

E1 MERSPGEGSPSPMDQPSADPTDQPPAAHAKPDGSGGQVAGGAAEALAVLTSFGRRLVLIIPVYLAFAVGLSVGFVIFGLAIYLGWRRV 94
 E2 ARRAKTARGLRGRQRGAGAGLSRPGSARAPSPRRGGPENPGVLSVELPGLLAQLARSFALLIPVYALGYLGLSFSWVLLALALLAWCRRS 152
 E3 MRAEEPCAPGAPSAALGAQRTPELRLSSQLPELCTFVVVRVLFYLGVPVYLAAYLGLSITWLLGLALIMMMWRRN 75
 Dm MNESPVVPTTPTGNGTPTQTNGNSIVATKSVSDDNSIIFSVFYTLGKKVAIVGSIYLVGYMGVSVAWLIPAVIISVARDQL 83
 Ag MAGASKELSPKQSAPESESEVAKTKDDSMSTLLYSFAKVVTVYIIFVYGYMGVSVAWLITPVIISVARESW 72
 Ce MSWQSYLVPLVGSAILSTFTFFLKGWDYSFVWVLIITIASVTK 43

E1 RDEKERSLRAARQLLDDFQLTAKTIYMSHRELPAWVVSFPDVEKAEWLNKIQAQVWVFLGQYMEKILAEETVAPAVRG--SNPHLQTFTRVEL 186
 E2 RGLKALRLCRALALLEDEERV--VRLGVRACDLPWVHFPPDTERAEWLNKIVKHMWFFICQFIEKLFRETTEPAVRG--ANSHLSTFSFTKVDV 242
 E3 RRKGLGRLAAAFELDNREF--ISRELRGHLPAWVHFDPDVEREWANKILSQWVFLSLMIMESKFRKLEPKIRE--KTHLRTTFYFKLYF 165
 Dm AKTSEKKRDIKASALASEKD--VIL-ARIDELPAWVYFPDVERCEWLNKILKQWVFNANHFARTLVKETTIBNVALLALANYKMHGFRFDRIIL 174
 Ag RKTNDTRRSVAKASALANDKE--VIL-ARLHDLPAWVFPDVERCEWLNKILKQWVFNANFYAKNLIKESIEEPNIQQAMAGYKLNKPKFDRMIL 163
 Ce SYLWRKRERRLIALRATALREREVIM-AQLQDLPWVQFPDTERVEWLNKVIHQWVYVGYEYTKTFMNDFTITPQVK-AQMPGMFKNEKFKTKMDM 135

E1 GEKPLRIIGVKVHPGQ-RKEQILLDLNINISVGDVQIDVEVKKYFCAGVKGMLQHGVLVRVILEPLTCDLPEVGAVSMFFIRRPDLINWGTMTN 279
 E2 GQQPRLRINGVKVYTENVDKQIILDLQISFVGNCEIDLEIKRYFCRAGVKSITQIHGTMRVILEPLTCDMPLVGCALSIFFLRKPFLLEINWGTMTN 336
 E3 GQKCPRVNGVKAHTNTCNRNRRTVDLQICVIGDCETISVELQKI--QAGVNGIQQLGTLRVILEPLTCDKPPVGAIVVFFLQKQHLQINWGTMTN 257
 Dm GTIPPRIGGVKIVDKNVDRENIIMDLDLFYASDCDINFYLCGM--KGGIKDFQIHGTVRVMKPLIRSMPLVGGQLIFFLNNFNIDFNLVGVID 266
 Ag GTIPPRIGGVKIVDKNVSRIEIMDLDLFYAGDCDISFALSGL--RGGIKDFQIHGTVRVMKPLISQMLTGGQLIFFLNNFNIDFNLVGVID 255
 Ce GDIPCRVGGIKVYTIIVGRDRIIVDMVAAGDADFTVSCGF--TGMNNTQFSCKLRALIKPLLPYPPMVGVSSTFLEMFKMDFNLTMGE 227

E1 LLDIIPGLSSLDSTMIMDSIAAFVLPNRLVPLVVDLQDVAQLRSLPRGCIIRIIRHLLAARGSSKDKYVKGILIEGKSDPYALVRLGTQTFCSR 363
 E1'NPQRGSSVDAPPRCHTTTPDSQFGEHTTTPDSQFGEHVLRIHVLEAQDLIAKDRFLGLVKGKSDPYVKLKLGRSFRSHV 701
 E2 LLDVPLNGLSDTIILDIISNYLVLNRIIVPLVSE-VQIAQLRFFVPKGVLRIRHFTEAQDLQKDYLYLGLVKGKSDPYGIIRVGNQIFQSRV 429
 E3 LLDAPGINDVSDSLEEDLIATHLVLNRRVTVV-KKGLDLTNRFPPLPCGVIRVHLEAEQLAQDNFL-GL-RGKSDPYAKVSIQLOHFRSRT 348
 Dm FMDMPGLSDLDRRIIVEQIGNVMVLPNKLPISLSEE-VSAVALKMPPEPEGVLRIRHVVEAKDLMKKDIISVLC--KGKSDPYAIIIVGACEFKTQI 357
 Ag LLDMPGLSDILRKIIIVEQVNAEIMDLDLFYAGDCDISFALSGL--RGGIKDFQIHGTVRVMKPLISQMLTGGQLIFFLNNFNIDFNLVGVID 346
 Ce MVELPGLIDAIRSVINSQIAALCVLPNEIVVPLAPD-VDTQLYFPEPDPVVRKLIIEAKNLENRDISFIK--KGKSDPYAIIIVGACEFKTRT 318

-----β2-----β3-----β4

E1 IDEELNPQWCEIYEVVMVHEVPGQIEVEVEFDKD-PDKDDFLGRMKLDVGVKVLQASVLDWDFLQGGQ-GQVHRLREWLISLSDAEKIEQVILQVN 465
 E1' VREDLNPRWNEVFEVIVTSVPGQIEVEVEFDKD-LDKDDFLGRCKVRLTTLVNSGFLDEWLTLEDVPSGRHLRLERLTPRPTAAEIEEVLQVN 794
 E2 IKENLSPKWNEVYEAALVYEHQLELLELDED-PDKDDFLGSLMIDLIEVEKERLLEWFTLEDVDPKGLHLRLEWLTLPENASNDKVLTDI 522
 E3 IYRNLNPTWNEVFEFMVYEPGQLELLELDED-IDRDFDLGSLQICLGDVMTNRVVDWDFVLDNDDTSGRHLRLEWLTSLTD---QEVLTE 437
 Dm IDNNVNPKWVCEAFVIEIQGFVEIQDKDSDSKKDEINLRASDIASVILKGVVDSVWLTLEDADKHLHLVRLQVYKLTADPNDIQQILLET 451
 Ag IDNTVNPKWVCEAFIHAESGQTLQVINDDED-AGEDELGRATVEISSVTKNGEIDTWTLEQAKHGLVHLRMTWFKLSSEKSDIKQALBET 439
 Ce IDDDLNPVWNEVFEAVVDQADGQKRLRIELEDDED-QKDEELGRLSVLDLKVQAKGTIDKVVYLEGCKHCDLHIIKATVMNLSDELHIEKQEWEA 411

-----β5-----β6-----β7-----β8-----β1-----

E1 WGV-SSRPDPPSAAILLVVYLDRAQDLV-----MVTSELYPPOLKKGKNEENPMVQLSIQDVT-DESKAVYSTNCPVWEEAEFRFFLQD 545
 E1' SLIQYQKSAELAAALISYMERAEADL-----LRKGTKHLSPPYATITVGDSS-HKTKTISQTSAPVWDESASFLIRK 865
 E2 KADKQDANDGLSSALLLILYLDARNLPSNPLDFNPGVLLKSAVORALKSGKRISSNENPVQMSVGHKA-DESKIRYKNEPVWEEAEFRFFLIRK 615
 E3 HG-----GLSTALLVVVFLDSACNLRPNPFDYLNGEYRAKLSRFA--RNKVKDSSVYKLSVCKKT-HTSKTCPHNKD PVWEEAEFRFFLIRK 521
 Dm QL---LRVTSMSAVLSVFD SARHLK-----QARSSSKPDPYLVCSVNKQK-OQTAMIMRDDS PVWEEAEFRFFLIRK 519
 Ag QH---LRVTSMSALLTVFIDS AKNLP-----QARQSQDPYLVLSVCKKN-EQTSVQMRTPD PVWEEAEFRFFLIRK 507
 Ce EW--QADKPIHSAALLMVYIDSVADLP-----YPKSKLEBSPFVEVSLGCKETORTPVKVKTVNPLFQSKLEFFVRH 480

-----β2-----β3-----β4-----β5-----

E1 PQSQDLVQVYKDSRALTLCALTPPLARLITAPEL-ILDQWFLSSSGPNSRLYMKIVMRILYLDSSIECFPTVHGCPGAWVDVSE..... 630
 E1' PHTESLQVREGEGTG-VLGSLSLPLSELLVADQL-CLDRWFLS-SGQOVL-LRAQLGILVSHQSGVEAHSYSHSSSSLSLSE----- 946
 E2 PKRQDLEVEVRDEQHCSSLGNLKVPLSLLTISEDM-TVSRFQLSNSGGPNTIKMKIALRVLHLEKRRERPDHQHSAQVKRPSVSKGRKTSIK 708
 E3 VATERHLKVLDDDDQECALGMLEVPICQILPYADL-TLEORFOLDHSGLSDIISRIVLRFLOVEERELGSPYTPGPEALKKGPLLIKKVATNQG 614
 Dm PDNESLNLIKIDYQKGTNDIGQYTYLSTLTKLQFNMEVIOQPFQOLQKSGPESKLYMSLSLRLLKPGEDKDSDALEQVAALTRSSSVKTPDVAAV 613
 Ag PDNDTLQKVIDQKGTNTIGLTYILSALMEKKNLEIMSOPFOLQKSGPETKIIMSLSLRILKRHRQEPAVTTDPKGPASEADSVLRSRTSSIR 601
 Ce LEGQDLKFEAVDDGFRRLSGLSNIPLTTTLTKEPNLBQNOQHMLTLGVHQSPIVITTRIRMLRSDSQQSLNSHGRSNS----- 458

-----β6-----β7-----β8-----β1-----

E2 SHMSGSPGPGSNTAPSTPVIIGSDKPGMEEKAQPPPEAGPQGLHDLGRSSSSLLA----- 763
 E3 PKAQPEEGPTDLPCCPDASDTKDVSRSTTTTTSATTVAETEPTSQETGPEPKGKDSAKRFCEPIGKKS PATIFLTVPGPHSPGP IKSPRMK 708
 Dm SPPAFKESQASSKRLSAESP ISEEDPVA----- 641
 Ag TSASHGSQSETLQQQPSTGDSNAEEAALSHQGSVRKQDSRKSTTSAIMEQMSIQEFP----- 660

E1' --EPELSG-----GPPHITS--SAPELRQRLTHVDSPLLEAPAGLQVQLTTLWYSEERKLVSTVHGCRSIRQ-NGRDPPDPYV--SLLLLP 1026
 E2 --SEGHISVKEPTPSIASDISLPIATQELRQRLRQLENGTTLCQSPGLQITLIRHSQRNKLIVVHACRNLIA-FSEDGSDPYV--RMYLLP 852
 E3 CPASFPWAPKRLASMSLSLASSCFDLADISLNI EGGDLRRLGELQITLVRYVCLRQLSVLINGCRNLTP-CTSSAGDPYV--RVYLLP 799
 Dm --ATKISPMASSTSEKPISEL-ATSVLTHRF--PDSTSPCEHLGRMLGIRYSIRAQRKLDVITHKIQIPLRDPNSIEDPYV--KLYLLP 728
 Ag --VSTLNTVMMATPPRSPNLSL-GGTELLRS--PSTSSGSAGLGRQITLVAYSVQRQLLVIVHKINNIPLKDPNNIPDPYV--KLYLLP 747
 Ce -----RLGRLFRSKHEMKKRETRADENRGEIETQIDFDDLNVQLKIALIRCDLMTFDEKDKQCNPYVSVKLVALD 628

-----β1-----β2-----β3-----

E1' DKNRGTKRRTSQKRTLSPEENEFWELPLDEAQRKLDVSVKSNSS-SEMSRERELG--KVQLDLAETDLSQGVARWYDLMNDKDKGSS* 1114
 E2 DKRRSGRRKTHVSKRTLNPFVDQSFDFSVLSLPEVQRRTLDVAVK-NSGGFLSKDKGLG--KVLVLAASEELAKGWTQWYDLETGTRPQAMT* 942
 E3 ERKWACRKKTSVVKRTLEPDETEFFVPMEEVKKRSLDVAVK-NSRPLGSHRRKELG--KVLIDLSKEDLIKGFQWYELTPNGQPRS* 886
 Dm GRTEKESKRTSVIKDNCNPNVYDASFEVILSIAELRQTELEVIVCTQK-GELSGSPLIGMLKIPLDAAEITITQGLNSWFDLQPEIRGE* 816
 Ag GRSKESKRTNVKDNCDPVFDITTFYIISNAELVNSELEVIVCTQK-GFP--GSPVLGMQKLSLSDPDISSGOGIKAWYDLEPKSFE* 833
 Ce GNKEVFKKKTPTAKNRRHPEFDNHVEIDINPSDLLNHKVVINVKDDTNYGTFVAKPVLGCLERLDSLMNR--QLSRQVILPSVERK* 713

-----β4-----β5-----β6-----β7-----β8-----