR	466			
AtKCS10	AAKDLKSPYIPDYFLAFHFCIHAGGRAVLDELOKNEQLKDWHEPSSRMTLHRFGNTSSSSLYWELAYEAKGRVKAQDR	477			
AtKCS11	MK---IKPVIIPDFKLAFFHFCIHAGGRAVLDELOKNEQLKDWHEPSSRMTLHRFGNTSSSSLYWELAYEAKGRVKAQDR	457			
AtKCS12	RQN---LKAGINFKTGIDHFCIHAGGRAVLDELOKNEQLKDWHEPSSRMTLHRFGNTSSSSLYWELAYEAKGRVKAQDR	388			
AtKCS13	LK---VSPVVPDFKLAFFHFCIHAGGRAVLDELOKNEQLKDWHEPSSRMTLHRFGNTSSSSLYWELAYEAKGRVKAQDR	420			
AtKCS14	LK---VSPVVPDFKLAFFHFCIHAGGRAVLDELOKNEQLKDWHEPSSRMTLHRFGNTSSSSLYWELAYEAKGRVKAQDR	413			
AtKCS15	---SEFHLKLAASSKRVLDDIHKDLKTEENMPSRMTLHRFGNTSSSSLYWELAYEAKGRVKAQDR	409			
AtKCS16	P---KLKH---YIPDFKLAFFHFCIHAGGRAVLDELOKNEQLKDWHEPSSRMTLHRFGNTSSSSLYWELAYEAKGRVKAQDR	438			
AtKCS17	D---KKKVPVIIPDFKLAFFHFCIHAGGRAVLDELOKNEQLKDWHEPSSRMTLHRFGNTSSSSLYWELAYEAKGRVKAQDR	443			
AtKCS18	D---KIKHYVVPDFKLAFFHFCIHAGGRAVLDELOKNEQLKDWHEPSSRMTLHRFGNTSSSSLYWELAYEAKGRVKAQDR	438			
AtKCS19	RT----GIGNLATGLCHFCIHAGGRAVLDELOKNEQLKDWHEPSSRMTLHRFGNTSSSSLYWELAYEAKGRVKAQDR	385			
AtKCS20	VKK---IKPVIIPDFKLAFFHFCIHAGGRAVLDELOKNEQLKDWHEPSSRMTLHRFGNTSSSSLYWELAYEAKGRVKAQDR	469			
AtKCS21	IYE---NSSVTPNFHTAFHFCIHAGGRAVLDELOKNEQLKDWHEPSSRMTLHRFGNTSSSSLYWELAYEAKGRVKAQDR	412			
SbKCS1	---SN---HLTIRMKAGVDFHFCIHAGGRAVLDELOKNEQLKDWHEPSSRMTLHRFGNTSSSSLYWELAYEAKGRVKAQDR	386			
SbKCS2	AM---VRAVLPDFKLAFFHFCIHAGGRAVLDELOKNEQLKDWHEPSSRMTLHRFGNTSSSSLYWELAYEAKGRVKAQDR	394			
SbKCS3	SRG---VRPVIIPDFKLAFFHFCIHAGGRAVLDELOKNEQLKDWHEPSSRMTLHRFGNTSSSSLYWELAYEAKGRVKAQDR	471			
SbKCS4	QFPGGDAAAKINFKAGVDFHFCIHAGGRAVLDELOKNEQLKDWHEPSSRMTLHRFGNTSSSSLYWELAYEAKGRVKAQDR	390			
SbKCS5	VKG---VRPVIIPDFKLAFFHFCIHAGGRAVLDELOKNEQLKDWHEPSSRMTLHRFGNTSSSSLYWELAYEAKGRVKAQDR	472			
SbKCS6	---KAWKVPVIIPDFKLAFFHFCIHAGGRAVLDELOKNEQLKDWHEPSSRMTLHRFGNTSSSSLYWELAYEAKGRVKAQDR	446			
SbKCS7	---SK---AAPVIIPDFKLAFFHFCIHAGGRAVLDELOKNEQLKDWHEPSSRMTLHRFGNTSSSSLYWELAYEAKGRVKAQDR	475			
SbKCS8	VK---VKPVIIPDFKLAFFHFCIHAGGRAVLDELOKNEQLKDWHEPSSRMTLHRFGNTSSSSLYWELAYEAKGRVKAQDR	457			
SbKCS9	---KAAAAPVDPDFKLAFFHFCIHAGGRAVLDELOKNEQLKDWHEPSSRMTLHRFGNTSSSSLYWELAYEAKGRVKAQDR	402			
SbKCS10	DNN-TAVPPLPDFKLAFFHFCIHAGGRAVLDELOKNEQLKDWHEPSSRMTLHRFGNTSSSSLYWELAYEAKGRVKAQDR	426			
SbKCS11	CWG-KVRLVRRPDFKLAFFHFCIHAGGRAVLDELOKNEQLKDWHEPSSRMTLHRFGNTSSSSLYWELAYEAKGRVKAQDR	438			
SbKCS12	GR---KVRLVRRPDFKLAFFHFCIHAGGRAVLDELOKNEQLKDWHEPSSRMTLHRFGNTSSSSLYWELAYEAKGRVKAQDR	432			
SbKCS13	MKG---VKPVIIPDFKLAFFHFCIHAGGRAVLDELOKNEQLKDWHEPSSRMTLHRFGNTSSSSLYWELAYEAKGRVKAQDR	466			
SbKCS14	VRG---LRPVIIPDFKLAFFHFCIHAGGRAVLDELOKNEQLKDWHEPSSRMTLHRFGNTSSSSLYWELAYEAKGRVKAQDR	463			
SbKCS15	VQSSRSRPVIIPDLTAFHFCIHAGGRAVLDELOKNEQLKDWHEPSSRMTLHRFGNTSSSSLYWELAYEAKGRVKAQDR	460			
SbKCS16	AG---TTKPYRPAKGVDFHFCIHAGGRAVLDELOKNEQLKDWHEPSSRMTLHRFGNTSSSSLYWELAYEAKGRVKAQDR	347			
SbKCS17	AG---TTKPYRPAKGVDFHFCIHAGGRAVLDELOKNEQLKDWHEPSSRMTLHRFGNTSSSSLYWELAYEAKGRVKAQDR	415			
SbKCS18	---AKMKVPVIIPDFKLAFFHFCIHAGGRAVLDELOKNEQLKDWHEPSSRMTLHRFGNTSSSSLYWELAYEAKGRVKAQDR	465			
SbKCS19	RK---VKPVIIPDFKLAFFHFCIHAGGRAVLDELOKNEQLKDWHEPSSRMTLHRFGNTSSSSLYWELAYEAKGRVKAQDR	457			
SbKCS20	GR---FKPVIIPDFKLAFFHFCIHAGGRAVLDELOKNEQLKDWHEPSSRMTLHRFGNTSSSSLYWELAYEAKGRVKAQDR	437			
SbKCS21	GKE---VPLVVPDFKLAFFHFCIHAGGRAVLDELOKNEQLKDWHEPSSRMTLHRFGNTSSSSLYWELAYEAKGRVKAQDR	427			
SbKCS22	GR---VKLVIIPDFKLAFFHFCIHAGGRAVLDELOKNEQLKDWHEPSSRMTLHRFGNTSSSSLYWELAYEAKGRVKAQDR	434			
SbKCS23	KR---IKLVIIPDFKLAFFHFCIHAGGRAVLDELOKNEQLKDWHEPSSRMTLHRFGNTSSSSLYWELAYEAKGRVKAQDR	434			
SbKCS24	KKS---SWQVVKFGLAFHFCIHAGGRAVLDELOKNEQLKDWHEPSSRMTLHRFGNTSSSSLYWELAYEAKGRVKAQDR	408			
SbKCS25	MK---IKPVIIPDFKLAFFHFCIHAGGRAVLDELOKNEQLKDWHEPSSRMTLHRFGNTSSSSLYWELAYEAKGRVKAQDR	461			

ACP_syn_III_C domain

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*      500      *      520      *
AtKCS1 LWQIAFGSGGFKCNSAVKALRPVSTTEEMTNATAGSDQYEVKVVQ----- : 516
AtKCS2 TWQIAFGSGGFKCNSAVWRALRTID-PSKENPVIDEHEFEVVPVPRTPVTSSSESER : 517
AtKCS3 VVMISFGAGGFKCNSCVWEVVRDLNVGEA-NVNHCIHQYEPKS-ILNPFPEKYGWI : 443
AtKCS4 VWQIAFGSGGFKCNSAWEALRHVK-PSNNSPEWDCIDKYEVVTLISY----- : 510
AtKCS5 VWQIAFGSGGFKCNSAVWKNRTIK-TPTDGAISDCHERYEVFVPEVVKL----- : 492
AtKCS6 VWQIAFGSGGFKCNSAVWKNRTIK-TPKDGWISDCHERYEVFVPEVVKL----- : 497
AtKCS7 VWQIAFGSGGFKCNSAVWKNRTIK-TPKDGWISDCHERYEVFVPEVVKL----- : 459
AtKCS8 IWQIALGSGGFKCNSVWVALRDVK-PSANSPEWDCIDRYEVEIDI----- : 472
AtKCS9 VWQIAFGSGGFKCNSVWVALRNVK-PSVSSPEWDCIDRYEVEIDF----- : 510
AtKCS10 VWQIAFGSGGFKCNSVWVALRNVK-PSVSSPEWDCIDRYEVEIDF----- : 520
AtKCS11 IWQIAFGSGGFKCNSVWVALRNVK-PSVSSPEWDCIDRYEVEIDF----- : 505
AtKCS12 VVMISFGAGGFKCNSCVWEVVRDLTGGES-NVNHCIHQYEPKS-ILNPFPEKYGWI : 442
AtKCS13 VWQIAFGSGGFKCNSVWVALRNVK-PSVSSPEWDCIDRYEVEIDF----- : 464
AtKCS14 VWQIAFGSGGFKCNSVWVALRNVK-PSVSSPEWDCIDRYEVEIDF----- : 457
AtKCS15 VWQIAFGSGGFKCNSVWVALRNVK-PSVSSPEWDCIDRYEVEIDF----- : 443
AtKCS16 IWQIALGSGGFKCNSVWVALRNVK-PSVSSPEWDCIDRYEVEIDF----- : 486
AtKCS17 VWQIAFGSGGFKCNSVWVALRNVK-PSVSSPEWDCIDRYEVEIDF----- : 487
AtKCS18 AWQIALGSGGFKCNSVWVALRNVK-ASANSPEWDCIDRYEVEIDF----- : 493
AtKCS19 ILMVSMAGGFKCNSVWVALRNVK-ASANSPEWDCIDRYEVEIDF----- : 436
AtKCS20 TWQIAFGSGGFKCNSAVWVALRNVK-ASANSPEWDCIDRYEVEIDF----- : 520
AtKCS21 IWQIAFGSGGFKCNSVWVALRNVK-ASANSPEWDCIDRYEVEIDF----- : 463
SbKCS1 ILMVTFGAGGFKCNSCVWEVVRDLTGGES-NVNHCIHQYEPKS-ILNPFPEKYGWI : 436
SbKCS2 VWQIAFGSGGFKCNSAVWVALRNVK-ASANSPEWDCIDRYEVEIDF----- : 448
SbKCS3 VWQIAFGSGGFKCNSAVWVALRNVK-ASANSPEWDCIDRYEVEIDF----- : 516
SbKCS4 ILMVTFGAGGFKCNSCVWEVVRDLTGGES-NVNHCIHQYEPKS-ILNPFPEKYGWI : 440
SbKCS5 VWQIAFGSGGFKCNSAVWVALRNVK-ASANSPEWDCIDRYEVEIDF----- : 517
SbKCS6 VWQIAFGSGGFKCNSAVWVALRNVK-ASANSPEWDCIDRYEVEIDF----- : 494
SbKCS7 VWQIAFGSGGFKCNSAVWVALRNVK-ASANSPEWDCIDRYEVEIDF----- : 519
SbKCS8 VWQIAFGSGGFKCNSAVWVALRNVK-ASANSPEWDCIDRYEVEIDF----- : 512
SbKCS9 ILMVTFGAGGFKCNSCVWEVVRDLTGGES-NVNHCIHQYEPKS-ILNPFPEKYGWI : 452
SbKCS10 VWQIAFGSGGFKCNSAVWVALRNVK-ASANSPEWDCIDRYEVEIDF----- : 470
SbKCS11 VVMISFGAGGFKCNSCVWEVVRDLTGGES-NVNHCIHQYEPKS-ILNPFPEKYGWI : 488
SbKCS12 ILMVTFGAGGFKCNSCVWEVVRDLTGGES-NVNHCIHQYEPKS-ILNPFPEKYGWI : 484
SbKCS13 VWQIAFGSGGFKCNSAVWVALRNVK-ASANSPEWDCIDRYEVEIDF----- : 517
SbKCS14 AWQIAFGSGGFKCNSAVWVALRNVK-ASANSPEWDCIDRYEVEIDF----- : 514
SbKCS15 VWQIAFGSGGFKCNSAVWVALRNVK-ASANSPEWDCIDRYEVEIDF----- : 515
SbKCS16 LCMISFSGIDCSVWVALRNVK-ASANSPEWDCIDRYEVEIDF----- : 396
SbKCS17 LCMISFSGIDCSVWVALRNVK-ASANSPEWDCIDRYEVEIDF----- : 464
SbKCS18 IWQIAFGSGGFKCNSVWVALRNVK-ASANSPEWDCIDRYEVEIDF----- : 518
SbKCS19 TWQIAFGSGGFKCNSAVWVALRNVK-ASANSPEWDCIDRYEVEIDF----- : 505
SbKCS20 VVMISFGAGGFKCNSCVWEVVRDLTGGES-NVNHCIHQYEPKS-ILNPFPEKYGWI : 484
SbKCS21 -----VYPTIPQC----- : 435
SbKCS22 VVMISFGAGGFKCNSCVWEVVRDLTGGES-NVNHCIHQYEPKS-ILNPFPEKYGWI : 476
SbKCS23 ILMVTFGAGGFKCNSCVWEVVRDLTGGES-NVNHCIHQYEPKS-ILNPFPEKYGWI : 474
SbKCS24 VVMISFGAGGFKCNSCVWEVVRDLTGGES-NVNHCIHQYEPKS-ILNPFPEKYGWI : 453
SbKCS25 IWQIAFGSGGFKCNSVWVALRNVK-ASANSPEWDCIDRYEVEIDF----- : 512

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