

S11. Text Multi-species analysis of CAPA-R PA isoforms Supporting Figure 13

CLUSTAL Line-ups; Full sequences or restricted to the 7th TM and CT

Genbank Reference IDs below

Predicted 7th TM domain in **YELLOW**

BBS sequences in **RED**

bipectinata	RMLAAVVITFFVCWFFPHLQRLWFLYAQNENYNNVNEWLFSIAGFAYYVSCVINPIVYS	351
anannassae	RMLAAVVITFFVCWFFPHMQRWFLYAKDNENYNNVNEWLFSIAGFAYYVSCVINPIVYS	352
serrata	RMLAAVVITFFVCWFFPHVQRLWFLYAQENDNYLDINEALFSIAGFAYYVSCVINPIVYS	357
kikkawai	RMLAAVVITFFVCWFFPHVQRLWFLYAQENDNYLDINEALFSIAGFAYYVSCVINPIVYS	357
erecta	RMLAAVVITFFVCWFFPHLQRLIFLYATNMDNYLDINEALFSIAGFAYYVSCVINPIVYS	357
melanogaster	RMLAAVVITFFVCWFFPHLQRLIFLYAKNMDNYLDINEALFSIAGFAYYVSCVINPIVYS	357
sechelia	RMLAAVVITFFVCWFFPHLQRLIFLYAKNMENYLDINEALFSIAGFAYYVSCVINPIVYS	343
simulans	RMLAAVVITFFVCWFFPHLQRLIFLYAKNMENYLDINEALFSIAGFAYYVSCVINPIVYS	358
mauritania	RMLAAVVITFFVCWFFPHLQRLIFLYAKNMENYLDINEALFSIAGFAYYVSCVINPIVYS	358
ficuspila	RMLAAVVITFFVCWFFPHLQRLIFLYAKLDNYLDINEALFSIAGFAYYVSCVINPIVYS	357
takahashi	RMLAAVVITFFVCWFFPHLQRLIFLYAKDMENYLDINEALFSIAGFAYYVSCVINPIVYS	356
eugracilis	RMLAAVVITFFVCWFFPHLQRLIFLYAKDMENYLDINEALFSIAGFAYYVSCVINPIVYS	357
biarmpes	RMLAAVVITFFVCWFFPHLQRLIFLYAKDMENYLDINEALFSIAGFAYYVSCVINPIVYS	357
suzuki	RMLAAVVITFFVCWFFPHLQRLIFLYAKNMENYLDINEALFSIAGFAYYVSCVINPIVYS	357
rhopaloa	RMLAAVVITFFVCWFFPHLQRLIFLYAKNLDNYLDINEALFSIAGFAYYVSCVINPIVYS	357
elegans	RMLAAVVITFFVCWFFPHLQRLIFLYAKMDNYLDINEALFSIAGFAYYVSCVINPIVYS	356
grimshawi	RMLAAVVITFFVCWFFPHLQRLWFLYAKNDNYQDVNEWLFSIAGFAYYVSCVINPIVYN	328
virilis	RMLAAVVITFFVCWFFPHLQRLWFLYAKNIANYQDVNEWLFSIAGFAYYVSCVINPIVYN	351
mojavensis	RMLAAVVITFFVCWFFPHLQRLWFLYAKNFACFQNVNEWLFSIAGFAYYVSCVINPIVYN	347
bipectinata	VMSRRYRVAFRELLCGRPVGAYYNSGFARDHSSFRESTATSMGNHINYDRVHSVHRASR	411
anannassae	VMSRRYRVAFRELLCGRPVGAYYNSGFARDHSSFRESTATSMGNHINYDRVHSVHRASR	412
serrata	VMSRRYRVAFRELLCGRPVGAYYNSGFARDHSSFRESTATVLGKNVNYDRVHSVHRSSR	417
kikkawai	VMSRRYRVAFRELLCGRPVGAYYNSGFARDHSSFRESTATTLGKNVNYDRVHSVHRSSR	417
erecta	VMSRRYRVAFRELLCGKAVGAYYNSGFARDHSSFRESS-----AYDRVHSVHRASR	409
melanogaster	VMSRRYRVAFRELLCGKAVGAYYNSGFARDHSSFRESS-----AYDRVHSVHRASQ	409
sechelia	VMSRRYRVAFRELLCGKAVGAYYNSGFARDHSSFRESS-----AYDRVHSVHRSSR	395
simulans	VMSRRYRVAFRELLCGKAVGAYYNSGFARDHSSFRESS-----AYDRVHSVHRASR	410
mauritania	VMSRRYRVAFRELLCGKAVGAYYNSGFARDHSSFRESS-----AYDRVHSVHRASR	410
ficuspila	VMSRRYRVAFRELLCGKPVGAYYNSGFARDHSSFRDSTATSMGNHINYDRVHSVHRSSR	417
takahashi	VMSRRYRVAFRELLCGKALGAYYNSAFARDHSSFRESTATSLGNNINYDRVHSVHKSSR	416
eugracilis	VMSRRYRVAFRELLCGKAVGAYYNSGFARDHSSFRESTATSLGNNINYDRVHSVHRSSR	417
biarmpes	VMSRRYRVAFRELLCGKPVGAYYNSGFARDHSSFRESTATSLGNNINYDRVHSVHTSSR	417
suzuki	VMSRRYRVAFRELLCGKAVGAYYNSGFARDHSSFRESTATSLGNNINYDRVHSVHRSSR	417
rhopaloa	VMSRRYRVAFRELLCGKAVGAYYNSAFARDHSSFRESTATSLGNNINYDRVHSVHRSSR	417
elegans	VMSRRYRVAFRELLCGKAVGAYYNSAFARDHSSFRESTATTMGNHINYDRVHSVHRSSR	416
grimshawi	VMSHRYRVAFKEILCGKKAGSYNSGFARDQSSFRMRNDSFRKETTT-T-----HLGGS-	382
virilis	VMSQRYRVAFKEILCGKKAGSYNSGFARDQSSFRMRNDSFRKETTT-T-----HLGGS-	406
mojavensis	VMSKRYRIAFKEILCGKKAGAFYNSGFARDQSSFRMRDETSFRNRGSTNN-----NLS-	401
bipectinata	QPNI I KEKDSPSQNRVLIKKTYSPLPKTLDS TVLS-TTD IVIVLENNSIARNPVCEESK	470
anannassae	QPNI VKETDPSQNRVLIKKTYSPLPKTLDSAVLS- TTD IVIVLENNSTARHPVAEESK	471
serrata	HQNNKFE TDSS NRVLIKKTYSPLPKNADS TVLS-TTD IVIVLENNSTARHTDAEEPK	476
kikkawai	HQNNKYE TDSS NRVLIKKTYSPLPKNADS TVLS-TTD IVIVLENNSTNRQTDAEEPK	476
erecta	HPN-KFETDLSANRLLIKKTYSPLPKNADS TVLS-TTD IVIVLEN---- SHTVCE EPK	463
melanogaster	HPN-KFETDSSANRVLIKKTYSPLPKNADS TVLS-TTD IVIVLEN---- SHTVCE EPK	463
sechelia	HPN-KFETDPSANRVLIKKTYSPLPKNADS TVLS-TTD IVIVLEN---- SHTVCE EPK	449
simulans	HPN-KFETDPSANRVLIKKTYSPLPKNADS TVLS-TTD IVIVLEN---- SHKVCE EPK	464
mauritania	HPN-KFETDPSANRVLIKKTYSPLPKNADS TVLS-TTD IVIVLEN---- SHTVCE EPK	464
ficuspila	HQSSKNEADPLSANRVLIKKTYSPLPKNSDS AVLS-TTD IVIVLEKNSTARHTICEEPK	476
takahashi	HQNNKNEADLSANRVLIKKTYSPLPKNADS TVLS-TTD IVIVLEN---- SHTVCE EPK	471
eugracilis	HQNIKNEAESLSANRVLIKKTYSPLPKNADS TVLS-TTD IVIVLEN---- SHTVCE EPK	472
biarmpes	HQNNRNDADLSANRVLIKKTYSPLPKNADS TVLS-TTD IVIVLEN---- SHTVCE EPK	472
suzuki	HQTNKNADCLSANRVLIKKTYSPLPKNADS TVLS-TTD IVIVLEN---- SHTVCE EPK	472
rhopaloa	QQNNKNEADS--ANRVLIKKTYSPLPKNVDS TVLS--TDIVIVLENSSSTARHTLCEEPK	473
elegans	HQNNKNEADSISASRMLIKKTYSPLPKNADSTVLS--TDIVIVLENSTARSHTVCEGAQ	474
grimshawi	-----KRNRLH-----PNGMTDYPLLST-TNIVIVLGNSSSRGHQKEINRD	422
virilis	----- TRYSRV -----ANGMADC SLNNTTTKIVIVLGNNS---PQRDVDRN	444
mojavensis	-----SSNVRYN-----RNRV SDCSLLS T-TKIVIVLGNR-----REANHN	435
bipectinata	VSNDIWIENEETCI	484

anannassae	VTNDIWIENEETCI	485
serrata	VDNDIWIHEETS	490
kikkawei	VDNEIWIHEETS	490
erecta	VEKDIWSENEETCI	477
melanogaster	VENDIWIENEETCI	477
sechelia	VENDIWDNEETCI	463
simulans	VENDIWIENEETCI	478
mauritania	VENDIWIENEETCI	478
ficusphila	VENDIWIENQETCI	490
takahashi	VENDIWIENEETCI	485
eugracilis	VENDIWIENEETCI	486
biarmpes	VENDIWIENEETCI	486
suzuki	VENDIWIENEETCI	486
rhopaloa	VENDIWIENEETCI	487
elegans	VENDIWIKNEETCI	488
grimshawi	IPEEIGIKKEET-	435
virilis	IPEETEAKKQEN--	456
mojavensis	IPEETDIKKEP--	447

Melanogaster NP_996140.1

1 mnsstdptfs elnasftntp dtlfatsvss dpshgfgreed yacgtfncsp kefvafvlgp
61 qtlplykavl itiifggifi tgvvgnllvc iviirhsamh tatnyylfsl avsdlllyllf
121 glptevflyw hqypdlfgmp fckirafise actyvsvfti vafsmerfla ichplhlyam
181 vgfkrairii talwivsfs aipfgllsdi qylnypldhs rieesafscsm spkivneipv
241 fevsfciffv ipmiliilly grmgakirsr tnqklgvqqg tnnretrnsq mrkktvirml
301 aavvitffvc wfpfhlqrli flyaknmdny ldinealpsi agfayyvsc vnpivysvms
361 rryrvafrel lcgkavgayy nsgfardhss fressaydrv hsvhvrashq pnkftdsss
421 anrvlikkty slplpknads tvlsttdivi vlenshtvce epkvendiwi eneetci

Erecta **XP_001973649.1**

1 mnsstdstfs dlntsftntp dlyttsvsld pshgleeevh yacgtlncsp kefvafvlgp
61 qtlplykail itiifggifi tgvvgnllvc iviirhsamh tatnyylfsl avsdlllyllf
121 glptevflyw hqypylfgmp fckirafise actyvsvfti vafsmerfla ichplhlyam
181 vgfkrairii talwiasfis aipfgllsdi qyinypldkv rieesafscsm sikivneipv
241 fevsfciffv ipmiliivly grmgakirsr tnqklgvqhg tnnretrnsq mkkktvirml
301 aavvitffvc wfpfhlqrli flyatnmdny ldinealpsi agfayyvsc vnpivysvms
361 rryrvafrel lcgkavgayy nsgfardhss fressaydrv hsvhvrashr pnkftdsls
421 anrllikkty slplpknads tvlsttdivi vlenshtvce epkvekdiws eneetci

Biarmpes **XP_016959554.1**

1 mnsstdptfl elntsfsttp dlyatsvsle pshgfeaedy yacgtfnctp teyvafvlgp
61 qtlplykavl itiifggifi tgvignllvc iviirhsamh tatnyylfsl avsdlllyllf
121 glptevflyw hqypdlfgmp fckirafise actyvsvfti vafsmerfla ichplhlyam
181 vgfkrairii talwiasfis aipfgllsdi qylrypldgs rieesafscsm speivnvfpv
241 fevsfcvffv ipmiliilly grmgakirsr tnqklgvqqg tnsresrssq mrkktvirml
301 aavvitffvc wfpfhlqrli flyakdmeny ldinealpsi agfayyvsc vnpivysvms
361 rryrvafrel lcgkavgayy nsgfardhss frestatslg nninydrvhs vhtssrhq
421 nrndadslsa nrvlikkty lplpknadst vlsttdiviv lenshtvcee pkvendiwie
481 neetci

Suzuki **XP_036672159.1**

1 mnsstdsnfl elntsfstnp dlyptsvsle pshgfetedy yacgtfnctp tefvafvlgp
61 qtlplykail itiifggifi tgvignllvc iviirhsamh tatnyylfsl avsdlllyllf
121 glptevflyw hqypdlfgmp fckirafise actyvsvfti vafsmerfla ichplhlyam
181 vgfkrairii talwiasfis aipfgllsdi qylkypldgs rieesafscsm speivnvipv
241 fevsfciffv ipmiliilly grmgakirsr tnqklgvqqg tnnretrnsq mrkktvirml
301 aavvitffvc wfpfhlqrli flyaknmeny ldinealpsi agfayyisct vnpivysvms
361 rryrvafrel lcgkavgayy nsgfardhss frestatslg nninydrvhs vhrssrhqt
421 nkndadclsa nrvlikkty lplpknadst vlsttdiviv lenshtvcee pkvendiwie
481 neetci

Sechelia XP 002040831.1

1 mnsstdlfat vsldttsyg feedyhyacg tfncspkefv afvlgpqtlp lykailitii
61 fggifitgvv gnllvcivii rhamhtatn yylfslavsd llyllfglpt evflywhqyp
121 dlfmgpfcki rafiseacty vsvftivafs merflaichp lhlyamvgfk rairiitalw
181 iasfisaipf gllsdiqyln yplddsrie e safcsm spki vneyvfevs fciffvipmi
241 liillygrmg akirsrtngk lgvqpgtnnr etrnsgmrkk tvirm laavv itffvcwfpf
301 hlqrlifly knmenyldin ealfsiagfa yyvsctvnpv vysvmsrryr vafrellcgk
361 avgayynsgf ardhssfres saydrvsvh vrssrhpnkf etdpsanrv likktyslpl
421 pknadstvlsttdivivlen shtvceepkv endiwidnee tci

Simulans XP 016032860.1

1 mnsstdptfs elntsftntt dlfatsvsld ttshgfeseeed hyacgtfnsc pkefvafvlg
61 pqtlyplykai litiifggif itgvvgnllv civiirhsam htatnyylfs lavsdlllyll
121 fglptevfly whqypdlfgm pfckirafis eactyvsvft ivafsmefl aichplhlya
181 mvgfkrairi italwiasfi saipfgllsd iqylnypldd sriesafcs mspkivneyp
241 vfevsfciff vipmiliill ygrmgakirs rtnqklgvqp gtnnretrns qmrkktvirm
301 laavvitffv cwfpfhlqrl iflyaknmen yldinealfs iagfayyvsc tvnpivysvm
361 srryrvafre llcgkavgay ynsgfardhs sfressaydr vsvhvraser hpnkfedtsp
421 sanrvlikkt yslplpknad stvlsttdiv ivlenshkv eepkvendiw ieneetci

Takahashi XP 017001909.2

1 mnsstdptfl dlntsfsntp elyatsvsse pshgleaedy yacgtfnctp kefvafvlgp
61 qtlplykail itiifggifi tgvignllvc iviirhsamh tatnyylfsl avsdlllyllf
121 glptevflyw hqypdlfgm fckirafise actyvsvfti vafsmefla ichplhlyam
181 vgfkraikii tglwivsfis avpfgllsdi qylkypidgs rieesafesm seivnvypflf
241 evsfsiffvi pmiliillyg rmgakirsrt nqklgvqhg nretrnsqm rkkavirm la
301 avvitffvcw fpfhlqrlif lyakmeny dinealfsia gfayyvsc ti npivysvmsr
361 ryrvafrell cgkalgayyn safardhssf restatslgn ninydrvsv hvkssrhqnn
421 kneadlsan rvlikktysl plpknadstv lstdivivl enshtvceep kvendiwi en
481 eetci

Bipectinate XP 017101267.1

1 mnstteisfl dlntsiisds fgtssfpvye seteyacgtf nctptefvef vlgpqtlqlw
61 kailitiifg gifitgiign llvcivivrh samhtatny lfslavsdll ylllglptev
121 flfw hqypyl fglpfckira fiseactyvs vftiaafsmefl aichplhlyamvgfkra
181 lriiallwa sfisaipfgv lsdiiyltyp ldnstiaesa fcsmspeivn vvpifelsfc
241 iffvipmili lllygrmgk irsrtngklg vqhg ninres rnsqmrkktv irmlaavvit
301 ffvcwfpfhl qrlwflyaqn nenynvnew lfsiagfay vsctinpivy svmsrryrv
361 frellcgrpv gayynsgfar dhssfresta tsmgnhinyd rvsvhvraser rqpniiked
421 spsqnrulik ktyslplpkt ldstvlsttdivivlensi arnpvceesk vsndiwiene
481 etci

Rhopaloea XP 016979869.1

1 mnsstdpsvl dlntslssts nsyatsvsle pfqgl dsedy yacgtfnscp tefvafvlgp
61 qtlplykavl itiifggifi tgvignllvc iviirhsamh tatnyylfsl avsdlllyllf
121 glptevflyw hqypdlfgm fckirafise actyvsvfti vafsmefla ichplhlyam
181 vgfkrairii talwiasfis aipfgllsdi qylkypldds rieesafesm speivnvip
241 fevsfciffv ipmilimily grmgakirsr tnqklgvqhg tnnretrnsq mrkkavirm l
301 aavvitffvc wfpfhlqrliflyaknleny ldinealfsi agfayyvsc in pivysvms
361 ryrvafrel lcgkavgay nsafardhssf fresthtslg nninydrvsv hvvrssrqnn
421 nkneadsanrvlikktyslplpknadstvlstdivivlenssttarhtlce epkvendiwi
481 eneetci

Eugracilis XP 017072282.1

1 mnsstnptfp efntsfntp dlyatsvsve ptngletdgy yacgtfncsp tefvafvlgp
61 qtlplykail itiiifggifi tgvignllvc iviirhsamh tatnyylfsl avsdlllyllf
121 glptevflyw hqypdlfgmp fckirafise actyvsvfti vafsmerfla ichplhlyam
181 vgfkrairii talwiasfis aipfgllsdi qylkypldgs iiqesafscsm spekvnvipv
241 fevsfciffv ipmiliilly grmgakirsr tnqklgvqhg tnnretrnsq mrkktvirml
301 aavvitffvc wfpfhlqrli flyaknmeny ldinealpsi agfayyvsct inpivysvms
361 rryrvafrel lcgkavgayy nsgfardhss frestgtslg nninydrvhs vhrssrhqn
421 ikneaeslsa nrvlikktys lplpknadst vlsttdiviv lenshtvcee pkvendiwie
481 neetci

Ficusphila XP 017042441.1

1 mslstdptll dlntsfstip rlyatsvsle ppndleaedn yacgtfncsp tefvafvlgp
61 qtlplykail itiiifggvfi tgvignllvc iviirhsamh tatnyylfsl avsdlllyllf
121 glptevflyw hqypdlfgmp fckirafise actyvsvfti vafsmerfla ichplhlyam
181 vgfkrairii talwiasfis aipfgllsdi qylkyppdds rieesafscsm speivnvipv
241 fevsfciffv ipmiliilly grmgakirsr tnqklgvqhg tnnretrnsq mrkktvirml
301 aavvitffvc wfpfhlqrli flyakldny ldinealpsi agfayyvsct vnpivysvms
361 rryrvafrel lcgkpvgayy nsgfardhss frdstatsmg nnihydrvhs vhrssrhqs
421 skneadpls nrvlikktys lplpknsdsa vlsttdiviv leknstarht iceepkvend
481 iwienqetci

Ananassae XP 001958016.1

1 mnstteisfl dlnessiids igtssfpaye seteyyacvt fncptefve fvlgpqtlql
61 wkailitivf ggifltgtig nllvcivivr hssmhtatny ylfslavsdlylllyllgplte
121 vflfwhqypy lfglpfckir afiseactyv svftivafsm erflaichpl hlyamvgfkr
181 alriiallww asfisaipfg wseiiylty pldnstiees afcsmtpeiv nlvpifelsf
241 ciffvipmil iillygrmgl kirsrtknkl gvqhggninre srnsqmkka virmlaavvi
301 tffvcwfpfh mqrlwflyak dnenyynvne wlfsiagfay yvsctinpiv ysvmsrryrv
361 afrellcgrp vgayyngsfa rdhssfrest atsmgnhiny drvhsvhvra srqpnivket
421 dspsqnrqli kktyslplpk tldsavlstt divivlenns tarhpvaees kvtnidiwien
481 eetci

Serrata XP 020816118.1

1 mnsstdssfl elntlnsntp dlyatsvnea psygsgeey yacvtfncse sefvafvlgp
61 qtlplykail itiiifggvfi tgvignllvc tviirhsamh tatnyylfsl avsdlllyllf
121 glptevflyw hqypylfgmp fckirafise actyvsvfti vafsmerfla ichplhlyam
181 vgfkrairii talwiasfis aipfgllsdi qylqypldds rieesafscsm stqvtmipv
241 fevsfciffv ipmiliilly grmgakirsr tnqklgvqhg tnnretrnsq lrkktvirml
301 aavvitffvc wfpfhvqrlw flyaqendny ldinealpsi agfayyvsct inpivysvms
361 rryrvafrel lcgrpvgayy nsgfardhss frestatvlg knvnydrvhs vhrssrhqn
421 nkfetdsiss nrvlikktys lplpknadst vlsttdiviv lennstarht daeepkvnd
481 iwieheetsi

Kikkawei XP 017034448.1

1 mnsstdssfl elntlnsntp dlyatsvnea psygsgeey yacvtfncse sefvafvlgp
61 qtlplykail itiiifggvfi tgvignllvc iviirhsamh tatnyylfsl avsdlllyllf
121 glptevflyw hqypylfgmp fckirafise actyvsvfti vafsmerfla ichplhlyam
181 vgfkrairii talwiasfis aipfgllsdi qylqypldds rieesafscsm stqvtmipv
241 fevsfciffv ipmilimily grmgakirsr tnqklgvqhg tnnretrnsq lrkktvirml
301 aavvitffvc wfpfhvqrlw flyaqendny ldinealpsi agfayyvsct inpivysvms
361 rryrvafrel lcgrpagayy nsgfardhss frestatvlg knvnydrvhs vhrssrhqn
421 nkyetdsiss nrvlikktys lplpknadst vlsttdiviv lennstarht daeepkvnd
481 iwieheetsi

Mauritania **XP 033158765.1**

1 mnsstdptfs elntsftntt dlfatsvsld ttshgfeeed hyacgtfnsc pkefvafvlg
61 pqtllplykai litiifggif itgvvgnllv civiirhsam htatnyylfs lavsdlllyll
121 fglptevfly whqypdlfgm pfckirafis eactyvsvft ivafsmerfl aichplhlya
181 mvgfkrairi italwiasfi saipfgllsd iqylnfpldd sriesafcs mspkivneyp
241 vfevsfciff vipmiliill ygrmgakirs rtnqklgvqp gtnnretrns qmrkktvirm
301 laavvitffv cwfpfhlqrl iflyaknmen yldinealfs iagfayyvsc tvnpivysvm
361 srryrvafre llcgkavgay ynsgfardhs sfressaydr vhsvhvrasr hpnkfetsdp
421 sanrvlikkt yslplpknad stvlsttdiv ivlenshtvc eepkvendiw ieneetci

Elegans **XP 017128680.1**

1 mnssteatfl dfntslsntp tsyatsvsua psqgleaedy facgtfnscsp tefvafvlgp
61 qtlplykail itiifggifi tgvignllvc iviirhsamh tatnyylfsl avsdlllyllf
121 glptevflyw hqypdlfgmp fckirafise actyvsvfti vafsmerfla ichplhlyam
181 vgfkrairii talwiasfis aipfgllsdi qylkypldds rieesafcsm speivnvipv
241 fevsfciffv ipmiliilly grmgakirsr tnqklgvqhg nretrnsqm rkktvirmla
301 avvitffvcw fpfhlqrlif lyakmdnyl dinealfsia gfayyvsciti npivysvmsr
361 ryrvafrell cgkavgayyn safardhssf restattmgn ninydrvhsv hvrssrhqnn
421 kneadsisas rmlikktyl plpknadstv lstdivivle ntsarhtvc egaqvendiw
481 ikneetci

Grimshawi **XP 001984893.2**

1 mnestyfeld dlqcpqinct kmeftqfilg pqtllphkav misiifggif itgvlgnvlv
61 cmviirhaam htatnyylfs lavsdliyll lglpievfly whqypflfgl pfcklrafis
121 eactyvsvft ivafsmerfl aichplhvca msgfqrarri ttilwivsfl iaipfgikte
181 iqylnypidg slitesafca ielefpekfp lfegsfciff iipmliiil ygrmgagirs
241 ratdrlgvqq asrnqatrn qkkkravirm laavvvtffv cwfpfhlqrl wflyaknndn
301 yqdvnewlfs iagfayyvsc tinpivynvm shryrvafke ilcgkkagsy ynsgfardqs
361 sfmrndssfr kettttthlgg skrnsrlhpn gmdtypllst tnivivlgns ssrghqkein
421 rdipeeigik keet

Virilis

1 mnmnmstnms mdtnlstylg tsdatalpyp gmddygcphm nctamefvqf vlgpqtllph
61 kallisiifs gifitgvlgn vlvcmviirh aamhtatnyy lfslavsdll ylllglpaev
121 flywhqypyl fglpfcklra fvseactyvs vftivafsme rflaichplh vcamsgfgra
181 lriitalwiv sflsaipfgv kteiqylnfp ndgsrilesea fcsielefpe efpflevsfc
241 iffiipmili illygrmgag irsratdrlgvqqgsrnres rssqkkrav irmlaavvit
301 ffvcwfpfhl qrlwflyakn ianyqdvnew lfsiagfayy vsctinpivy nvmsqrryva
361 fkeilcgkka gayynsgfar dqssfirdes sfrrgssatp nlrgrstrysr vsangmadcs
421 llntttkivi vlgnnspqrd vdrnipeete akkqen

Mojavensis **XP 032587092.1**

1 mnmnsslvn lstqlgtmda taaalpdidd ygcplnctp meftqfilgp qtlplhkall
61 isiifsgifi tgvlgnlvvc mviirhaamh tatnyylfsl avsdlllylll glptevflyw
121 hqypflfglq fcklrafvse actyvsvfti vafsmerfla icyplhvcam sgfqrarrii
181 tvlwivsflt aipfgvktei qylnypidgs rilesafcsm esefpdkypf fegsfiiffi
241 ipmilifvly grmgagirsr aadqlgvqqg srnresrssq kkravirm aavvitffvc
301 wfpfhlqrlw flyaknfacf qvnnewlfsi agfayyvsc inpivynvms kryriafkei
361 lcgkkagafy nsgfardqss fmrdestrfr ngstnnnls ssnvrynrn vsdcsllstt
421 kivivlgnrr eahnipeet dikkeep

CLUSTAL

bipectinata	RMLAAVVITFFVCWFPFHLQRLWFLYAQNENYNNVNEWLFSIAGFAYYVSC	351
anannassae	RMLAAVVITFFVCWFPFHMQRWFLYAKDNENYNNVNEWLFSIAGFAYYVSC	352
serrata	RMLAAVVITFFVCWFPFHVQRLWFLYAQENDNYLDINEALFSIAGFAYYVSC	357
kikkawai	RMLAAVVITFFVCWFPFHVQRLWFLYAQENDNYLDINEALFSIAGFAYYVSC	357
erecta	RMLAAVVITFFVCWFPFHLQRLIFLYATNMDNYLDINEALFSIAGFAYYVSC	357
melanogaster	RMLAAVVITFFVCWFPFHLQRLIFLYAKNMDNYLDINEALFSIAGFAYYVSC	357
sechelia	RMLAAVVITFFVCWFPFHLQRLIFLYAKNMENYLDINEALFSIAGFAYYVSC	343
simulans	RMLAAVVITFFVCWFPFHLQRLIFLYAKNMENYLDINEALFSIAGFAYYVSC	358
mauritania	RMLAAVVITFFVCWFPFHLQRLIFLYAKNMENYLDINEALFSIAGFAYYVSC	358
ficusphila	RMLAAVVITFFVCWFPFHLQRLIFLYAKNMDNYLDINEALFSIAGFAYYVSC	357
takahashi	RMLAAVVITFFVCWFPFHLQRLIFLYAKNMENYLDINEALFSIAGFAYYVSC	356
eugracilis	RMLAAVVITFFVCWFPFHLQRLIFLYAKNMENYLDINEALFSIAGFAYYVSC	357
biarmpes	RMLAAVVITFFVCWFPFHLQRLIFLYAKNMENYLDINEALFSIAGFAYYVSC	357
suzuki	RMLAAVVITFFVCWFPFHLQRLIFLYAKNMENYLDINEALFSIAGFAYYVSC	357
rhopaloa	RMLAAVVITFFVCWFPFHLQRLIFLYAKNLENYLDINEALFSIAGFAYYVSC	357
elegans	RMLAAVVITFFVCWFPFHLQRLIFLYAKNMDNYLDINEALFSIAGFAYYVSC	356
grimshawi	RMLAAVVITFFVCWFPFHLQRLWFLYAKNNDNYQDVNEWLFSIAGFAYYVSC	328
virilis	RMLAAVVITFFVCWFPFHLQRLWFLYAKNIANYQDVNEWLFSIAGFAYYVSC	351
mojavensis	RMLAAVVITFFVCWFPFHLQRLWFLYAKNFACFQNVNEWLFSIAGFAYYVSC	347

bipectinata VMSRRYRVAFRELLCGRPVGAYYNSGFARDHSSFRESTATSMGNHINYDRVHSHVHRASR 411
anannassae VMSRRYRVAFRELLCGRPVGAYYNSGFARDHSSFRESTATSMGNHINYDRVHSHVHRASR 412
serrata VMSRRYRVAFRELLCGRPVGAYYNSGFARDHSSFRESTATVLGKNVNYDRVHSHVHRSSR 417
kikkawai VMSRRYRVAFRELLCGRPVAGAYYNSGFARDHSSFRESTATTLGKNVNYDRVHSHVHRSSR 417
erecta VMSRRYRVAFRELLCGKAVGAYYNSGFARDHSSFRESS-----AYDRVHSHVHRASR 409
melanogaster VMSRRYRVAFRELLCGKAVGAYYNSGFARDHSSFRESS-----AYDRVHSHVHRASQ 409
sechelia VMSRRYRVAFRELLCGKAVGAYYNSGFARDHSSFRESS-----AYDRVHSHVHRSSR 395
simulans VMSRRYRVAFRELLCGKAVGAYYNSGFARDHSSFRESS-----AYDRVHSHVHRASR 410
mauritania VMSRRYRVAFRELLCGKAVGAYYNSGFARDHSSFRESS-----AYDRVHSHVHRASR 410
ficusphila VMSRRYRVAFRELLCGKAVGAYYNSGFARDHSSFRDSTATSMGNNIHYDRVHSHVHRSSR 417
takahashi VMSRRYRVAFRELLCGKALGAYYNSAFARDHSSFRESTATSLGNNINYDRVHSHVHKSSR 416
eugracilis VMSRRYRVAFRELLCGKAVGAYYNSGFARDHSSFRESTGTSLGNNINYDRVHSHVHRSSR 417
biarpes VMSRRYRVAFRELLCGKAVGAYYNSGFARDHSSFRESTATSLGNNINYDRVHSHVHTSSR 417
suzuki VMSRRYRVAFRELLCGKAVGAYYNSGFARDHSSFRESTATSLGNNINYDRVHSHVHRSSR 417
rhopaloo VMSRRYRVAFRELLCGKAVGAYYNSAFARDHSSFRESTHTSLGNNINYDRVHSHVHRSSR 417
elegans VMSRRYRVAFRELLCGKAVGAYYNSAFARDHSSFRESTATTMGNNINYDRVHSHVHRSSR 416
grimshawi VMSRRYRVAFKEILCGKKAGSYNSGFARDQSSFRNDSFRKETTT-T-----HLGGS- 382
virilis VMSRRYRVAFKEILCGKKAGAYYNSGFARDQSSFRDESSFRRGSSATP-----NLRGS- 406
mojavensis VMSKRRIAFKEILCGKKAGAFYNSGFARDQSSFRMDETFRNGSTNN-----NMLS-- 401

bipectinata QPNI I KEKDS P S QNR VLI K K T Y S L P L P K T L D S T V L S - T T D I V I V L E N N S I A R N P V C E E S K 470
anannassae QPNI V K E T D S P S QNR VLI K K T Y S L P L P K T L D S A V L S - T T D I V I V L E N N S T A R H P V A E E S K 471
serrata H Q N N K F E T D S I S S N R V L I K K T Y S L P L P K N A D S T V L S - T T D I V I V L E N N S T A R H T D A E E P K 476
kikkawai H Q N N K Y E T D S I S S N R V L I K K T Y S L P L P K N A D S T V L S - T T D I V I V L E N N S T N R Q T D A E E P K 476
erecta H P N - K F E T D S L S A N R L L I K K T Y S L P L P K N A D S T V L S - T T D I V I V L E N - - - - S H T V C E E P K 463
melanogaster H P N - K F E T D S S A N R V L I K K T Y S L P L P K N A D S T V L S - T T D I V I V L E N - - - - S H T V C E E P K 463
sechelia H P N - K F E T D S P S A N R V L I K K T Y S L P L P K N A D S T V L S - T T D I V I V L E N - - - - S H T V C E E P K 449
simulans H P N - K F E T D S P S A N R V L I K K T Y S L P L P K N A D S T V L S - T T D I V I V L E N - - - - S H K V C E E P K 464
mauritania H P N - K F E T D S P S A N R V L I K K T Y S L P L P K N A D S T V L S - T T D I V I V L E N - - - - S H T V C E E P K 464
ficusphila H Q S S K N E A D P L S A N R V L I K K T Y S L P L P K N S D S A V L S - T T D I V I V L E K N S T A R H T I C E E P K 476
takahashi H Q N N K N E A D S L S A N R V L I K K T Y S L P L P K N A D S T V L S - T T D I V I V L E N - - - - S H T V C E E P K 471
eugracilis H Q N I K N E A E S L S A N R V L I K K T Y S L P L P K N A D S T V L S - T T D I V I V L E N - - - - S H T V C E E P K 472
biarpes H Q N N R N D A D S L S A N R V L I K K T Y S L P L P K N A D S T V L S - T T D I V I V L E N - - - - S H T V C E E P K 472
suzuki H Q T N K N D A D C L S A N R V L I K K T Y S L P L P K N A D S T V L S - T T D I V I V L E N - - - - S H T V C E E P K 472
rhopaloo Q Q N N K N E A D S - - A N R V L I K K T Y S L P L P K N V D S T V L S - - T D I V I V L E N S S T A R H T L C E E P K 473
elegans H Q N N K N E A D S I S A S R M L I K K T Y S L P L P K N A D S T V L S - - T D I V I V L E N S T A R H T V C E G A Q 474
grimshawi - - - - - K R N S R L H - - - - - P N G M T D Y P L L S T - T N I V I V L G N S S S R G H Q K E I N R D 422
virilis - - - - - T R Y S R V S - - - - - A N G M A D C S L L N T T T K I V I V L G N N S - - - - - P Q R D V D R N 444
mojavensis - - - - - S S N V R Y N - - - - - R N R V S D C S L L S T - T K I V I V L G N R - - - - - R E A N H N 435

bipectinata V S N D I W I E N E E T C I 484
anannassae V T N D I W I E N E E T C I 485
serrata V D N D I W I E H E E T S I 490
kikkawai V D N E I W I E H E E T S I 490
erecta V E K D I W S E N E E T C I 477
melanogaster V E N D I W I E N E E T C I 477
sechelia V E N D I W I D N E E T C I 463
simulans V E N D I W I E N E E T C I 478
mauritania V E N D I W I E N E E T C I 478
ficusphila V E N D I W I E N Q E T C I 490
takahashi V E N D I W I E N E E T C I 485
eugracilis V E N D I W I E N E E T C I 486
biarpes V E N D I W I E N E E T C I 486
suzuki V E N D I W I E N E E T C I 486
rhopaloo V E N D I W I E N E E T C I 487
elegans V E N D I W I K N E E T C I 488
grimshawi I P E E I G I K K E E T - 435
virilis I P E E T E A K K Q E N - - 456
mojavensis I P E E T D I K K E E P - - 447

