

“Class I”

AtJA21 : MSS-SMECSEFVGSRRFT---GKKPSFSOTCSRLSQYLK-ENGSEGDLS-LGMACKPDVNGTL-----GNSRQPTTMSIFPCEASNMDSMV-----QDVKPTNLFERQPSFSSSS : 100
AtJA22 : MSSSFAECWDFSG-----RKPSFSOTCTRLSRYLK-ERKSEGDLS-LGMTCKPDVN-----GGSRQP-TMMNIFPCEASGMDSSAG-----QEDIRPKTMFIRQSSSFSSSS : 93
PpJA21 : MSSSSETLEVS---GQRGLRMAEKFSSTOTCSMLCOYLK-ERKSEGDLS-LLMACNMQOSNGTGTPEMFHQKAPP--VNFFPFMENSr-----NLPATPGDFKSMLEFQQAGFGSSV : 107
VrJA21 : MSSSSDIADSGRFTGQRAPARGPEKPSFSOTCSLLSQYLK-ERKSEGDLS-LGMTCSLE---GNGTPESLRQTATTTTMMNIFEMTERSAGVS--GIPARNMNLKSMNLEFQQAGFGSSV : 112
NaJA2a : MASSEIVDSGKFSAG--GG---CKSFPSOTCNLLSQYLKERKSGSEGDLS-LGIHR-----AGTTTMDLIFEMIEKSGES-----NPKKPMNLFEPQT----- : 79
NtJA23 : MASSEIVDSGRFAAAAAGG---CKSNFSOTCNLLSQYLKERKSGSEGDLS-LGIHR-----AGTTTMDLIFEMIEKSGES-----NPKKSMNLFEPQT----- : 81
SlJA21 : MASSEIVDSGRFAGQ-----KSHFSHTCNLLSQYLKERKSGSLGDLS-LIMHRNFDs-----AGSTTMDLIFEMIEKSGE-----LVCKSMNLFEPQGG----- : 80
SlJA27 : MASSEIVDSGRFAGQ-----KSHFSHTCNLLSQYLKERKSGSLGDLS-LIMHRNFDs-----AGSTTMDLIFEMIEKSGE-----LVCKSMNLFEPQGG----- : 80
NaJA2d : MGLSEIVDSGKVTGQ-----KSCFSOTCNLLSQFLK-ERKSEGDINNLGIYR-SFEPTGNQ-----TTTTTMMNLEFEMIEKSGDS-----AEKKSCKPMNLFEPQEV----- : 88
NtJA21 : MGSSEIVDSGKVSQ-----KSCFSOTCNLLSQFLK-ERKSEGDINNLGIYR-SFEPTGNQ-----TTTTTMMNLEFEMIEKSGDS-----AEKKSCKPMNLFEPQEV----- : 88
SlJA22 : MGSSENMDSGKVTGQ-----KSCFSOTCNLLSQFLK-ERKSEGDINNLGIYR-SFEPTGNQ-----TTTTTMMNLEFEMIEKSGDS-----AEKKSCKPMNLFEPQEV----- : 101
PpJA25 : MA-----ERVNHFAOTCNLLSQYLK-PRR-----SLQVP-----TMDLITN-----METGP--AAETPSSKPSILFFPQFAKN----- : 60
VrJA22 : MSNSPEFSDFAGRKS-GK---LPIRSNFSOTCNLLSQFLK-ERKSEGDLSLGMAGKSETKGRPESEF-----KSSITMSFDLANKDKSSEASGQ--NGGSSNLKSSIFYEQFAGFGSLA : 106
NaJA2h : MSNSQNSFDGGRFRAG--K---APERSNFVOTCNLLSQFLK-ERKSEGDINNLGIYR-SFEPTGNQ-----TEAATMDLITN-----MENPS--IETKEQEQKSLIFVRQSAVTESSR : 99
SlJA23 : MSN---LCDARRRNGNGK---APERSNFVOTCNLLSQFLK-ERKSEGDINNLGIYR-SFEPTGNQ-----TEAATMDLITN-----MEKPS--IDLTKKEHKSVLVV---TTESRR : 91
SlJA24 : MSN---RQLCSL---DSEKSHLMNTCNLLTOFEN-GRANIRDINLGIYR-SFEPTGNQ-----AUKDLITN-----MEELS--TKTTEQDQKLIHVE----- : 77
AtJA25 : MSSSSENAKAQ-----APEKSFTRRCSLLSRYLK-ERKSEGNIDLGLYRKPDSSSLALPG-----KFDPPGKONAMHKAGHSK-----GEPSTSSGGKVK----- : 84
AtJA26 : MSTG-----Q-----APEKSNFSORCSLLSRYLK-ERKSEGNINMGLARKSD--LELAG-----KFDLKGQCNVKKVETSETRPFKLIQKFSIGEASTSTEDKAIYI----- : 90

AtJA21 : SSLFKEDVLKMTQTTRSVKPESSQTAELTIFYGGGVVFNDFSAEKAKEVINLASKGTANS-----LAKNQTDIRSN-----IATIANQVPHPRKTTTQEP--- : 190
AtJA22 : SSGTKEDVQMIKETTTSVKPESQSAELTIFYGGGVVFNDFSAEKAKEVIDLANKSASKS-----FTCFPTAEVNNNHSAYSQKEIASSPNFVCSPAKTAQEP--- : 191
PpJA21 : PRG-DVPMQADSSVKKSVPGEPQKAQMTIFYGGGVVFNDFPAPAKAKEVMLLASKESSHSQAQASIPAKSNNVFASHLGNPMNNSSS-----VPPSANMFPKFGNQVIOEA--- : 214
VrJA21 : SKD-DAPKIVNSSVKKSGNVEPQTAQMTIFYGGGVVFNDFPAPAKAKEVMLLAGMGSSP-----VPSTT-----VKNPIDAGGM-----APSTPNVVPNFANSLIQER--- : 204
NaJA2a : -----EAKSE-----SEKAQMTIFYGGGVVFNDFPAPAKAKEIMLMASCAKGN-----NNS-----TTQIQKTAESAL--- : 137
NtJA23 : -----EAKSE-----PEKAQMTIFYGGGVVFNDFPAPAKAKEIMLMASCTQGN-----NNC-----ATQIQKTAESAS--- : 139
SlJA21 : -----MKAESE-----PEKAQMTIFYGGGVVFNDFPAPAKAKEIMLMASCTQGN-----NPAKPLES-----AADLV--VPSFGKTSIQEN--- : 149
SlJA27 : -----MKAESE-----PEKAQMTIFYGGGVVFNDFPAPAKAKEIMLMASCTQGN-----NPAKPLES-----AADLV--VPSFGKTSIQEN--- : 149
NaJA2d : -----ISTTKSE-----PEKAQMTIFYGGGVVFNDFPAPAKAKEIMKLASKKNNNN-----NKQNLATNIFYYPMVNQN-----SAESV--TTNLTQELRSRT--- : 170
NtJA21 : -----ISTAKSE-----PEKAQMTIFYGGGVVFNDFPAPAKAKEIMKLATKKTNN-----KQNLASNIFYYPMVNQN-----SAESV--TTNFSQELRTRT--- : 168
SlJA22 : -----SKEQSTKKTESWKPDQPEKAQMTIFYGGGVVFNDFPAPAKAKEIMKLANKQNP-----NNFTYPMIKNQK-----TADQS--GVSFGNKLIQELP--- : 185
PpJA25 : --PEAV-----FS---NOFGSAQMTIFYGGGVVFNDFPAPAKAKEIMNEATKGSski-----SSGFVSN-GIDKFG-----SASVTKMVASEPNIAANSQDI-- : 141
VrJA22 : SIDEAINMADFRKSAT---TESETSQMTIFYGGGVVFNDFPAPAKAKEVMLLAKGTPQN-----TSGFLSTSGPEKIN-----TGSSTAPSPSIPASATTPNP-- : 198
NaJA2h : DMEVAVNEPSTSKAP---KEPKAAQLTMFYGGGVVFNDFPAPAKAKEVMLLASKGCPQS-----SFGTFHTTTIDKIN-----TSATAAATASLTCNKTINQLKPEST : 193
SlJA23 : EKEAAVNEPSTSKAP---KEPKAAQLTMFYGGGVVFNDFPAPAKAKEVMLLASKGCPQS-----SFGTFQAINIDKIN-----TCS--PAPASLTSNRDTSVAP-- : 181
SlJA24 : --KSAINKASGSEIPH---KEQKLAQLSIFYGGGVVFNDFPAPAKAKEVMLLASKGISNN-----SCAIFQPTTTQTN-----GSN----- : 150
AtJA25 : -----DVADLSESP---GSSQLTIFFGGGVVFNDFPAPAKAKEIMVAKQAKPVTEI-----NIQPIINDENN-----NNKSSMVLPLDNEPTDNNHL-- : 165
AtJA26 : -----DLSEPAKVAFESGNSQLTIFFGGGVVFNDFPAPAKAKEIMVAKKANHVAVD-----SKNS--QSHMN-----LDKSNVVIPLDNEPTSSG--- : 169

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AtJA21 : -----IQSSPTPLT-ELFIARRASLDRFLEKRRKDRVTSKAPYQICDPAKASSN : 237
AtJA22 : -----IQPNPASLACELEIARRASLDRFLEKRRKDRITSKAPYQIDGSAEASSK : 239
FpJA21 : -----PKPSPQPIVCDLEIARRASLDRFLEKRRKDRINNKAPYOTSSSPAAGPAK : 262
VrJA21 : -----IQRPAQPVACELEIARRASLDRFLEKRRKDRITARAPYNTSNSPAGPHK : 252
NaJA2a : -----DLVPQPIISGDELEIARRASLDRFLEKRRKDRITAKAPYQISNTNKQ-AA : 184
NtJA23 : -----DLVPQPIISGDELEIARRASLDRFLEKRRKDRITAKAPYQISNTNKQ-AA : 186
SlJA21 : -----QMPNQPIVS-DLEIARRASLDRFLEKRRKDRITAKVPYHREEAAP-KK : 195
SlJA27 : -----QMPNQPIVS-DLEIARRASLDRFLEKRRKDRITAKVPYHREEAAP-KK : 195
NaJA2d : -----HVPISQSSVADLEIARRASLDRFLEKRRKDRITSTAPYQICNKNAASAK : 218
NtJA21 : -----HVPISQSSVADLEIARRASLDRFLEKRRKDRITSTAPYQICNKKIADSK : 216
SlJA22 : -----KLSMPQPSVADLEIARRASLDRFLEKRRKDRVTSIAPYQISNNKKS--K : 231
FpJA25 : -----QKVHS-----QVIGSELEIARRASLDRFLEKRRKDRITAPYQVNHORASPS : 188
VrJA22 : -----QALSSGTFIPASPAATPNFQAPLGSLEIARRASLDRFLEKRRKDRVNSKAPYQVNNPSRPSFK : 262
NaJA2h : VSIAPPQQKQQIIVHSYSKSDQLKPGYNSATPQVLQQQLVHVSSTSKTDQLKPVSTSSASQKQEQHQQTQSOTPGTSSS-ELFIARRASLDRFLEKRRKDRITARAPYQVWHNNP-LPS : 310
SlJA23 : -----QQQHLQIKPDCSCSAAPQKHNSFP-----LHVCSSTKTDQLKLSVSSAPLVEQEQQHQIQSQAAEISSSSLEIARRASLDRFLEKRRKDRITVRAPYQVVRNPLLPS : 286
SlJA24 : -----NFDLEIARRASLDRFLEKRRKDRITARAPYQV--NP-LQS : 187
AtJA25 : -----TKEQQQQEQNQIVERIARRASLDRFLEKRRKDRIVARAPYQVQVQAGHHRY : 216
AtJA26 : -----NNEDQETGQQHQVVERIARRASLDRFLEKRRKDRIVARAPYQVQVQHGSH--L : 218

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AtJA21 : POTTGNMSWGLAAEI----- : 253
AtJA22 : F---TNPWLSSR----- : 249
FpJA21 : PA--EGKSWLGLAAQPT----Q----- : 278
VrJA21 : PA--ESKSWLGLAAKSP----K----- : 268
NaJA2a : VS--ENKAWLGLGAQFP-VKAEQF----- : 205
NtJA23 : VS--ENKVWLGLGAQFP-VKAEQF----- : 207
SlJA21 : EE--HKAPWLGLGGQFA-VKTEQY----- : 216
SlJA27 : EE--HKAPWLGLGGQFA-VKTEQY----- : 216
NaJA2d : NE--ENKAWLGLGGKFPVPKTEQFF----- : 241
NtJA21 : NE--ENKAWLGLGAKFPVPKTEQFF----- : 239
SlJA22 : NE--DNKAWLGLGAQFV--KTEQYF----- : 252
FpJA25 : KSEEMSSRDQVEGQCSKQLELRLY----- : 213
VrJA22 : PEEDTNPKLNSDEGQSSKQLDLRL----- : 286
NaJA2h : SS---NNGESSKDCEDQLDLNFKL----- : 333
SlJA23 : SS---NTNGESSKDSQDLNFKL----- : 309
SlJA24 : SS---RTRG-----DHFDLNF----- : 200
AtJA25 : PPKPEIVTGPLEAGQSQRPPDNAIGQTMARIKSDGDKDDIMKIEEGQSSKDLDLRL : 274
AtJA26 : PPKPEMVAPS-IKSGQSSQHIATPPKPKAHNHMPMEVDK-----KEGQSSKNLELKL : 269

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“Class II”

AtJA23 : MERDFLGLGSKNSPITVKEETSSESRDSAPNRG----MNVSFNSKVSASSSCLSERPTQEDRHRKSGNYHLPHSGSFMPSVADVYSTRKAPYSSVGVRMFPNSNQHEETN-AVSM : 114
AtJA24 : MERDFLGLGSKLSPIITVKEETNE---DSAPSRGM---MDVSFNSKVGSGFCFLSEGTSCQETRVNTVNDHLLSS-----AMIQNCRTYFSSUCEDRVFPFGSSQDQTTITVSM : 103
PpJA24 : MERDFLGLNSKESVLVWRBEEINNDGCKDSGYARGAGGAHPFLNKVSALE-HLMFKAACDDKTKKMVSEFLSSGFMPISIT-ADAFDHCQKQAPCEIQNYFNHDRQDGFTHFSLTAYPM : 117
VrJA23 : MERDFMGLSSKEPLAVVKEEIEE-GGKDSAFKGGSG-IQVFFSNKISALP-HFMSEKTAQEDKSKKVASDSLVTSG-----FLPSNKCPAGEMCKAVNPDQRGGS-FAVTAYPV : 105
NaJA2c : -----MGLNSKDSVVLVKEEPEVE-TCKDSGFR-----WPLSKVGG-IE-HFMSLNSAQDEKPFKAQSA---ADG-----VDSCLKQSGEIQNVHAM----- : 76
S1JA26 : MERDFMGLNIKDSLLVWKEPEVE-SSKDSGFR-----WPLSKVGG-VE-HFMSLNSAQDENTFKALSA---TDG-----VDAGLKRQPGELC----- : 76
PpJA23 : MERDFLGLSSKNGNLTVKEEANE-EAKNSALPRSSG-MQVSESNKVSALP-CFLSERKAPQEGGSRKTVHD---TSAFMTIIST-ADAFHFSCKPFSGVTCQFDAHSE----- : 98
NaJA2e : -----MGLTHHVKEEVEEHHIDPAPLRSSAMQ-----WSEFNNTSTHP-CYLSERKACEDRLKTFGDSLASTGLVTIIT--TEAVDSSHRPYSGVTCNNMMLKQGGTHYTSTTFSP : 104
S1JA25 : MERDFMGLT--VKQEVLEBPIDPAPLRSSAMQ-----WSEFNNTVAHP-CYLSERKAPEDPKPKIGFDSLASTGLVTIIT--TEAVDSSHRTYSDVTQNL----- : 88
NaJA2g : MERDFMGLA--VKQETPECEPTDPAMARISAI-----LQRFNSKALP-CYLSERKACGNTPKTFGDSLASAGLVTIITS-HEAVDSSNRYPYTAVTCNNLMLEKQGITNYTMTITYP : 108

AtJA23 : SMPGFQSHHYAPGGRSFMNNNN-----SQPLVGVPIAPFISILPPGSIIVCTIDIRSSSKPIGSPNOLTIIFYGGSVGVYDDISPEKKAIMILA : 205
AtJA24 : SEP-----NYINSFIN-----HQHLGSPIDAPPVSVFPAP-----TIIRSSSKEL--EOLTIIFYGGSVLVYDDIPPEKAQAIMILA : 174
PpJA24 : QHDVHSV-HRPHDVKMSIVTNQG---FSVPVSNPFFKNPFATTQONFAATTIKQQLG-IPVITAPYSLVSVGSG---TEPWNNKNSGSPSOLTIIFYGTVNVYDDISPEKKAIMILA : 228
VrJA23 : QHDSHLMNHHPHDVKMFVSNQT---ISVSMGNPFFKTHFAAAGQNMVGAALKQQLGGIPIVAPHGILPSAGSFACTEPEWNNKNSGSPSOLTIIFYGTVNVYDDISPEKKAIMILA : 222
NaJA2c : -----HLLHDVMMPLPFN-----RSNPYKTHFGGTQOISAAATMKQQLGGIPIVAPHSILPSGGSVACTEPEWFNSKGSAPPEOLTIIFYGGTVNVYDDISPEKKAIMILA : 178
S1JA26 : -----MKQVLGGIPIVAPHSMLPSRGSVACTEPEWFNSKGSAPPEOLTIIFYGGTVNVYDDISPEKKAIMILA : 144
PpJA23 : -----VHHSQDQRIPIG-----FSSTTKLQPLGVVWVAPVSLPSKSSLVCTADLRNGSKSSGAPPEOLTIIFYGGSVNVYDDISPEKKAIMILA : 183
NaJA2e : HHYDAHSVHRSHGVRVLPVSNLANQISVSMTMPGHKSFVS-----PLGQNEVAPSPISAVPINSAVVCTDRLGARKTPPPEOLTIIFYGGSVGVYDINSPEKKAIMILA : 209
S1JA25 : -----LITVNVQLPGAGALV-----VSEISAVPSSIVVCTDRLGARKTPPPEOLTIIFYGGSVGVYDINSPEKKAIMILA : 161
NaJA2g : HKIGTNSVQQSHEVRVLPVANQTHQISVSTRNMHGROPLISPAGQNLISIIINONPARGACSSSISILPNRNGVCTELRGARKTSAGPEOLTIIFYGGSVGVYDINSPEKKAIMILA : 227

AtJA23 : GNGSSMPQVFSPPQTHQVHHTRASVSSAMP-----ESMPTIISYLSEFAGSS---TNGGATKATRGLTETYHNNQANGSNINCVPVSCSTNVMAPTVELLHARKASI : 309
AtJA24 : GNGPHAKPVSQP--KPQKLVHHSLEFTTPPTMP-----ESLPSISYIVSETRSSGSGVIGLPTKTKASLAS TRNNQTAAFS-----MAPTVGLPCKARKASI : 266
PpJA24 : GNVSSISSNAAQP--KTOAPSRLAVEIGVFNQLTNTPP-SGLSSELSSISHTGVQSVSGSTN-TDELMAERTTGHPTE-EVSKMEPEKIVNAVGSVAATSMIPS---EVPOARKASI : 339
VrJA23 : GNGASMASRMGQPRACVQTPASRLAAGIGVLANQPMNISPCSGLSSEISVSSHFPVQSGSGSTS-TEEVLANKTTGVSAI-EVTKLDSRIL----SVAATFMMP---EVPOARKASI : 332
NaJA2c : GNG-CVPPNVVQPRFQVQASTHRLAAVIGTCVQNTSNILPASGHSSSEMSVSSHPIGOSAGNSGN-KDDMKISKTANISV-----ETPKIMTSLGFPVGASTIMS---EVPOARKASI : 285
S1JA26 : GNG-CAPPNVVQPRFQVQASASRLAAGIGVQVQTPNMLPASGLSSEMSVSSHPIGOSDGSSGN-KDDMKMSKTANISVI-PHVKLDTSRIVTSLGFPVGATTIMTAGMASVPOARKASI : 260
PpJA23 : GNGSPETHCKAPTIQAQVPAPIEPPSPGIGVFRQAHITSTISGLSEHLSVTSRASSHSGGAFSS-TNELAIVKPVGTSAS-EIDHSEASVWSSVGSAMINLIPAV---EVPOARKASI : 297
NaJA2e : GNAPPVTPSATSTLSPVQAPIEISSVVSFVWQSHN-TT-PTLSEISITSHCGSOSAGVSSN-TNGVTIISKSTGVLPF-PSNKAGLSRFSSSIGS-VPAITVPS---EVPOARKASI : 320
S1JA25 : GNAPPVTPNATSTLSPVQAPIEISSAHSFVWQCRN-TT-PTLSEISITSHGGAAARVSTT-TNGVTIISKSTGVLPF-PSLKAEPSVTSVSGS-FPASLVPS---EVPOARKASI : 272
NaJA2g : GNAQPAGIPSTTSTASPVQRIEISSVVAFVWQCHRITS-PSFSSEIFLITHGASOSIGVSNNTNQITMSIRSIGVLTNSPSNKTEPSVWVRSQES-HPPSHTLS---EVPOARKASI : 341

AtJA23 : ARFLEKRKERVIVSPPYCLDKSSTIDRRSMCECISSSLSAT----- : 352
AtJA24 : ARFLEKRKERVIVNSPPYVDNRSIDRFLMSECVSPPAHLH----- : 310
PpJA24 : ARFLEKRKERVIVSAPYNF-SRKSPE-----DSNGVNFQOGEQQ----- : 377
VrJA23 : ARFLEKRKERVIVSTAPYNI-SRKSPECATPGNGMSYTAASGAGASAGAAALSANKE : 388
NaJA2c : ARFLEKRKERVIVNAPYGL-SRKSPECSSTPEENGVGFSAATSVGTSPLIAGKET--- : 338
S1JA26 : ARFLEKRKERVIVNAPYGL-SRKSPECSSTPEENGVGFSAATSVGTSPLIAGKET--- : 309
PpJA23 : ARFLEKRKERVIVNAPYNI-SRKSPECSSTPEENGVGFSAATSVGTSPLIAGKET--- : 347
NaJA2e : ARFLEKRKERVIVSAPYDT-SRKSPECSSTLGYGSRSEAKYSLGSCPPQVINLVKET- : 375
S1JA25 : ARFLEKRKERVIVSAPYNI-SRKSPECSSTPEENGVGFSAATSVGTSPLIAGKET--- : 326

“Class III”

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AtJA27 : MIIIIKNC DKPLLNFKEMEMQTKCDLEIR-LLTSSY-----DSDFH--SSLDESSSSSEISOPKQESCILTIIFYNGHMCVSSDLITILEANAIISLASRDVEEKSLSLRSSDGEPPPTI : 109
AtJA28 : -----MKLQQNCDLEIR-IFFTSY-----DSDSSDTSVVESTSSGNFPQNEESCRTITIFYNGKMCFSQDVTILOARSIIISIASRQKTKS-----SSNGEDP--- : 87
NaJA2m : -----MKHRIGLQLFLLSSSS-----SSEFH---SSDHSVACSSTR-----KHITIFYN-AQAGECDISEVOALAILWFA-RQKYNN----- : 69
NaJA2f : -----MRRNCNLEIR-IVPPCVSVSP---KDCITTPYFSMR--DNQGTEEKC-QCCLTIIFYNGKVVVS-DATBLOAKAIIMLASRETEENTKTS-SP-ISESSS- : 89
NaJA2j : -----RKNCNLEIR-IMPPSFSFSP---KSCIT-PYFSMNREDKENTEERK-PCLTIIFYNGKLVVS-DATBLOAKAIIMLASRETEENTKTS-SP-ISESSS- : 90
SlJA29 : -----MRRNCNLEIR-IMPPSI-----SDNFSSKNCITE-DQQ--LENKC-SCCLTIIFYNGKVVVS-DATBLOAKAIIMLASRETEENTKTS-SP-ISESSS- : 81
SlJA210 : -----MRRKCNLEIR-LSPS-----NLLME-DKR--LENKC-SCCLTIIFYNGKVVVS-DATBLOAKAIIMLASRETEENTKTS-SP-ISESSS- : 72
SlJA211 : -----MRRNCNLEIR-IMPPSLSTFSPNICSNNNISSYFSME-EDKESTELECKSECLTIIFYNGKVVVS-DATBLOAKAIIMLASRETEENTKTS-SP-ISESSS- : 96
PpJA27 : -----MRRNCNLEIR-LLHPS-----YETHKKQEQEQHEEQLOKQ-QCCLTIIFYNGKVVVS-DATBLOAKAIIMLASRETEENTKTS-SP-ISESSS- : 86
PpJA28 : -----LILG-LSMPTFSP-----PLETFMGDWLDCQ--CLTIIFYNGKVVVS-DATBLOAKAIIMLASRETEENTKTS-SP-ISESSS- : 77

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AtJA27 : --PNNSTRFHY----QKSMKRSLSHFLOKRS-IRIQATSPYHRYR : 148
AtJA28 : --PNKTSFHNNQLPNPKASMKKSLQSFLOKRS-IRIQATSPYHSRR : 131
NaJA2m : -----GLSLRKSLOFLOKRREIRIQANPY---- : 95
NaJA2f : -----PLLQQTGLSMKKSLOFLOKRS-NRIQATSPYH-- : 123
NaJA2j : ISEPSSPLLQSP--ASDISMKRSLOFLOKRS-NRIQATSPYH-- : 131
SlJA29 : -----PLLQPCTVKKSLOFLOKRS-HRVQATSPYH-- : 112
SlJA210 : -----PLLQPCTVKKSLOFLOKRS-NRIQATSPYH-- : 103
SlJA211 : -----PLLQPCTVKKSLOFLOKRS-SRIQATSPYH-- : 127
PpJA27 : --TVMSPLCSP--VAGSMKRSLOFLOKRS-HRVQATSPYH-- : 124
PpJA28 : -----QIYGP--PGVSMKRSLOFLOKRS-HRVQATSPYH-- : 112

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“Class IV”

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AtJA211 : MAEINGD--FFVP---SEADGTC--SVSAGLLILVERSIFEARSTDPDAST-----QLTIIFGGSCRFVNGVPAQKVOEIIIRIAFAGKQTKVITGIN---PALNRLSFSSTVADLPIAR : 104
AtJA212 : MTKKDEPRASVGGCGVADEIGGAAEIGTGSSVEKSIINVRSTEQTAETVPPNQLTIIFGGSVIVFDGLSEKVOEILIRIAKAMETKNSISISPVSSPALNRLSFSSTVADLPIAR : 120
PpJA211 : -----MSEKSOAGIVKNTPEMEEKVVGQSQPMKTEEEAAK----- : 35

AtJA211 : RRSLQRFLEKRRDRSTKPDGSMILPSOLTIIFGGSSVFDGLFIAEKVQELIHLAARAKATE-----TINLTSIN-----FRLKRFISESNA--SIVACVSTADVPIARRHSI : 204
AtJA212 : AQPFPICF-----ISE-----CRSTADLPIARRHSI : 146
PpJA211 : ---EKDPSSSHDLPNNSNTTRKIMPAOLTIIFVAGSVSFDGLFIAEKVREILHLAARDAENKTADVKNGGTSGPPSLVCTGSSSLQNSIPGSEVWQPYPDQKSSICKLQAEFFPIARRHSI : 152

AtJA211 : ORFLEKRRHREVHTKPYSATTSSEADKNEISPIVH----- : 238
AtJA212 : ORFLEKRRDRLVKNPYETSDFKKIIVFIGNYSIKEEFITA----- : 187
PpJA211 : ORFLEKRRDRLVSKNPYETSPATQLDIDAKINLSNASEGLGCFKQSAMVKEEMHPSATAYPA : 216

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“Class V”

PpJAZ9 : **MNA**TTISERSIIEKPLNQLTEDDISQLTREDCKRYLKEKGMRRPSWNKSOAIQOVISLKALLEPNDTSGAGARRRIVSPHITTPRAASNSAGSARFASADVQVSVSADEEVEYQKEVQED : 121
NaJAZk : **MPPEE**SVSKSLLEKPLCQLTEDDISQLTREDCKRYLKEKGMRRPSWNKSOAIQOVISLKALLETTDSAGTRKKLYIERSITKLHHVQRGKIDEETELPBEVVDGRTIQDKADLSGI : 121

PpJAZ9 : **RE---**ADADTKRAISFRNQTEDASVROMTIFYGKVNVDYGVFEDKRRRIMFLAARPNHLELDNOFGGTRPLRSLRQCFOTAGDKDGFLEFS-ATFSQRMOTBKI GEYTQQYWEKGNSTRD : 238
NaJAZk : **ATENLV**FAIRKSAFSRTIGSVITISAGQMTIFYSGKVNVDYGVFEDKAAQTIMRVASSSLOVSETELNATVFAQHSCTGLQVANTK---LRHSDMVLLPTIQTPAV----- : 224

PpJAZ9 : **PDE**EGQNSRKVSLERYFEKRRKDRGLKIKKKNIGSSSSSLEVFNLHQLRHTSNGNSSQSGTSSPPQGLLQTADNQPKSLCLPVDLNDKDI LERT : 333
NaJAZk : ---**ENPS**SRKASVQRYLEKRRKDR----- : 244

“Class VI”

AtJAZ10 : **MSK**ATIELDEIGLEKKQTNNEE-KPKFQKFLRRRSFRITQCATSKIIPKIKLLAS-----TGNNSEI---SAKSRVSPSTPRELCPQIE-----IS---EVEASLARSS : 95
PpJAZ10 : **MSR**ATVELDFEGMDQHRDPSSPSKSCFOKFLRRRSFRICQNAKYKIPQVLLKSVIASGCVLLNHQHGSETEMA SRKSEVSPSSPKACIPHESLPHYIPTGTSVSSMEAEFAAFAAS : 120

AtJAZ10 : **TEL**VSGTVPMTIFYNGSVSVFQVSRNKAGEIMKVANDAPSRFD-ESSEMETDISVIEFTTLRKELEGQMLEGDLPIARRKSLQRFLEKRRERLVS SPYYETS A : 197
PpJAZ10 : **ERL**EETITPLTIFYNGTVSVFVVERDKAESLLKLALEGNSRKAESALAVISKLPIHESSDQQQLLDF-LIGDLPIARRKSLQRFLEKRRERLVS SPFAASHA- : 221

“Class VII”

NaJAZ1 : **MYC**SK-----VANNFLKIEKFNKFDYKQDINESNLKIGIGNGSHRRMSALELAILPG----- : 54
SlJAZ12 : **MSG**IDNVIGNTHPYEIEKNETTNDVTLSTICDEIVEIEFNVSRDKAEIILKFAEMSKVNDSSKKPLGLETSQSQGKKEKLSTARRNSQLRFLKRRKERICDVLENGMKIVLMTIACNG : 120

NaJAZ1 : -----IRHDTCLPVLQREKSESECLTIEYAGIVHVDNLVEKQSQSMDFFRESSLFS----- : 107
SlJAZ12 : **KVAN**FNVSSSEKAKDILIFAELLKVTDVIPPTKSQSNVETFSGGRFWEKQYFPLNSCLKNGIILAEHLTIQYDCTSVSENFIEFDKVAIIEFADILKFRDAVSSSEKQLFVETLSGAOPLPRR : 240

NaJAZ1 : -----GSTNVKFPKAEAPNCKSQ----- : 126
SlJAZ12 : **NSML**GFSEKGERVCGGSKNAKEISLLTICYSEMVAEFVYVTSKADHILKFAETSVRNRDFSPNFGDLSLTRSISLPRFLEKPKTRLDYIMPMTFFYEGNTTILNVSIDKAVNILAFVER : 360

NaJAZ1 : -----VPEACKFOAELEIARRKSLKPEEKKRHNRIISKHPYASVITQHEDECNDQSGNYSLKEKNS----- : 188
SlJAZ12 : **SNFG**DACPSGKKFPAEILSGDQHLARRNSVLDSEKQDRLCDGSKNGLR TALLTICYGVMGVNFVNSDEANEILKFAKRSITNDVFSNSGDLSPKINSSSLRFSEKPOIRLGCESEN : 480

NaJAZ1 : ----- : -
SlJAZ12 : **GVK**VEPLTIFYDGKIVVDVVSIEKATNILKFEVERDAISSKKEFSMESLSGDLHLAKRNFMHGVLENRNERFCPPGFEDIKIAPLSIIYNGKLAIFDVRYSYKVEILKFAESSKQQTLSQD : 600

Text S1: Multiple sequence alignments identified seven distinct classes of peach JAZ proteins. Deduced amino acid sequences of JAZ proteins from peach and other plant species were aligned using Clustal X and edited using GeneDoc. The two characteristic motifs, ZIM and Jas, were identified for all JAZ proteins and pointed by red and green solid lines, respectively. A weakly conserved N-terminal (NT) motif was identified in Class I -JAZs and indicated by a blue solid line. A highly conserved motif was identified in Class II -JAZs and indicated by stars. An EAR-like element was identified at the N-terminus of Class III -JAZs and was indicated by red letters.