



Ap\_dcr1a ETE-IDQYMFSIKHLTDLKPLVIRS-----INHLDFNNYE  
 Ap\_dcr1b EAE-VDQYMFSIRHLTDLKPLEIRS-----VDHSDFINYD  
 Nv\_dcr1 NEEACTEKANHIKQLTDLKVLKCNVVK-----DFDSKEFSSNTQ  
 Am\_dcr1 DEDKCTIKASYIQQLTDLKVLLCDTCS-----TAEFIEKFEISH  
 Ph\_dcr1 SSVVVSrkaayfQRLTNMLVAEYHKGNc-----NKIKKIKKIPKLDQ  
 Tc\_dcr1 GPN-VPIMTSHVKLLTDLTVTSIDK-----EENPPSLKASN  
 Dm\_dcr1 STE-PCSIYTMLTHLTDLRVWQEQP-----DMQIPFDHCWTDYH  
 Ag\_dcr1 RMD-RSLLSSMVSNLTDLQVANVDDVEDSEGSHEPDGASNTPVTDVASADV  
 Pm\_dcr1 SGPGLVRAGEAIQQNTNLAVTTYTRLEQVEG-----WLPsrwsQTFTEAQ  
 Hs-dicer SANQVAQQVSAVRTHSDLKVGEEYSNLEVNAS-----WTKERWNQEFtkHQ  
 Ci-dicer EDCMVNEQSELRSHLDVDIISCTHNM-TDS-----FTDESLOQLCHDHQ

cons . : :

Ap\_dcr1a VIVTTENQCLEIFEKkYLHFDQLNLAI FNNCQKIIVKN-STYFKICD-FIK  
 Ap\_dcr1b VIVTTENLCLEIFEKNCLHFDQLSLAIFNNCQKIIVEN-STYFKICN-FIK  
 Nv\_dcr1 VLILTVDMCSKLLLANKINPNQINLLIIDKCHNLVTN--CKLSKILNI-FR  
 Am\_dcr1 VLLATSKTCAQLLADKKILPHQINLVIVDECHKSINN--SQLKFILQT-IL  
 Ph\_dcr1 IVVAETETANYMLENELIVMSDINLLILHDCHCVLKNGI VPKELMKF-YY  
 Tc\_dcr1 VIVTTAEVCVLLCCKNFVHLDSYALIVID-CLYGGQQS--LVREIMARYQA  
 Dm\_dcr1 VSILRPEGFLYLLRETRLLLSSVELIVLEDCHDSAVY--QRIRPLFEN-HI  
 Ag\_dcr1 LFFGSETLLQYIEQGTVRVQDISLLIVDECHKNYGR--QELWEICAR-LT  
 Pm\_dcr1 VIIMTVDVLEKGLTGLLQLDMLNLLVITDAHRVATFP--PLIK----VLN  
 Hs-dicer VLIMTCYVALNVLKNGYLSLSDINLLVFDECHLA-ILD-HPYREIMKL-CE  
 Ci-dicer VLVCTPEVFVKLLSISLYIAQYMDLVIFDDCHLVNIEM-HPIRKIMKI-LD

cons : . \* : .

Ap\_dcr1a PN-----SQCRILGIVHPLFELSDPFFIENQLKSISHKLFSSSIETAS  
 Ap\_dcr1b SN-----SQCRILGIVHPLFELSDPLFIENQLKFISHKLFSSSIETAS  
 Nv\_dcr1 NC-----DSTTKIIGFAVPLYSLTKEPGALSYEIERIESLLQCQIETAS  
 Am\_dcr1 SC-----NNVPRIIGLAVPLFNLTQEPGRLGLEIEKVENTFQCEVETAS  
 Ph\_dcr1 NS-----STKPHILSLASSLFSSNLDLSQIKSCLNKMEDILNCKAETAS  
 Tc\_dcr1 IQ-----APRPRILGLTAGLLGSEMOPDRLEAELQRLEKLLSSSVDTSS  
 Dm\_dcr1 MPAP----PADRPRILGLAGPLHSAGCELQQLSAMLATLEQSVLCQIETAS  
 Ag\_dcr1 HQAPSSDRPAQRTRILGLAGPLHGAGCTPERLCWELHYLERCLRARIETAS  
 Pm\_dcr1 LC-----RG-CRILGMTSPVLSHACSPQLESFLTHLQDATSCVVDTS  
 Hs-dicer NC-----PSCPRIILGLTASILNGKCDPEELEEKIQKLEKILKSNAETAT  
 Ci-dicer EN-----RYTPMILGLTSSLLNNNITADELNKCIHSMETVMHCKAQTAT

cons \* : : : : : : : : : \*

Ap\_dcr1a DIVSILRHCKP-KEVLIECAVQTED--LTNLKIKSMVQSL----TQFLT  
 Ap\_dcr1b DIVSLLRSCCKP-KEVLIECAVQSED--FPNIGIKSIVQSL----TDFLN  
 Nv\_dcr1 DLLSILRYSPPK-KEYLLAYKIEDKK--VVEKDITDFTSFT----LNFLS  
 Am\_dcr1 DILSILRYSPPK-KEYVVEYAKSEKG--ELHITIENHILHA----IEFLR  
 Ph\_dcr1 NVLSLLRYGTHP-HEVLIIEYGLHIPS--SIDEIIEGEILKA----IQFIK  
 Tc\_dcr1 EILTLIRLSCR-RE RIVECFKPIPS--PLQDKIKATITSC----QDFLK  
 Dm\_dcr1 DIVTVLRYCSR-HEYIVQCAPFEMD--ELSLVLADVLNTH----KSFL  
 Ag\_dcr1 DITSVLRFFSTK-TELILECIPPKPS--NLTQLLRMLIQRQ----IAFLK  
 Pm\_dcr1 EIVTVLRYVNKP-VEKIVMCRDPDPDERSEVELEVRRLVGEA----LSFLD  
 Hs-dicer DLVVLDRYTSQP-CEIVVDCGPFDT--RSGLYERLLMELEEA----LNFIN  
 Ci-dicer DLIADVDRHNINPVENIILSSDE-N--KDGLNSQLLSDIRKILNGALEWLN

cons : : \* . \* \* : : : : : :



Ap\_dcr1a INTLKQFKPKSFKA-----  
 Ap\_dcr1b INTLKQFKPKSFNS-----  
 Nv-dcr1 IEVLKTFSPPPKEETVTPN-NRV-----  
 Am-dcr1 LQILKTYTPYYTKHINNTD-NKI-----  
 Ph-dcr1 IEILRK FVPEKLDVKLDDNL-SVKNQ-----  
 Tc-dcr1 LQVLKQFKPTG-----  
 Dm-dcr1 LQTLRCFKPEEVHTQADGLRR-MRH-----  
 Ag-dcr1 LEVLAWFGEQRNRPKDRNQPATLHHH-----  
 Pm-dcr1 VEILRQVRPLN FVDPRKRRD-RLEAFENGKSAAALEGSEDTQENK TSAEDK  
 Hs-dicer LEILRKYKPYERQ-----  
 Ci-dicer IQVLKEYKPVVEG-----

cons : : \* 

Ap\_dcr1a -----  
 Ap\_dcr1b -----  
 Nv-dcr1 -----  
 Am-dcr1 -----  
 Ph-dcr1 -----  
 Tc-dcr1 -----  
 Dm-dcr1 -----  
 Ag-dcr1 -----  
 Pm-dcr1 NVHEDPTKLATDGGNTENLQGSASKSETEMSCEGSEEPSD T T L C V Q G S I Y G  
 Hs-dicer -----  
 Ci-dicer -----

cons

Ap\_dcr1a -----  
 Ap\_dcr1b -----  
 Nv-dcr1 -----  
 Am-dcr1 -----  
 Ph-dcr1 -----SNKLSDASKTISKAIETSAEKCS-----  
 Tc-dcr1 -----  
 Dm-dcr1 -----Q-----  
 Ag-dcr1 -----Q-Q-----  
 Pm-dcr1 ISEIPLVSSGDGANDPNN-----ECEVNSGNAMPDLKAMEE  
 Hs-dicer -----  
 Ci-dicer -----

cons 

Ap\_dcr1a -----  
 Ap\_dcr1b -----  
 Nv-dcr1 -----  
 Am-dcr1 -----  
 Ph-dcr1 -----TILN-----  
 Tc-dcr1 -----  
 Dm-dcr1 -----  
 Ag-dcr1 -----  
 Pm-dcr1 LSEGHSQIHGTEPASEDPFLADENS TEDK SELSHGAPSNMFCGSSIEDSSE  
 Hs-dicer -----  
 Ci-dicer -----

cons 

Ap\_dcr1a -----  
 Ap\_dcr1b -----  
 Nv-dcr1 -----  
 Am-dcr1 -----  
 Ph-dcr1 ----- ESEMKKQCLNCD -----  
 Tc-dcr1 -----  
 Dm-dcr1 -----  
 Ag-dcr1 -----  
 Pm-dcr1 VVDISTDGGYFTAVSDVSPKCTSKAVSDSYTNDIE DCMIKANCNNHEVNVS  
 Hs-dicer -----  
 Ci-dicer -----  
  
 cons -----

Ap\_dcr1a -----  
 Ap\_dcr1b -----  
 Nv-dcr1 -----  
 Am-dcr1 -----  
 Ph-dcr1 ----- CTI -----  
 Tc-dcr1 -----  
 Dm-dcr1 -----  
 Ag-dcr1 -----  
 Pm-dcr1 RMTEVNTENF CAE VTDKHSYLQDSLEDGVDFTKHSMKERSADDMHITVQTC  
 Hs-dicer -----  
 Ci-dicer -----  
  
 cons -----

Ap\_dcr1a -----  
 Ap\_dcr1b -----  
 Nv-dcr1 -----  
 Am-dcr1 -----  
 Ph-dcr1 ----- MT EYLLKR -----  
 Tc-dcr1 -----  
 Dm-dcr1 -----  
 Ag-dcr1 -----  
 Pm-dcr1 PETTQYCSNACEDVAAKT NDE DGS TLEDSL CRLNIKESSCTDGC DTESIKS  
 Hs-dicer -----  
 Ci-dicer -----  
  
 cons -----

Ap\_dcr1a -----  
 Ap\_dcr1b -----  
 Nv-dcr1 -----  
 Am-dcr1 -----  
 Ph-dcr1 -----  
 Tc-dcr1 -----  
 Dm-dcr1 -----  
 Ag-dcr1 -----  
 Pm-dcr1 CDLHNGVLSAKNDLLDTAMIQNVKNMTLCNGFEHGSKDDIMDSEKDITSKM  
 Hs-dicer -----  
 Ci-dicer -----  
  
 cons -----

```

Ap_dcrla -----
Ap_dcrlb -----
Nv_dcrl  -----EK-----
Am_dcrl  -----NN-----
Ph_dcrl  --LDSSDIKNFTYDNFAKLEKEGYSNFIMNNE DLKSATQIENNERNLKEL
Tc_dcrl  -----
Dm_dcrl  -----VDQADFNRLSHTLESKCRMVDQMDQPPE
Ag_dcrl  -----VHNQQRILYCFERNVECKELEKSYHTFG---AQIADVDERIKQ
Pm_dcrl  NGHVDPSEYDSESEDISDRYKSCESVQSQA SVETSSKEGSI SDTFVPSATS
Hs-dicer -----
Ci-dicer -----

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cons

```

Ap_dcrla -----DNNIVEVCKEQKEKKDKSIKSKSVRRNWKLARR
Ap_dcrlb -----NNNLAEVCKDQEGNKDKIIKSKSAKRNCKLTRR
Nv_dcrl  -----NDS-----ANTKDQNHDKSVKN-----LHKKT DGGFKKFR-
Am_dcrl  -----ENISRKFPANNRDSIKDKFMQSKKLD CNWKSSEENCKKPP-
Ph_dcrl  GDKNEISLLSNNFNSNCSLNLQSNNNKPIKNFFYENNNKSKKEHSNSILR
Tc_dcrl  -----DKPETCDKLPDLKDPKKGKGNKYGPR-
Dm_dcrl  TRALVATLEQILHTTEDRQTNRSAARVTPPTPAHAKPKPSSGANTAQPRT
Ag_dcrl  LDGLLASVRKRTERLNLKHKVVDNAAAEGGTLGVQSPRHGHESRANNFRR
Pm_dcrl  YLPCKADATSAVDETATP SDSAPNEQELPTCTSGVENTEDPALVSTSGTTQ
Hs-dicer -----QFESVEWYNNRNQDNYVSWSD SEDDEDEDEEIEE---
Ci-dicer  -----EEKQNTSNESDYVSWWQSDAEDEDADMMEGKK

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cons

```

Ap_dcrla -----
Ap_dcrlb -----
Nv_dcrl  -----
Am_dcrl  -----
Ph_dcrl  NKNGF-----LPIA-----KENILRAVNESLQM
Tc_dcrl  -----
Dm_dcrl  -----
Ag_dcrl  -----
Pm_dcrl  NTTICSDSGAFSNNNSNGTQPTTQTVSSEAAAMADTLAMLLP-----
Hs-dicer -----
Ci-dicer  -----

```

cons

```

Ap_dcrla -YG-----THRKQGRSRD-PYEETICAIILVNNKMTASILY
Ap_dcrlb -YYN-----KTHRKQQRSD-PCEENVCAIILVNSKMTASVLY
Nv_dcrl  -----PFRHSRGLT-D-PDL LCGVIFVDDAVTAKVLF
Am_dcrl  -----VARHMRGIT-D-PDL LCGVIFVDKAFVAKVLF
Ph_dcrl  KKRKINE THTIERENQDDFIFKQLKNFG-DSDVPLCGLIFVEKKFTA KVLF
Tc_dcrl  -----RPIYS-----RA-QSDEMLCALVFVKNRYKAEALF
Dm_dcrl  -RRR-----VYTRRHHRDHN-DGSDTLCALIYCNQNHTARVLF
Ag_dcrl  -KRF-----AGGGHSHRSN-DTTDALCGLIFCNRAMARILY
Pm_dcrl  -----NSGKGRKRRDDVKEKVKVHNP-EDPDSVCGLIFVHHRMAKIIY
Hs-dicer -----KEKPETNFPS PFTNILCGIIFVERRYTAVVLN
Ci-dicer  -----EEKEDENHPSLFINTLCGIVFVEERYVAMMLQ

```

cons

Ap\_dcr1a YLFLDLKNSNKEDFGWIQPOYTVDKEA-DPITEPKFEFEIEHKKQEETLRRF  
 Ap\_dcr1b HLFLDLKNSNEEDFGWIEPQYMVDNNA-DPITEPEEFEIEERKTQENILKRF  
 Nv-dcr1 YLLNEMSKC-EESLHFLSPLFTSEKSN-D-ELFCGRDLELELYRKQEEVLKKF  
 Am-dcr1 YLLNEISMH-DEELHFLSPLYTIEKNI-D-DISYSKDLEIEHRKQEEVLKRF  
 Ph-dcr1 HVLNDLKQA-DEDFSFLNVQFTVGKV-VDTGKDPKGAENEHRKQELMLKRF  
 Tc-dcr1 ALLCVMSKS-DEEYWWVSVSFSVNKI-ADPVREPREAESEHKRQEEVLKRY  
 Dm-dcr1 ELLAEISRR-DPDLKFLRCQYTDRVAD-PTTEPKAELEHRRQEEVLKRF  
 Ag-dcr1 VLLYEVSRS-QREFEFISPOYTVDKVATNPQNCLKQTTIEHRKQEEVLKRF  
 Pm-dcr1 RLLKELSDI-GGDFAWIFPQYTVKAK-ESVKEDPRAAEAEHKKQEEVLRRF  
 Hs-dicer RLIKEAGKQ-DPELAYISSNFI TGHGIGKNQPRNKQMEAEFRKQEEVLKRF  
 Ci-dicer RLLRELSKE-DKNLKHVSSSHLTPGV-EGERRGVDPASMDQSKQEEVLKRF

cons : : . : . : \*\* \*:::

Ap\_dcr1a RQRECNVLIQTKVLEAGI  
 Ap\_dcr1b RQRNCNVLIQTKLEETGI  
 Nv-dcr1 RIHECNLLISTAILEEGI  
 Am-dcr1 RIHECNILISTSILEEGI  
 Ph-dcr1 RIRACNLLIGTSFLEEGI  
 Tc-dcr1 RSHECNIMIATSALQGC  
 Dm-dcr1 RMHDCNVLIQTSVLEEGI  
 Ag-dcr1 RMHECNLLIGTSVLEEGI  
 Pm-dcr1 RHHECNILVSTRVLEEGI  
 Hs-dicer RAHETNLLIATSIVEEGV  
 Ci-dicer RSHESNLLICTGDLEDCA

cons \* : \*::: \* :\*

T-COFFEE, Version\_7.38Thu Nov 20 17:26:38 WEST 2008

Cedric Notredame

CPU TIME:103 sec.

SCORE=82

\*

BAD AVG GOOD

\*

Ap_dcr1a	:	85
Ap_dcr1b	:	85
Nv-dcr1	:	83
Am-dcr1	:	83
Ph-dcr1	:	82
Tc-dcr1	:	84
Dm-dcr1	:	81
Ag-dcr1	:	80
Pm-dcr1	:	81
Hs-dicer	:	80
Ci-dicer	:	78
cons	:	82

Ap_dcr1a	DLPRCNLVINYNIPLSYKSYLRSKSRAKTLD AHYILMFDEDA	-----
Ap_dcr1b	NLPRCNLVINYNLPLSYKSYLMSKSKARTLDAYYVLMFDEHA	-----
Nv-dcr1	DIPKCNFVMRFEFPKNYQSYVQCKSRARATDALHVLLVPEIE	-----
Am-dcr1	DIPKCNFVMRYDFPKTYQSYVQCKSRARAPDALYVLLVSQEM	-----
Ph-dcr1	ELPKCNLVIRFDVDPKHYSYINTKERARAANS LFCLLVGPNE	-----
Tc-dcr1	DLPKCNLVIRFDLPQSFHSYIHSKARARANEAHFLLLANENE	-----
Dm-dcr1	DVPKCNLVVRWDPPTTYRSYVQCKGRARAAPAYHVILVAPSYKSP TVG SVQ	-----
Ag-dcr1	ELPKCNLVIRWNSPANYSYAQCKGRAPGAYHVLFVTPENAASRNEQQ	-----
Pm-dcr1	DVPQCNLVLRFDPPTDYRSYVHSCGRARGHDTFYFHLITKNQ	-----
Hs-dicer	DIPKCNLVVRFDLPT EYRSYVQSKGRARAPISNYIMLADTDK	-----
Ci-dicer	YMPKCNLIMRFDVPKSYRSYAESKSRARAQTSAYVMLVRETE	-----

cons	:*:*:*::: .:: * ::* * :* : . :	-----
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Ap_dcr1a	-----
Ap_dcr1b	-----
Nv-dcr1	-----
Am-dcr1	-----
Ph-dcr1	-----
Tc-dcr1	-----
Dm-dcr1	LTDRSHRYICATGDTTEADSDSDD SAMPNSSGSDPYTFGTARGTVKILNPE
Ag-dcr1	-----
Pm-dcr1	-----
Hs-dicer	-----
Ci-dicer	-----

cons



Ap\_dcrla -----  
 Ap\_dcrlb -----  
 Nv\_dcrl -----  
 Am\_dcrl -----  
 Ph\_dcrl -----  
 Tc\_dcrl -----  
 Dm\_dcrl VFSKQPPTACDIKLQEIQDELPAQAQLDTSNSSDEAVSMSNTSPSESSTEQ  
 Ag\_dcrl -----EDMASIEDVSLDGMIPGPK-----  
 Pm\_dcrl -----  
 Hs-dicer -----  
 Ci-dicer -----

cons 

Ap\_dcrla -----TSNILSRLKLYKDINQM  
 Ap\_dcrlb -----TSKILSCCQLYKDINQM  
 Nv\_dcrl -----SEVYIQRLAHYHYIEKI  
 Am\_dcrl -----SKEYVWQLAQYHYIEKT  
 Ph\_dcrl -----KDDFVHELAKYYETEAV  
 Tc\_dcrl -----VSDFVENLAEYNEVENT  
 Dm\_dcrl KSRRFQCELSSLTEPEDTSDTTAEIDTAHSLASTTKDLVHQMAQYREIEQM  
 Ag\_dcrl -----DDNTRETIDDQDRRMIEATADAMIEQVAIYREVEKL  
 Pm\_dcrl -----EISFLHDMATYSAFQQV  
 Hs-dicer -----IKSFEECLKTYKAIEKI  
 Ci-dicer -----KSHFMEKLLQYKKEIKV

cons 

Ap\_dcrla LLSHCTLKDIDMEKETY-ADRYNWFVTPFKPGKK-----EDSAFVDMA  
 Ap\_dcrlb LLSHCTLKDIDMEKEIY-ADRFNWFVSPFKPGKK-----EDSAFVDMA  
 Nv\_dcrl LLSKCTSKEADECEETE-ADAYDSVLPEYKPLDE-----EDAPKVTLN  
 Am\_dcrl LLVKCSNNEPSEEEENE-ADMYAAMIPHYKPLDG-----GDAPKVTFN  
 Ph\_dcrl LLEKCGHLEPEEEENE-ADLYTQLVQPF CPLLK-----RECPHVDLS  
 Tc\_dcrl LLKRCYSLEPDKNEELV-ADASSLQCRPYQPSAE-----PGANSVSL  
 Dm\_dcrl LLSKCANTEPPEQEQSE-AERFSACLAAYRKPYPH-----LLTGASVDLG  
 Ag\_dcrl LLAKCRNGEPPDWELKH-ADCFNHCLEVYRPSSGGAVALQSNNGTCASLWLG  
 Pm\_dcrl LVSHCGSVEVGTREVL-SSEANAHAHAPYL--T-----PAEAAVTMA  
 Hs-dicer LRNKCSKSVDTGETDIDPVMDDDDVFPYPVLRPD-----DGGPRVTIN  
 Ci-dicer LLGPDWSLNEVYD-NNE-DDDIEEMIPPYIL-----NRNTQVNMK

cons 

Ap\_dcrla TAIGLVNRYCAKLPSDTFTKLSPWKTQSVVYEN--QPMFVCSIRLPINSP  
 Ap\_dcrlb TAIGLVNRYCAKLPSDTFTKLSPWKIQSIVYEN--QPMFVCSIRLPINSP  
 Nv\_dcrl SAISLVNRYCAKLPSDTFTKLTPWIKINNITVEN--KQMYICSLRLPINSP  
 Am\_dcrl SAISLVNRYCAKLPSDTFTRLTPWESI QEMNIDN--ILMYICSLRLPINSP  
 Ph\_dcrl SAVMLLNRYCAKLPSDTFTRLTPICNIKTVKEFE--RKMVYVCTIRLPINSP  
 Tc\_dcrl NAIALVNRYCAKLPSDTFTRLTPIWHEEKVEN--GYICIRLPINSP  
 Dm\_dcrl SAIALVNRYCARLPSDTFTKLTLWRCTRNERAG--VTLFQYTLRLPINSP  
 Ag\_dcrl NAIQTLNRYCAKLPSDTFTKLTPIWRCATTVRKG--RKLYQYTIRLPINSP  
 Pm\_dcrl SAIGLLNRYCAKLPSDTFTRLTAMWDVEEIEEAEVEIIPKYKCKIMLPINSP  
 Hs-dicer TAIGHINRYCARLPSDPFTHLAPKCRTRREL-PD--GTFYSTLYLPINSP  
 Ci-dicer NAVRIVNRYCNRLPSDPFTHLSRCEVVEVLNDG-DSPMFMCILQLPINSH

cons 

Ap\_dcr1a IKHDIHGHPMPCEILAKRIAALAEVCRQLHSHGELDDTLQPI TKESFHALFN  
Ap\_dcr1b IKHEIHGHPMPCEILAKRIAALAEVCRQIYSQGQLDDTLQPI TKESFHALFN  
Nv-dcr1 LKYSISSYPMPNKALAKRMAALQMCVCLHKENEIDDYLLPVGKENFKAHPE  
Am-dcr1 VKYIVSSYPMPNKAMARRMAALQLCIDLHRKNEIDDNLLPIGKENFKAKPE  
Ph-dcr1 IKQEIIEGCPMPTRVLAKRFAAFQCCQLLHLSGELDDTLQPI SKESFWIREE  
Tc-dcr1 VKKTVTSPPMINTLLARRAAAFMICQLLHKAGELDDNLQPIGKENFKVNEE  
Dm-dcr1 LKHDIVGLPMPQTTLARRLAALQACVELHRIGELDDQLQPIGKEGFRALPE  
Ag-dcr1 WKEDIL-----  
Pm-dcr1 LKGTIEGPWQSKVSLAKMAAALECCRRLLHQMEELDDQLQPVGKESMKLDDH  
Hs-dicer LRASIVGPPMSCVRLAERVVALICCEKLLHKIGELDDHLMPVGKETVKYEEE  
Ci-dicer VREPVOGIVMPTLQLAQAVAMETCKVLYEAGELDENLMPIGKETVKYAAE

cons : :

Ap\_dcr1a ADEVL-PDAEDALIPWDTEEPRPGTNKRRQYYYKRIAEALNDCRPVENKPC  
Ap\_dcr1b TDEII-PDTEDSLITCKTKDSMPGTYKRRQHYYKRTAEALNDCRPVEGKPC  
Nv-dcr1 DSEVPAL-PDDENM--DLTEARP GTTKRRQYYYKKIADALIDCKPELEEPC  
Am-dcr1 DAEVPAL-PDESKV--DFSEARP GTTKRRQYYYKKTAEALTDCRPIIGVPS  
Ph-dcr1 GRLTVTNDETE EIVSRDSLEPRPGTTKRRQYYYKKIADSLTDCLPMADKPS  
Tc-dcr1 DWNSSALEESDE----ENLDPRPGTTKRRQYYYKKVADALLDCHPIIGQPT  
Dm-dcr1 DWECFELEPEDEQIVQLSDEPRPGTTKRRQYYYKRIASEFCDCRPVAGAPC  
Ag-dcr1 -----IASVFNECRPDAETVA  
Pm-dcr1 --LCA-P-PADDQV--PEGMPRPGTTKRRQYCYKKVAVCLTGEQPKQGLDL  
Hs-dicer --L-D-LH--DEEE--TSVPGRPGSTKRRQCYPKAIPECLRDSYPRPDQPC  
Ci-dicer --L-D-PW--KREV--SSITGRPGSTKRRQTYNKDSPQILRSCLPQPDINL

cons . : \*

Ap\_dcr1a HLYAILLNMNCPVPEEQNTRGRRIHPPEESVHGFGILT IKHIPSIPPFPIY  
Ap\_dcr1b HLYAILL NITCPIPEEQENTKSRRIHPPPEESI HGFGILT TTKHIPSIPAFPIY  
Nv-dcr1 YLYHINMVLSCPLPEEQNTRGRKIYPPEESDIGFGILTRKKIPKVC PFPIY  
Am-dcr1 YLYHINLVLSCPLPEEQNTRGRRIYPPEESAIGFGIITLKEIPKLC PFPIY  
Ph-dcr1 FLYDISMVLSCPLPEEQNTRGRKIHPPENSSQGFGILT KKRIPKIGPFPIF  
Tc-dcr1 YFYKIVMKLTCPLPEEQNTRGRKIYPPEESPQGFGILTSKEIPKISAFPIF  
Dm-dcr1 YLYFIQLTLQCPPEEQNTRGRKIYPPEDAQQFGILT TTKRIPKLSAFSIF  
Ag-dcr1 YLYHIRMELICPIPEEQNTRGRKIYAPEESAQGFGILT TTKLIPKISSPFPIF  
Pm-dcr1 FVYKLDMLVLTCPIDEQNTRGRKIYRPEQSSRSFGIITTKPISQVSGFPVF  
Hs-dicer YLYVIGMVLTTPLPDELNFRRRKLYPPEDTTRCFGILTAKPIPQIPHFPVY  
Ci-dicer FIYEIEMKIKNPLLDELNVRRRK LFFPEETSRCFGILT TTKPIPQIPGFPIF

cons . . \* : : : \* : : : \* : \* : : \* : : \* : : \* : : \* : : \*

Ap\_dcr1a TRCGEVYVSLKPIKTD MFLTQHQLDNIATFLNYTFTNVLR LQKCHVAFDPT  
Ap\_dcr1b PRCGEVYVRLKRIKTD MFLTQHQLDNIATFLNYTFS NVLFCFKKCRVEFNPT  
Nv-dcr1 TRSGEVRVDLKL SKETVVLDESKIDKVV SFLNYTFTNVLR LQKYLMLFDPN  
Am-dcr1 TRSGEVHVKLKLT KQTIILNEMQVEKIATFLNYTFTNVLR LQQYLMLFDPN  
Ph-dcr1 TRSGEVQVKLKL AQTTVQLTEIEINKIVAFIHYTFTSV LR LQKYLMMFDPN  
Tc-dcr1 TRSGEVSVDLQL CSQ-LIVTENQICKIREFLNYTFTSV LR LQKYLTLFNPD  
Dm-dcr1 TRSGEVKVSLELAKERVILTSEQIVCINGFLNYTFTNV LR LQKFLMLFDPD  
Ag-dcr1 TRSGEVKVS LDLC PQRVKLSAHQLEMVNC FVKYTF TKVLR LQKSLMLYDAN  
Pm-dcr1 TRSGEVVHVQEI ERKVNVTQDQLSALQYFHKFTF THVLR LEKYPIKFDPT  
Hs-dicer TRSGEVTISIELK KSGFM LSLQMLELITRLHQYIF SHILRLEKPALEFKPT  
Ci-dicer TRSGEESAKLKF CRGFVQLSAQQIKLVRI FHRVYVFS DMLRVDRVPLSFQPE

cons . . \* \* : : : : : : : \* : : \* : : : . .





```

Ap_dcr1a  ----- TTKVRYSSPTSWMVQS -----
Ap_dcr1b  ----- TTKERYSPNSLMIQS -----
Nv-dcr1   ----- YEWGNIRYGSPTYDSE -----
Am-dcr1   ----- FNWNDIRYGSPACESD -----
Ph-dcr1   WDSKIFS ----- EMKDSVRYCSPTSWLGEP -----
Tc-dcr1   ----- PVVRYASPTSWMD -----
Dm-dcr1   ----- FCDQQTRYGSPTFWDVSNGESGFKGPK -----
Ag-dcr1   ----- GRRGASSPSFL -----
Pm-dcr1   EGELGADWGTGITERRTKSSCNKD SKGGMFRVGSPSNFE -----
Hs-dicer  ----- ----- LS -----
Ci-dicer  ----- ----- MKE -----

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cons

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Ap_dcr1a  ----- DN-ESS ----- TFSDID- SDD -----
Ap_dcr1b  ----- NS-ESS ----- TFSDVE- SDD -----
Nv-dcr1   ----- FD-DAS-IN ----- SSDDDF- GD -----
Am-dcr1   ----- FD-GYESDD ----- IYSDGF- AD -----
Ph-dcr1   ----- KMDD E VLDGLSES ----- TYSDDY- FDG -----
Tc-dcr1   ----- LQN-TYDDS ----- SFSDSD- Y -----
Dm-dcr1   SSQNKQGKGKAKGPAKP TFNY YDS DNSLGS ----- SYDDDD- NAGPL ----- NY
Ag-dcr1   ----- RYSDSCSSNSSAN FYSSDE ----- YDEED ----- DY
Pm-dcr1   ----- SDG WDMFGSS ----- GYNG- G- YGGYG SYDAY -----
Hs-dicer  ----- ----- NHDED ----- DYVHVHGSND -----
Ci-dicer  ----- ----- NHDED ----- DYVHVHGSND -----

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cons

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Ap_dcr1a  ----- G ----- IQ ----- VN -----
Ap_dcr1b  ----- G ----- IQ ----- VN -----
Nv-dcr1   ----- D ----- SD ----- SD -----
Am-dcr1   ----- T ----- SD ----- E -----
Ph-dcr1   ----- Y ----- MN ----- SD -----
Tc-dcr1   ----- S ----- G ----- D -----
Dm-dcr1   M- HHN ----- YS ----- SD ----- DD -----
Ag-dcr1   YLYDGS EKPKNAIEPSQEAVSGTDNANDS ----- GDKPGSRNRTITQS QD -----
Pm-dcr1   ----- SGY ----- GD ----- FQ -----
Hs-dicer  ----- ----- YNQN ----- -----
Ci-dicer  ----- ----- VNVHKKNIN ----- HD -----

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cons

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Ap_dcr1a  G- -LHSNGLRIEF RNTYLAEAVDEN- DSKTNK- ----- LFFFKNN
Ap_dcr1b  -----XXLCVEFKNTYLAEAVNKN- DSKTNK- ----- LFFFKNN
Nv-dcr1   SQYDKEEGLTIA YTGDNVAEAFDCK- GKAFEA- ----- EKE- -K- QNCVELQ
Am-dcr1   S- EDENRGLRIS YMGENVAEAVEDE- KQISKQ- ----- EVNKRI- LDLLETE
Ph-dcr1   T- DSECGLKIEFKDDNVAEAVENN- HTATNF- ----- IKELNEV
Tc-dcr1   ESESEWGLRIEF TGDNVAEAVDDE- NK- - -K- DDD- ----- FELVDYS
Dm-dcr1   DVADDIDAGRIAF TSKNEAETIETA- QEVEKR- ----- QKQ- ----- LSIIQAT
Ag-dcr1   TVVNLGGRLKIEFKSETDAEAIDSE- CDLQRQ- ----- RTQ- ----- QSIIERS
Pm-dcr1   GLADDLEGC- ----- ESDVSSDMDDDDKSQTEKLWDE EGT KRRSS MAADEGS
Hs-dicer  ----- ----- LANGSYDLAN- R- DF- CQ- ----- GNQ- ----- LNYKQE
Ci-dicer  N- DSDR- ----- IGD TVHHGADDE- NVHDE- ----- KND- ----- VHYHEVN

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cons

Ap\_dcr1a ETPQ-----L--WTWDD--C-----HSVTEY--NSNQ--QDEQII  
 Ap\_dcr1b ETSH-----S--WTWDDH--F-----HSVTEY--NSNQ--QDEQII  
 Nv-dcr1 EKSEL-----MH--WNFEGDLS--EFYQLHRLAHIDKAKMNVEIIL  
 Am-dcr1 KNSDE-----IL--WSYAKE--SE--VLITKHKLAHYEFAKIRECEIK  
 Ph-dcr1 EESE-----P--WYYDES--E--KYSKYVDEF--YANVQNRKEKII  
 Tc-dcr1 NV-----W--WKVEDE--SE--ITQTLRKQF--HDACARNKDHIL  
 Dm-dcr1 NANERQYQQTKNLLIGFNFKHEDQ--KE--PA-TI--RY--EESI AKLKTEIE  
 Ag-dcr1 RQNDMLYQSSKNAVDGFCYSPSDR--QCAEEREQAEQRF--ERQKNHTKDTIR  
 Pm-dcr1 SDE-E-----IDLNWPDEDE--E--VRNEKEKEF--QSFLEDKQKI IK  
 Hs-dicer -IPV-----Q--PTTSYS--I-----QNLYSY--ENQPQ--PSDECT  
 Ci-dicer ---D-----N--HLCDD--I-----HSDDDY--IHNEN--KDDHCH

cons

Ap\_dcr1a N--LFYKKDDEI IINRE--V--KSN--SNIDSS--SLLKL--P-----  
 Ap\_dcr1b N--LIYKKNDEI IINRE--V--KSS--SNIDSS--SLLKL--P-----  
 Nv-dcr1 SQDIFIPCDKPVAFKRK--T--SKVLNNSY--V-----  
 Am-dcr1 QNGSFIPYNNKIVIKRK--T--SFSLHSEE--NLP-----  
 Ph-dcr1 NSDMYYSEEKSFDFRS--H--SKN--YQKTP--GCCKN--D-----  
 Tc-dcr1 SSGILVSKSEQFQKCSDCDNTTTKDSQVANS--YDFDF--GKLF I-----  
 Dm-dcr1 SGGMLVPHDQQLVLRKS--DAAEAQVAKV--SMEL--LKQLLPYVN  
 Ag-dcr1 QQGSLVRWNEPLSVSHW--R--SKLDESEAAATLGALMDDLGGQPFTELVPYVE  
 Pm-dcr1 ESSCYLAESSESLIEKA--H--RKL--QNESKS--SPEKV--S-----  
 Hs-dicer ---LLSNKY-----  
 Ci-dicer D--NIHNDDDD--DDDRF--S--FSS-----

cons

Ap\_dcr1a -----WELNSNTG--YGLSDISV-----LSN--NTPFIP-----E  
 Ap\_dcr1b -----WELNSNTG--YGLSDINI-----LLN--NTSFMP-----E  
 Nv-dcr1 -----ERKHEEYVS-----V  
 Am-dcr1 -----NYKYKTYVE-----T  
 Ph-dcr1 -----SQSETSEN--FGSADNRLPRLNENLQNDFKSLPYFK-----I  
 Tc-dcr1 -----ELDQH-----KA--LQIDLA--P---QDARNEYDIS E T  
 Dm-dcr1 EDVLAK--KLGDRRE--LLSDDLVE--LNADWV--ARHEQETYNVMGCGDS  
 Ag-dcr1 PEQLFELLVRNGSSGERWLRRLHDLYC--LNRPF--P---ER-YTIFRGGSQ  
 Pm-dcr1 -----HRTESSTT--EGCKQLSS-----KGCD--NAQQST-----SNI  
 Hs-dicer -----LDG-----NANKST-----SDG  
 Ci-dicer -----HDYEAH--FDLSDHED-----E--NMKNNV-----NDS

cons

Ap\_dcr1a DSKYIKSEININ Y--K--INDS-----  
 Ap\_dcr1b DDKCIKNEIYKNN--K--TIDS-----  
 Nv-dcr1 VSNYFKHELIESA-----  
 Am-dcr1 VVDKFTQEILN NN-----  
 Ph-dcr1 ISEVLKREENKQA--N--PKNNVL-----  
 Tc-dcr1 MTFKF--DEQPNLVEHPGSPNVLLQ-----ALTMXXXXXXXXXXXXXXXXX  
 Dm-dcr1 FDNYNDDHRLNLD EKQ-----  
 Ag-dcr1 FDNFLD--ESCQEGEGAS SPPKV--IELTICDPFPA-----  
 Pm-dcr1 IRTVNRD-----  
 Hs-dicer -SPVM--AVMPGTT-----  
 Ci-dicer ---L--ASIRGCK-----

cons



Ap\_dcrla LW-----NMITLPTFKDPTDK-----  
 Ap\_dcrlb -----  
 Nv\_dcrl MW-----NQADIPPFSSRFS-----  
 Am\_dcrl LW-----NQADIPALQAVNPF-----  
 Ph\_dcrl HW-----NRADLPSLKNLSKE-----  
 Tc\_dcrl CW-----TVADMAATRDMTLD-----  
 Dm\_dcrl HW-----KLADLLDIKNLSSV-----  
 Ag\_dcrl HW-----NLADLPDIKRLSCA-----  
 Pm\_dcrl HW-----NMADLPGLHDLASD-----  
 Hs-dicer MWRA-PKEEADY-----EDDFLEYPDQEHIRFIDNML  
 Ci-dicer VWTGI-PSKKKVV-KKTTTS-NAVDP-PPSLPPSTI-INDEEEIYEEDEIR MIDGML  
  
 cons

Ap\_dcrla -----  
 Ap\_dcrlb -----  
 Nv\_dcrl -----  
 Am\_dcrl -----  
 Ph\_dcrl -----  
 Tc\_dcrl -----  
 Dm\_dcrl -----  
 Ag\_dcrl -----  
 Pm\_dcrl -----  
 Hs-dicer MGS-GAF-VKKI-SLSPFST-TDSAY-EWKMP-KKSSLGSM-PFSSDFEDFDY-SSWDA  
 Ci-dicer GGC---IRTLG-----GSPKGDNGLFGLDIGHAL-----SSHQS  
  
 cons

Ap\_dcrla -----EIEEVIQQ--FKVG--FS-----  
 Ap\_dcrlb -----  
 Nv\_dcrl -----EINDLVRE--TEHKLEIIKSEL-----  
 Am\_dcrl -----EITQLVRE--TEQKLGVMKNEL-----  
 Ph\_dcrl -----EICQLVKE--KGEKLGIVNAEK-----  
 Tc\_dcrl -----DICS-MVRQ--RGESLS-----  
 Dm\_dcrl -----QICEMVRE--KADALGLEQNGG-----  
 Ag\_dcrl -----EICQLVKE--RARAKRREDVDRFDLQHADSNGGEDGNEDDDD  
 Pm\_dcrl -----EIRRLVQE--RSEQIKRSKSEQ-----  
 Hs-dicer MCYLD-PSKAVEE--DDFVVGFWN-----  
 Ci-dicer MHFTDKAALRRS-QLNKQNL-EDFVIDTWT-----  
  
 cons

Ap\_dcrla -----NEDIENTPLFVPYNLVTQHSIPDKSIADCVEALI  
 Ap\_dcrlb -----ITQHITNDKSIADCVEALI  
 Nv\_dcrl -----SQSEHGALNGLNGLTGDPLRSFIPYNLITQHSIPDKSIADCVEALI  
 Am\_dcrl -----DRNETT-----LPNNLDNMRCFIPYNLITQHSIPDKSIADCVEALI  
 Ph\_dcrl -----KPINVT-----IPCLNLENMPCFIPYNLMTQHSIPDKSIADCVEALI  
 Tc\_dcrl -----LSNIIPYNLVTQHSIPDKSIADCVEALI  
 Dm\_dcrl -----AQNG--QLD--DSNDSCNDFSCFIPYNLVSQHSIPDKSIADCVEALI  
 Ag\_dcrl DDDDD-EDDT--TTGEGNEHEADNGSCYIPYNLVTQHSIPDKSVADCVEALI  
 Pm\_dcrl -----ATSELM-----ATQNP HDLP I F I P Y N L L T Q H S I P D K S I A D C V E A L I  
 Hs-dicer -----PS-----EENC- GVD T G K Q S I S Y D L H T E Q C I A D K S I A D C V E A L L  
 Ci-dicer -----PV-----DASGKPLNNSDPLMLDLHTQHSLADKSIADCVEALL  
  
 cons





Ap\_dcrla KYFKHLSPLGSDVVCRFVVTIQEENGHTIDEEFYFL-----G  
 Ap\_dcrlb KYLKHLSPGLSEVVYRFVAIQEENGHTIDEEFCFS-----G  
 Nv\_dcrl KYFRHLSPLGNTVIDRFVRIQEENGHSISEEYYLI-----G  
 Am\_dcrl KYFRHLSPLSIVINRFVRIQEENGHSIGEEYYLI-----G  
 Ph\_dcrl KYFRHLCPSLNEVVDVRFVRFQQANGHAISEEFYLI-----E  
 Tc\_dcrl RYFRNLSPSLNEVVEKVFVRLQEDSGHTLVDELVLV-----V  
 Dm\_dcrl KFFRHLSPGLNDVIDRFVRIQQENGHCISEEYYLL-----S  
 Ag\_dcrl KYFLHLSPLQEVIDRFVRIQQENGHRITEEYYL-----P  
 Pm\_dcrl KYFRHFSPLDRVIRDFVVKMQEENGHKINEEYYFM-----E  
 Hs-dicer KYFKAVSPELPHVIDDFVQFQLEKNEMQGMDELRR-----S  
 Ci-dicer KYFKSISPELHHIIEDFVVMYQQKQEDAQGMDAHLMRDYDRVEIVAPSSLEK

cons :: . \* \* : : \* \* \* . . :

Ap\_dcrla EDD-----CEEAEDVEVPKALGDVFEVAGAIYLDNS  
 Ap\_dcrlb EDD-----FEDAEDVEAPKVLGDIFESVAGAIYLDNS  
 Nv\_dcrl EREFE-----EAEEDVEVPKALGDVFEVAGAIYLDNS  
 Am\_dcrl EE-----ECEEAEDVEVPKALGDVFEVAGAIYLDNS  
 Ph\_dcrl EEE-----CEEAEDVEVPKALGDVFEVAGAIYLDNS  
 Tc\_dcrl E--TE-----EVEDVEVPKALGDVFEVAGAIYLDNS  
 Dm\_dcrl EEECD-----DAEDVEVPKALGDVFEVAGAIYLDNS  
 Ag\_dcrl DEDDELG EYGAMGEDGPGEGRGVGEAEDVEVPKALGDVFEVAGAIYLDNS  
 Pm\_dcrl EDE-----CEAAEDIEVPKALGDVFEVAGAIYLDNS  
 Hs-dicer EED-----EEKEEDIEVPKALGDVFEVAGAIYLDNS  
 Ci-dicer DEE-----EGENEDVEVPKALGDVFEVAGAIYLDNS

cons : \*\* : \* . \* \* . : \* \* : \* \* \* : \* \* \* \* : . \* .

Ap\_dcrla MSLDTVWKVYHKIMENEME QFSKNV PKSPIREELLELEPETAKFSKPEKLAD  
 Ap\_dcrlb MSLDAVWKVYHKIMENEIKQFSKNVPI SPVREELLELEPNTAKFSKPEKLVD  
 Nv\_dcrl MSLDAVWAVYFEIMKSEIEQFSANV PKSPIREELLELEPETAKFGKPEKLAD  
 Am\_dcrl MSLDAVWSVYVAIMKNEIEQFSTNV PKSPIREELLELEPETAKFGKPEKLAD  
 Ph\_dcrl MSLDAVWRVYRIMKNEIELFSTNV PKSPIRELEFELEPETAQFGKPEKLAD  
 Tc\_dcrl MSLDAVWKVYNNMMKSEIEQFSNPKV PKSPIREELLELEPETAKFGKPEKLAD  
 Dm\_dcrl MSLDVVWHVYSNMMSPEIEQFSNSV PKSPIREELLELEPETAKFGKPEKLAD  
 Ag\_dcrl MSLDTVWKVYRKMMGPEIEKFSSV PKSPIRELLEMEPETAKFGKPEKLTD  
 Pm\_dcrl SSLDAVWSVYVTMMCREIEQFSGV PKSPIRELLEMEPETAKFGKPERLVD  
 Hs-dicer MSLETVWQVYYPMMRPLIEKFSANV PRSPVRELLEMEPETAKFSPAERTYD  
 Ci-dicer MDLSSVWKVYSVMMLPLIEKFSACV PRSPVRELLEMEPETAKFSCAEKRYD

cons . \* . \* \* \* : \* : : \* \* \* \* \* : \* \* \* \* \* : \* . \* :

Ap\_dcrla GRRVRVVVEIFGKGFEFGIGRNYRIAKCTAAKCALKHLKKK-----  
 Ap\_dcrlb GRRVRVIVEILGKGVFKGIGRNYRIAKCTAAKCALNHLKKEK-----  
 Nv\_dcrl GRRVRVTVDVFGKGSFKGIGRNYRIAKCTAAKCALKHLKKSQSC-----  
 Am\_dcrl GRRVRVTVDVFGKGSFKGIGRNYRIAKCTAAKCALKHLKRI-----  
 Ph\_dcrl GRRVRVSVVEVFGKGFNGIGRNYRIAKCTAAKCALKQLKRLGLLELFFTNV  
 Tc\_dcrl GRRVRVTVEVFGKGVFKGIGRNYRIAKCTAAKCALKNLKKRGLIK-----  
 Dm\_dcrl GRRVRVTVDVFCGTFRGIGRNYRIAKCTAAKCALRQLKQGLI-----  
 Ag\_dcrl GRRVRVTVEVFGKGTFRGIGRNYRIAKCTAAKCALRQLKGLGYAN-----  
 Pm\_dcrl GK-VRVSVVEIFGKGSFSGVGRNYRIAKSTAARKRALRHLKQLQMM-----  
 Hs-dicer GK-VRVTVEVVGKGFVKGVGRSYRIAKSAAARRALRSLKANQPQ-----  
 Ci-dicer GK-VRVTVEIIGKGRFKGVGRSYRIAKSAAARRALRYLKGPF-----

cons \* : \* \* \* \* : : . \* \* \* \* : \* \* \* \* \* : \* \* : \* \* . \* \*

Ap_dcrla	---	I	K	K		
Ap_dcrlb	---	I	K	K		
Nv_dcrl	-	I	K	G	R	K
Am_dcrl	----	Q	Y			
Ph_dcrl	G	Y	M	K	S	F
Tc_dcrl	-	K	I	D	E	S
Dm_dcrl	--	A	K	K	D	
Ag_dcrl	-	H	H	K	R	R
Pm_dcrl	-	A	N	Q	G	I
Hs-dicer	--	V	P	N	S	
Ci-dicer	----	I	Y			
cons						



Ap-droscha PFEPCLPNSNNSDKLFHYRITITPPTNFLKLCPTVIECNESKYTFEGFSL  
Am-droscha AINKCDLNSNNAADKLYHYRITISPPTNFLT KTPTIIKHDEHEFIFEGFSML  
Nv-droscha AIEKCDSTNNAADKLYHYRITISPPTNFLT KTPTIIKHDEHEFIFEGFSMF  
Tc-droscha HLEKCVDPNSNNAERLYHYRITISPPTNFLIKTPTIIHYDEHEFIFEGFSMF  
Ag-droscha GFPKCIPNSNNAADKLYHYRITISPPTNFLT KTPTIIKHDEHEFLFEGFSL  
Dm-droscha GYKLCDPNSNNAAGKLFHYRISISPPTNFLT KTPTIIKHDEHEFLFEGFSL  
Ph-droscha QKICCDVKSNNAGNLYCYRITISPPTNFLT RTPTIINYDDHEFIFEGFSLI  
Hs-droscha AIKPCRPMTNNAAGRLFHYRITVSPPTNFLT DRPTVIEYDDHEYIFEGFSMF  
Ci-droscha PTAPYDPMKNNIGKMHYRITVGPVAVNYMISQPTTIEYSGHDYMFEGFSIF

cons . \*\* . : . \* \* \* : : \* . . \* : : \* \* \* . . : \* \* \* \* \* : :

Ap-droscha SHYPIPIPLPTCKVIRFNTNYAILYIEEKIPDNFIVKELQLFYDYLFKIDILE  
Am-droscha SHFPLVKKLPTCKVIRFNIEYTYLIDEKLPENFIIRELDDFFQTYLFKEVLE  
Nv-droscha SHFPLVKKLPTCKVIRFNIEYTYLYMEEKMPENFTIQEELDYFQDYLFNEILE  
Tc-droscha SHFPLEKLLPTCKVIRFNIEYTYLIEEKIPDNFTVRELDLFDYLFREILE  
Ag-droscha AHEPIGELPTCKVIRFNIEYTYLIEEQMPENFTIRELNLFDRYLFREILLE  
Dm-droscha SHVRLSDLPLVCKVIRFNIEYTYIEYEEKMPENFTIHELDIFFKYLFHELLE  
Ph-droscha SHYPIQKLPTCKVIRFNIEYIILYVEEKLPENFSILELDFYEEYVFKEILE  
Hs-droscha AHAPLTNIPLCKVIRFNIDYTIHFIEEMMPENFCVKGLELFLSLFLFRDILE  
Ci-droscha SDEPLDKIPLCDIIRFHRYTYIYLIEETPPESFCIRGLDLDFDEYLFREVLE

cons : . : : \* \* . : \* \* \* : \* \* : \* \* : \* . \* : \* : \* \* : : \* . : : \* \* :

Ap-droscha LVLDLHLHG --- IGNKNGCPQFHFMPRFVKDLSDNGKEVLSMNEVLKYLLK  
Am-droscha LIDFDLQA --- AQNKSGCGQFHFMPRFVRLADNGQEILSMNEVLNYLIK  
Nv-droscha LVDFDLQA --- AQDKKGAQFHFMPRFVRLDPDNGQEILSMNEVLSYLIK  
Tc-droscha LVLDLDFKA --- AGDVDGCSQFHFMPRFVRELDPDNGKEILAMNEVLQYLLD  
Ag-droscha LVDFTVQPS -- GSGEDSSCPYHFLPRFVRLDPDNGKEVLAMSEVLRYYLD  
Dm-droscha LVDFNLMPNLP SGNVEESCPAFHFFPRFVRLDPDNGKEVLAMVEVLRYYLD  
Ph-droscha LVDFDLKN --- SSHPENCPQFHFMPRFVRELDPDNGRELLPMCEVLRYYLS  
Hs-droscha LYDWNLKGPL - FEDSPPCCPRFHFMPRFVRLPDGGKEVLSMHQILLYLLR  
Ci-droscha LYDWQGDTP - PSEALAKNKRKFRFFPRFVRLDPDNGKEILSLCKVLEYLLD

cons \* \* : : \* \* \* \* \* : \* . \* . \* : \* \* . : : \* \* \* \* :

Ap-droscha SNKLLFEESLSALQEMPMNEWQNIIVDEYKGMIVTNPGTKPYSIRVDQLDR  
Am-droscha SSKLLIDPDDLPRLVEMPQYKWNFADEVKGMIVTFPGKKPCSVRVDQLDR  
Nv-droscha CSTLLIDPDELPLKLVEMPQFQWQNFADDEVKGMVVVTPGKKPCSVRVDQLDR  
Tc-droscha SSVSLIEEKDLEDMIKMTQYEWQSYADEIKGMVVVTPGKKPCSVRVDQLDR  
Ag-droscha NSGPLVPPDMLKEMMDMSQNEWQDYVDYVKGMVVS NPGMKPCSVRVDQLDR  
Dm-droscha NSAQLVERQQLLHLNQISQSEWQNYVDFIKGMLVTKPGYKPCSLRVDQLDR  
Ph-droscha SNKKLIEDGTLDLSLHKMTSSEWQDFADLVKGMVVVTPGMMKPCSLRVDQLDR  
Hs-droscha CSKALVPEEEIANMLQWEELEWQKYAECKGMIVTNPGTKPSSVRIDQLDR  
Ci-droscha SDKPLVDEKDLWLKCSHDEWLDHTDAIRGSIVTHPGKRPSLSLRVDQLDR

cons . \* . : : . : \* . . : : \* \* : \* \* : \* \* : \* \* \* \* \* :

Ap-droscha DSVNEATEK-----NVNDGYPVLVHFGIRPPQLSYAGNP-DYQKGWRDY  
 Am-droscha NQTDQPP-----GVIAYPEIVHFGIRPPQLSYAGNA-DYQKAWRDY  
 Nv-droscha NQADQPP-----GVIAYPEIVHFGIRPPQLSYAEIPSDYQRAWRDY  
 Tc-droscha NIDLQKP-----GDYKFPEIVHFGIRPPQLSYAGNP-DYQKAWRDY  
 Ag-droscha NVGDVPEANAI----DENGLVHPVIVHFGIRPPQLSYAGNP-EYQKAWREY  
 Dm-droscha NNSDLPECVD----RETGISHPAIVHFGICHPPQLSYAGNP-EYQKAWREY  
 Ph-droscha DTDESVKKKKENAKSCSMENYYYPEIVHFGIRPPQLSYAGNP-EYQRAWRKY  
 Hs-droscha EQFN--P-----DVITFPPIIVHFGIRPAQLSYAGDP-QYQKLWKS Y  
 Ci-droscha YDRKPVVESTT--QHCPQVDERYPMIHFGIRPANLSYAGDP-TYQRIWRAY

cons   . \* : : \* \* \* \* . : \* \* \* \* . \* \* : \* : \*

Ap-droscha VKFRHLLANMPKPSFEDKRKLEIKERALQEMRSHNKMKRGVTAAVSSKGFY  
 Am-droscha VKFRHLLANMPKPSFEDKRKLEAKENKLQELRTQSKMKRDVTVDVSSSEGFY  
 Nv-droscha VKFRHLLANMPKPSFEDKRKLEAKENKLQELRTQSKMKRDVTVDVTSEGFY  
 Tc-droscha VKFRHLLANMSKPTFEDKRKLESKENKLQEMRTQGKMKRDITVAVSAEGFY  
 Ag-droscha IKFRHLIANMSKPSFEDKRKLEAKENRLLMEMRMQGRMKRNITIAVSAKAFH  
 Dm-droscha VKYRHLMANMSKPSFKDKRKLLEEKEQRLQEMRTQGRMKRNITVAISSEGFY  
 Ph-droscha VKFRHLLANMPKPTAEDKQKLAAKENSLHSMRAHSMKMKRDVTVTVSSKGFY  
 Hs-droscha VKLRHLLANSPKVKQTDKQKLAQREEALQKIRQKNTMRREVTVELSSQGFY  
 Ci-droscha LKQRHLMANSPKVKQSDKKKLRERENALQKIKRAKDMQREVTVELSSHGFR

cons  : \* \* \* \* : \* \* . \* . \* \* : \* \* : \* . \* . : : \* \* : \* : : : . . \*

Ap-droscha KTGLMCDIVQHAMLLPVLVCHFRFHKSLEYLEDTIEYKFKNKYLLQLALTH  
 Am-droscha RTGIMCDIVQHAMLIPVVLVCHLRFHKS LDNLERTLGYEFKNRYLLQLALTH  
 Nv-droscha RTGIMCDIVQHAMLIPVVLVCHLRFHKS LDMLEQTLDYKFKNR YLLQLALTH  
 Tc-droscha RTGIMCDIIQHAMLIPVVLVCHLRFHHS LNILEESVNYKFKNRALLQLALTH  
 Ag-droscha RTGIMCDMVQHAMLIPVLTGHLRFHRS LNVLERYIGYTF TNRYTLQLALTH  
 Dm-droscha RTGIMCDVVQHAMLIPVLTGHLRFHKS LD LLEESIGYR FKNRYLLQLALTH  
 Ph-droscha QTGLMCDVVQHAMLIPVVLVCHLRFHRS LVVLEEKINYKFKNKFLQLALTH  
 Hs-droscha KTGIRSDVCQHAMMLPVLTTHHIRYHQCLMHLDKLIGYTFQDRCLLQLAMTH  
 Ci-droscha RTGLRSDVCQHAMLLPVLSHHLRYHLCLRTLEKKIGYEFKERKWL SHAMNH

cons  : \* \* : . \* : \* \* \* \* : : \* \* \* \* \* \* : \* \* : \* \* \* : : \* . \* \* : \*

Ap-droscha PSYRENFGTNPDHARNTLTNCGIRQPEYGDRIHYMNTRKRGINTLINIMS  
 Am-droscha PSYRENFGTNPDHARNSLTNCGIRQPEYGDRIHYMNTRKRGINTLINIMS  
 Nv-droscha PSYRENFGTNPDHARNSLTNCGIRQPEYGDRIHYMNTRKRGINTLINIMS  
 Tc-droscha PSYRENFGTNPDHARNSLTNCGIRQPEYGDRIHYMNTRKRGINTLINIMS  
 Ag-droscha PSYKENFGTNP DHARNSLTNCGIRQPEYGDRKIHYMNTRKRGINTLISIMS  
 Dm-droscha PSYKENYGTNPDHARNSLTNCGIRQPEYGDRKIHYMNTRKRGINTLVSIMS  
 Ph-droscha PSYRENFGTNSDHARNSLTNCGIRQPQYGDRIHYMNTRKRGINTLISIMS  
 Hs-droscha PSHHLNFGMNP DHARNSLSNCGIRQPKYGDRKVHMMHMRKKGINTLINIMS  
 Ci-droscha PSCQMNFGLNPDHVRNTLSNCGLRRLPRYGDSSIHYKYTRKRGITTLIRIMA

cons  \* \* : \* : \* \* \* . \* \* . \* \* : : \* \* \* \* : \* . \* \* \* \* : \* : \* \* : \* \* . \* \* : \* \* :

Ap-droscha RFGKKSEMESNIMHNERLEFLGDVVEFVSSIHLFNMFPDIEEGGLATFRA  
Am-droscha RFGARTETESSIAHNERLEFLGDVVEFLTSIHLFHMFPDLEEGLATYRA  
Nv-droscha RFGAKKETESSIAHNERLEFLGDVVEFLTSIHLFHMFPDLEEGLATYRA  
Tc-droscha RFGKQQUETESNITHNERLEFLGDVVEFLSSIHLFYTFPDLEEGLATYRA  
Ag-droscha RFGKEHETDSNITHNERLEFLGDVVEFITSIHLFHMFPDLEEGLATYRA  
Dm-droscha RFGKEHETVSNITHNERLEFLGDVVEFLSSIHLFFMFPELEEGLATYRA  
Ph-droscha RFGGRKNETQSNIIYHNERLEFLGDVVEFITSIHLFHIFRDLEEGLATYRA  
Hs-droscha RLGQDDPTPSRINHNERLEFLGDVVEFLTSVHLYLFPSPLEEGLATYRT  
Ci-droscha RLGQQRVPLSPIEHNERLEFLGDVVGFTSVHLLFPDLSEGALTTFR

cons \*:\* \* \* \*\*\*\*\* :.::\*\*:\* \* .:.\*.\*\*\*.\*\*\*:\*\*\*:

Ap-droscha AIVQNQHHLAVLAKTLKLDFFMLYAHGSDLCHDSELKHAMANCFEALMGALF  
Am-droscha AIVQNQHHLAVLAKKLNLEEYMLYAHGSDLCHDLELRHAMANCFEALMGSLF  
Nv-droscha AIVQNQHHLAVLAKKLNLEQYMLYAHGSDLCHDLELRHAMANCFEALMGALF  
Tc-droscha AIVQNQHHLAVLAKTLKLDQFMLYAHGSDLCHDLELRHAMANCFEALMGALF  
Ag-droscha AIVQNQHHLAVLAKKHLLEEFMLYAHGSDLCHELELRHALANCFEALMGALL  
Dm-droscha AIVQNQHHLALLAKKLQLEEFMLYAHGSDLCHELELRHAMANCFEALMGALL  
Ph-droscha ALVQNQHLSVLAKKLNLEDEFMLYAHGSDLCHDLELKHAMANCFEALMGALF  
Hs-droscha AIVQNQHHLAMLAKKLELDRFMLYAHGPDLCRESDLRHAMANCFEALIGAVY  
Ci-droscha VLVNQNHLALLAERLQLDEFMLYAHGPDLCRKADLRHAMANCFEALMGAIY

cons .:\*\*\*:\*\*\*: \*.\*: :\*\*\*\*\*.\*\*\*:. :\*\*\*\*:\*\*\*\*\*:\*\*\*:

Ap-droscha LDGGIEVADRVFGKTFYRDSPEYLDIWNVNYPRHPLQQEPEGDRKWIKKLP  
Am-droscha LDGGIEVADRVFGETLTKDEEDLAKVWVNYPKHPLOEQEPTGDRQWIPSPFE  
Nv-droscha LDGGIRIADTVFGETLTKNESDLLNIWNVNYPKHPLOEQEPTGDRQWIPSPFE  
Tc-droscha LDGGINVVDVRFSETLTKVNPDLLEVWVWMLPPHPLQEQEPTGDREWIPKFE  
Ag-droscha LDGGIEVADRVFAYALFQEDDTRLGIWVNYPSHPLQEQEPLGDRHHIDSFE  
Dm-droscha LDGGIKVADEVFTDALFRQDEKLLSIWKNLPEHPLOEQEPLGDRSCIDSYR  
Ph-droscha LDGGIESADKVFGMTLYGDDDCSDVWFNYPPHPLQEQEPLGDRKWISHFP  
Hs-droscha LEGSLEEAKQLFGRLLFN-DPDLREVWLNYPHPLQLQEPNTDRQLIETSP  
Ci-droscha MEAGLERAQRLFGEFLWE-TEALQRVWRSPLPLHQLQEEEPVSDRRCIKDVP

cons :.:.:. . . :\* : : \* . \* \* \* \* :\*\* \*\* \*

Ap-droscha LLQKLTNFEDSIGIKFTHIRLLARAFTDRSVGFTNLTGLSNQRLEFLGDTV  
Am-droscha LLQKLTKFEEESIGIEFTHIRLLARAFTDRSIGYTNLTGLSNQRLEFLGDTV  
Nv-droscha LLQKLTKFEEGIGVEFTHIRLLARAFTDRSIGYTNLTGLSNQRLEFLGDTV  
Tc-droscha LLQNLTKFEEESVGLQFNHIRLLARAFTDRSVGYTNLTGLSNQRLEFLGDTV  
Ag-droscha MLKTLTRFEDSIGVQFNHIRLLARAFTDRSIGFTNLTGLSNQRLEFLGDTV  
Dm-droscha VLKELTKFEDSIGIKFKHIRLLARAFTDRSIGFTHLTGLSNQRLEFLGDTV  
Ph-droscha LLQNLTKFEEATGIEFKHIRLLARAFTDRSVGYTNLTGLSNQRLEFLGDSV  
Hs-droscha VLQKLTEFEEAIGVIFTHVRLARAFTLRTVGFNHLTLGHNQRMEFLGDSI  
Ci-droscha ILQKLTKFEDSIGVKFNHIRLLAKAFTWRNVHENILTHGHNQRLEFLGDSV

cons :\*: \*\*.\*\*: . \*: \*.\*:\*\*\*\*\*:\*\*\* \*.\*: . \*\* \* \*\*\*\*\*:\*\*\*\*\*:.

Ap-droscha LQLIASDYLYKYFPEHHEGHLSLLRSSLVNNRTQSVVCDLGMVSYALYAN  
 Am-droscha LQLIVSEYLYKYFPEHHEGHLSLLRSSLVNNKTQAVVCDLGMTQYALYGN  
 Nv-droscha LQLIVSEYLYKFFPEHHEGHLSLLRSSLVNNKTQAVVCDLGMTQYALYGN  
 Tc-droscha LQLIASEYLYKYFPEHHEGHLSLLRSSLVNNRTQAVVCDLGMVSYAVYNN  
 Ag-droscha LQLICSEYLYRHFPEHHEGHLSLLRSSLVNNRTQAVVCDLGMTQYAVYSN  
 Dm-droscha LQLICSEYLYRHFPEHHEGHLSLLRSSLVNNRTQAVVCDLGMVSYAVYAN  
 Ph-droscha LQLIASEYLYKYFPEHHEGHLSLLRSSLVNNKTQSVVCDLGMTQYAVYAN  
 Hs-droscha MQLVATEYLFIFHPDHHEGHLLTLLRSSLVNNRTQAKVAEELGMQEYAITND  
 Ci-droscha CNLVASAYLFLKLYPTHHEGHLLTLLRATVVNGRTQSLVATELGMPEYVICTL

cons :\*: : \*\* : \* \*\*\*\*\*:\*\*\*:::\*. :\*: \* . :\*\*\* .\* .:

Ap-droscha --P---KAEKTKKDRADLLEAFLGALYIDKGLTFCQAFNCVCFPPRLHDF  
 Am-droscha --P---KAEKTKKDRADLLEAFLGALYVDKGLEICRVFCDVCFPPRLQDF  
 Nv-droscha --P---KAEKTKKDRADLLEAFLGALYVDKGLLHCQVFCNVCFPPRLQDF  
 Tc-droscha --P---KAEKTKKDRADLLEAFIGALYVDQGLEFCVFCQVTLFPPRLQDF  
 Ag-droscha --P---KADLTKKDRADLLEAFLGALYVDKGLEICEMFCHVCLFPPRLQDF  
 Dm-droscha --P---KADLTKKDRADLLEAFLGALYVDKGLLYCEQFCHVCLFPPRLQLF  
 Ph-droscha --P---KVELKVKDRADLLEAFLGALYVDNGLDICRVFCDVCFPPRLQIF  
 Hs-droscha --K-TKRPVALRKTTLADLLESFIAALYIDKDLEYVHTFMNVCFPPRLKEF  
 Ci-droscha DNDSTERVPEWREKNLADLLEAFVAALFIDKGLKYVKTfPMKICFFPRLKEF

cons : \* \*\*\*\*\*:\*. :\*:\*. :\* . \* . : :\*\*\*\*\*: \*

Ap-droscha ILKQDWNDPKSKLQQCCLTLRSVDGGEPIPVYKVIEC--MGPTNGRKYTV  
 Am-droscha IMNQDWNDPKSKLQQCCLTLRTMDGGEPIPVYKVIEC--KGPTNTRVYTV  
 Nv-droscha IMNQDWNDPKSKLQQCCLTLRTMDGGEPIPVYKVIEC--KGPTNTRVYTV  
 Tc-droscha IMNQDWNDPKSKLQQCCLTLRTMDGGEPIPVYKSVVCF--NSEVNTRVYTV  
 Ag-droscha IMNQDWNDPKSKLQQCCLTLRTMDGGEPIPVYKVIEC--TGPTNTRVYSV  
 Dm-droscha IMNQDWNDPKSKLQQCCLTLRTMDGGEPIPYKVVVEA--SGPTNTRVYKV  
 Ph-droscha IMNQDWNDPKSKLQQCCLTLRTMDNVEPIPIYKVVVEA--KGPTNTRVYTV  
 Hs-droscha ILNQDWNDPKSKLQQCCLTLRT--EGKEPIPLYKTLQT--VGPSHARTYTV  
 Ci-droscha ILTQEWNDPKSCLQQCCLTLRQ--EGKEPQLPTYEISHQ--TGPSHSRKYVV

cons \*: .\*:\*\*\*\*\* \*\*\*\*\* :. :\*:\*: \* \* : . : \* \* \*

Ap-droscha AVYFKSVRLSQATGHSIQRAEMNAANSALEVSKDLFPQLDHQRRRAISRLN  
 Am-droscha AVYFQGKRLAKASGHSIQEAEMNSAKEALEKSKDLFPQLDHQKRVIAKS-M  
 Nv-droscha AVYFQGKRLAKASGHSIQEAEMNSAKEALEKSKDLFPQLDHQKRVIAKS-M  
 Tc-droscha AVYFRGRRLASAMGHSIQQAEMNAAKKALEISQDLFPQLDHQKRVIAKS-M  
 Ag-droscha AVYFRGKRLACADGHSIQQAEMNAAKQALENSKDLFPQLDHQRRVIAQS-L  
 Dm-droscha AVYFRSKRLATSSGSSIQQAEMNAAKQALENSRDLFPQLDHQKRVIAKS-I  
 Ph-droscha AVYFRNKRLAKATGHSIQQAEMNAAQKAMEVSGPLFPQLDHQKRVIAKS-L  
 Hs-droscha AVYFKGERIGCGKGPSIQQAEMGAAMDALEKY--NFPQMAHQKRFIERK-Y  
 Ci-droscha TVHFKGEEIGKGTGESIQRAERNAARTALNQ--YNFPQLEWQRRYVAEK-H

cons :\*:\*. :. :. \* \*\* .\*\* .: \* \* : :\*\*\* :\*: : . .





Dm-pasha VEGKENNEGSTDSK-----TQPDGITALM-  
 Ag-pasha EAASEGQEGVTKEAAEVPVPERQLHNAQLSKMIASATTTAE AQANAKLLPLK  
 Am-pasha -----AEVCSL-  
 Tc-pasha -----DL-  
 Ph-pasha -----VNGTEI-  
 Ap-pasha1 -----LGDMI I-  
 Ap-pasha2 -----LGDLI I-  
 Ap-pasha3 -----  
 Ap-pasha4 -----  
 Ci-dgcr8 QACTEN-----N-----TA-----QNASAV-  
 Hs-dgcr8 EPDSMGADPGPPDE-----KDP-----LGAEAA-  
 cons

Dm-pasha PA--AKIV---TVNENTQKESITPEQLNTYQCQLFKFKVIRVLRFRSWNA  
 Ag-pasha VS--AKIE---TVTENLKAQSLTSDAVVEYCKKLFRRFKTIRVLRFKSWAA  
 Am-pasha PS--AKIE---TIQENRAAHSLDSEQLRNYCQSLFRFKAIKVMRFQSWSA  
 Tc-pasha PN--ARIE---TVKENIESQNLKPEDVRKYASKLFFQFKTIKVMRFKSWSE  
 Ph-pasha PN--ARVE---TAQENETSRLTPEQLTEYCKSLFEFETIQVLRFKSWLA  
 Ap-pasha1 PN--AKVE---TAQENIIKESLTHVELREYCSLFFKFKVKEVKSPSKMPK  
 Ap-pasha2 PN--AKVE---TAQENIIKESLSHEELREYCKSLFFKFKVEEVKSLNKTTPK  
 Ap-pasha3 -----ELNKCPI TLSHEQYREYCSKIFKFKNIKFMRFSSWDK  
 Ap-pasha4 -----SS-----TSTSNRCPL TLSHAEYRNYCSKIFKFRNIKFYKFKSWVK  
 Ci-dgcr8 PAPNIEVGNTAPVLIKTPTEHIDDTELEEYLNKRFFVFETTQIPHFEKWAD  
 Hs-dgcr8 PGALGQVK---AKVEVCKDESVDLEEFRSYLEKRFDQVTVKKFRTWAE  
 cons

Dm-pasha RRKFTKNRKH--IK-N--IQRPTLPDGTCLKIKFPILANAGE--GSTNPR--GR  
 Ag-pasha RRKFTKHRKH--IK-N--LQRPTLPDGTCLKITFPMLNIEDEQGNPHAR--PK  
 Am-pasha RRKFTKNKKH--RK-Q--LERPTLPDGTCLKITFPVSSSD--NTGQR--PP  
 Tc-pasha RRQFTKKRKH--EQ-Q--LQRPNLPAAGTKLITFPIQPNEAS--ENTNSN--AK  
 Ph-pasha RRKFKK--RKN--DK-I--QQRPTLPKNTKLITCPIRQSSSG--K-SA--NT  
 Ap-pasha1 EQSIKTEISRGT LINT--KERPSLPDSTKLISFPVQTEDH--DKRCN--RR  
 Ap-pasha2 EQNIKTEISM--LKNI--KERPSLPDSTKFISFPFQTKDH--NKRYN--RR  
 Ap-pasha3 RREYIRMVKA--DRRR--KDLPLKLDKSHLMSFPVQEPDVKSDCNTSN--PE  
 Ap-pasha4 RRAYIRSQRT--NSKI KD LKKP--ISDST--AINSDVK-----RENNALNPED  
 Ci-dgcr8 KRKFVKKQKE--AIEN--EGAPKKLGPAKVITLSIPRDGD--S--DK--P  
 Hs-dgcr8 RRQFNREMKR--KQAE--SERPILPANQKLITLSVQDA-----P--TK  
 cons

Dm-pasha KEWIMNPNGKSFVCILHEYVQHALKTQP--TYEFKELQNAATPYSATVSVNN  
 Ag-pasha KEWIMNPNGKSYVCILHEYVQHARKQP--TYEFKELENAATPYSATVTINE  
 Am-pasha KHWIMNPSGKSYVCILHEYVQHALLKQP--TYKFKELENAATPYSAVVCIND  
 Tc-pasha KEWIMNPNGKSYVCILHEYVQHALLKQP--TYKFTELENAATPYAATVSIND  
 Ph-pasha REWIMNPNGKSYVCILHEYVQRALKDQP--VYTFKELENTATPYLAVVSI GN  
 Ap-pasha1 REWIMNPNGKSYVSILHEYLQQALKTQP--WYEFKELENTETPYSATVV LND  
 Ap-pasha2 REWILNPNGKSYVCILHEYLQQALKTQP--WYEFKELESTETPYSATVV LND  
 Ap-pasha3 DQWTINLNGKSYVSILHEYIQRVLKTP--SYEFKELENARYPYLATVILDG  
 Ap-pasha4 LQYLLNLEGGKSYIGILHEYIQRVMKTACHSFVVKELEQTKYPYLCTVVLDG  
 Ci-dgcr8 HKLTFSTSVKPMICILHEYAQSVLRTKP--HYIFATNEDASDPFQATIVLNE  
 Hs-dgcr8 KEFVINPNGKSEVCILHEYMQRVLKVRP--VYNFFECENPSEPF GASVTIDG  
 cons

Dm-pasha LKYGTGYGTSKKQAKSEAARETLEILIPDVKDKITGNNKDQ-K-----  
 Ag-pasha LKYGTGYGTSKKQAKSEAARETLEILIPDMKDKITGKDAKG-----  
 Am-pasha MEYGSFGSSKKQAKANAARKTLEILIPQMRDKISGDNGGDTVSGNNNRMI  
 Tc-pasha MQYGVGYGTSKKQAKSEAARATLEILIPEMKSKITTTDAKTG-S-----  
 Ph-pasha IQYGTGVGSSKKQAKHDAAKATLEILIPEMKDKIDQDEKLR-G-----  
 Ap-pasha1 VQYGVGLGNSKKQAKLNAAQATLDILIPEMKNKIDSDIK-----  
 Ap-pasha2 VQYGVGLGNSKKQAKLNAAQATLDILLPEIKNKIDSNIK-----  
 Ap-pasha3 MQYGIGIGSSKKQAKLDAARATLEILLPSVKNHIQINRRHA-M-----  
 Ap-pasha4 IQYGIGTGSTKKQAKVDAARATLQILLPNVKYFQTDNSSET-K-----  
 Ci-dgcr8 KNYGTASGINKKSAKNKAALLTMEMLVPGFKEQVESL-----  
 Hs-dgcr8 VTYGSGTASSKKLAKNKAARATLEILIPDFVKQTSEKPK-----

cons \*\* . . . \*\* \*\* . \*\* \* : : : \* : .

Dm-pasha SGT-AKKAQSDLSVFDDIRIEDPRVTEFCNKTTEPSPNAILLTCLQRNYGS  
 Ag-pasha -AS-NGGGAAILSVFDEIKIEDPRVAEFCAKTTEPSPHAILLTCLQRNFG  
 Am-pasha KAS-RANSADADLSFFDEISITDPRVAEFCAKTTEPSPHAILITCLQRNYGL  
 Tc-pasha S-A-SRDQDQDLSFFDEIRIEDPRVAEFCAKTTEPSPHDILLTCLQRNFG  
 Ph-pasha HAG-YNRGNTDLSFFDGIKIEDPRVTEFCAKTTEPLPHEILLTCLQRNFG  
 Ap-pasha1 -----NQRDPVIFDQIKVTDPRITEFCAKTTEPSPYAMLLVCLQRNFG  
 Ap-pasha2 -----NQRDPVIFDQIKVTDPRVTEFCAKTTEPSPYAMLLVCLQRNFG  
 Ap-pasha3 NERQGC SNFDGDVLFDKLNIKDSRIPEFCAQAAESMPYDMLQICVKNRNFGE  
 Ap-pasha4 NEIQDINHLEQYKIFDKLTVKDTMIPQICAQSTESTPYEMLKLCVKNRNFGE  
 Ci-dgcr8 -----SNDQSLEYFDEVSITDPRVHEL CVHAGNFLPHQLLTECLKRNQGI  
 Hs-dgcr8 -----KDSEELEYFNHISIEDSRVYELTSKAGLLSPYQILHECLKRNHGM

cons \* : : : \* . : : : : \* : \* \* : : \* \* \*

Dm-pasha -DVQISQEINRT-----ANNKNEFTMTVGKHTAKVVCKNKRREGKQLASQAI  
 Ag-pasha GEVHINYEVNTM-----KHRKNEFTMTVGKHVATVVCKNKRDKGQRASQAI  
 Am-pasha GDMHINYSVNTL-----KHQRNEFTMRVKGHEATVVCRNKKDKGQRAAQAI  
 Tc-pasha NDLQISYQGNTL-----KNKKNQFTMTVGKHTATVVCKNKRDKGQRASQAI  
 Ph-pasha SQMNIKYETTPI-----KHCKNEFTMTVGNHTAKVICRNKRDKGQKASQAI  
 Ap-pasha1 CEIGIEYKLNRR-----RRMLNQCTMMVGKHTASVACKNKRDKGQKASQVI  
 Ap-pasha2 CEIGIEFKLTNR-----HRMLNQCTMTVGKHTASVACKNKRDKGQKASQII  
 Ap-pasha3 D-ACVKCEMQSMQSGSDSDIFYRCTMTVKEHSATVICKNKRREGRQKGAQAL  
 Ap-pasha4 G-TNLLCEMEQM QSGSDTNNYFRCTMTVEKYSATVICKDKLDGRQKGAQAL  
 Ci-dgcr8 ADTAVQFDVQVG-----KSKMIEYKMTCGKHVVGTAKNKKVGKQLASQQI  
 Hs-dgcr8 GDTSIKFEVVPG-----KNQKSEYVMACGKHTVIRGWCKNKRVGKQLASQKI

cons : . : \* : : . : : \* \* : \* : \*

Dm-pasha LQILHPHIQTWGSLLRRLYGNNRSIKTFKEKKLEEQEITVLQ-----  
 Ag-pasha LQILHPHIKTWGSLLRRLYGNRSVKSYPEKKQEEQEITVLQ-----  
 Am-pasha LQLMHPHIQSWGSLLRRLYGNRSVKSYPEKKQLEQEITLLQ-----  
 Tc-pasha LQALHPHITSWGSLLRRLYGNRSVKSYPEKKLEEQEITLLQ-----  
 Ph-pasha LQALHPQIPSWGSLLRRLYGNRSVKTVEKKIEEQEITLLQ-----  
 Ap-pasha1 LGLLHPHIDNWGSLLRRLYGNRSIKNAKEKKQEEQEITQLQ-----  
 Ap-pasha2 LGLLHPHIDNWGSLLRRLYGNRSIKNAKEKKQEEQEITQLQ-----  
 Ap-pasha3 LKVLHPHIKYFGSLLRRLYSHQNVGSGCEKKLDEPGN---Q-----  
 Ap-pasha4 LKVLHPHIHYFGSLLRRLYSHQHFYEY-ENKPNEDKP---K-----  
 Ci-dgcr8 LKLLHPNMQTWGELIHAYGTSVAEKRARKNIEQEIEFELKQRRNLDSSQKS  
 Hs-dgcr8 LQLLHPHVKNWGSLLRMYGRESSKMKVQETS-DKSVIELQ-----

cons \* : \* : : : \* . \* : : \* . : . : :



T-COFFEE, Version\_7.38 Thu Nov 20 17:26:38 WEST 2008

Cedric Notredame

CPU TIME:36 sec.

SCORE=90

\*

BAD AVG GOOD

\*

Hs-exp5 : 90  
Ap-exp5 : 88  
Am-exp5 : 91  
Ag-exp5 : 91  
Ph-exp5 : 90  
Tc-exp5 : 91  
Dm-exp5 : 91  
Ci-exp5 : 85  
cons : 90

Hs-exp5 MAMD--QVNALCEQLVKAVTVMMDPNSTQRYRLEALKFCEEFKKCPICVP  
Ap-exp5 MNLD-TPIETVVQQLANAVDLTMDPMSQEKRRHEAYRLCDSFKNEFPLCIQ  
Am-exp5 MEFGVGNVAQISAEALAQVVEVMMSPNPVQEQRLEVYNACERFKESSPLCAQ  
Ag-exp5 MEMA-HDVVELANELARAVKITMDPEATQQARMDAYVACERFKDISPLCAQ  
Ph-exp5 MATP-EMIDQITGELIRALEITMNPVAEQSARQEAYTAYENFKDNSPYAPQ  
Tc-exp5 MAGP--DVAALAADLARAVELTMSTGASQTDRLKAYNACESFKETSPLCAE  
Dm-exp5 MSQH-GGTEALAAELASAIIDLVMNPMTQQQARLEAYMACERFKEEESPMCAQ  
Ci-exp5 MDQN-Q-----TQQIILALQTLLDPSATQCMRTEALNLCESYKS-NPHCAE

cons \* : : : . : : . \* \* . : : \* . \*

Hs-exp5 C--GLRLAEK-T-QVAIVRHFGLQILEHVVKFRWNSMSRLEKVVYLKNSVME  
Ap-exp5 CQCALYFTSDSAQYTDIVRHFGLQLMEHCIKFRWYQMVQEDKLLIFSTIMS  
Am-exp5 C--GLYLAQKAPNRSSVVRHFGLQLMEHCIKYRWTQISQSEKIFIKESAMK  
Ag-exp5 A--GLSLVTG-N-YPPIVRHFGLQLMEHTVKFNWNSISQQEKIFIKENAMK  
Ph-exp5 V--GLYLVQL-NTPHGYIVHFGLQLMEHCVKFRWNQISQPEKIFIKENTMR  
Tc-exp5 A--GLYLAAG-TQHSLSIRHFGLQLMEHTVKYRWTQISQQEKIFIKENAMK  
Dm-exp5 V--GLFLASS-PQSNQQVRHFGLQLIEYTIKYRWNCITHEEKVYIKDNAIK  
Ci-exp5 I--GFELLGH-RSLDAHVRVYFGLQLIKHRVRHHWVNMESTEQNAVQSLTLE

cons . : : : : \* : : : : \*

Hs-exp5 LIANGTLNIL-EEENHIKDALSRIVVEMIKREWPQHWPDMLELDTSLKQG  
Ap-exp5 LVNSASP--S-LQINYLKDALARVVVEMIKREWPQHWPGLNELEYATTLG  
Am-exp5 LLQEGTEPLL-QEEAHIKDALSRIVVEMIKREWPQWPTLLAELSQTCTRG  
Ag-exp5 LLQAGVGEAQDQSLAHIKDGVSRIVEMIKREWPQWPTLLVELSDACSQG  
Ph-exp5 LLMDGK----QKETVYVKDGLSRIIVEMIKREWPQWPSLLTELNVASLQG  
Tc-exp5 LLAAGG--I-SDEPHMKDALSRIIVEMIKREWPQWPGLLSELSEACSCG  
Dm-exp5 MLNVGVGPAEDRSLLPKDALSRIVEMIKREWPQWSDLLPELSQACTKG  
Ci-exp5 MVNTCP--G-NEVTYIKTGLAGVLTEIVKHTWPQWPNMMEEVVIANKNS

cons : : : . \* . : : : \* : : \* : : \*

Hs-exp5 ET-QTELVMFILLRLAEDVVTFTQLP-PQRRRDIQQTLTQNMERIFSFLLN  
Ap-exp5 CC-QTETVMLIFLRLIEDVLLQTVDNAARRRDISKEIQMSMSKIFPFFIN  
Am-exp5 ES-QTELVLLVFLRLVEDVALLQTLESNQRRKDIYQALNTNMAEIFSFFLR  
Ag-exp5 MA-QTELVLLVFLRLVEDVALLQTIESNQRRKDIYQALTVNMSEIFTFFLR  
Ph-exp5 PT-QSEIVLLIFLRLCEDVAVLQTLTESTQRRRDIYQALTTNMQDIFSFLIQ  
Tc-exp5 EI-QTELVLLVFLRLVEDVALLQTLESNQRRKDIYHALTANMAVIFDFFLR  
Dm-exp5 EA-QTELVLLVFLRLVEDVALLQTIESNQRRKDMYQALNNNMNDIFEFFLR  
Ci-exp5 EVGTTTEIEQMLLDLAEDVALLQNVSNRTRGRDLRQALGLSAPNILAFLLG

cons : \* : : : \* \* \* \* . : \* . : \* : \* : :

Hs-exp5 TLQENVNKYQQVKT DTSQESKAQANCRVGVAALNTLAGYIDWVSM SHITAE  
Ap-exp5 VIDNYCRQYLEFL-SRNEQNAATALVRVIQLALANIGELFEFIQLSHVNFK  
Am-exp5 LMEQHFSEFQKKN-SLGCTSEAAAHSKVVQVVLSTLTGFVEWISINHVMAE  
Ag-exp5 LIELHVGEFRSAT-TGGDEHKAHGHSRVVQVALQTLTGFVEWVSINHIMAA  
Ph-exp5 IITCHIDLFKSI----GNLEAGNQHFRVVQTGLTTLSSFLEWASYTHFTNN  
Tc-exp5 LIELHVNQFRICG-ETNNTPKSTAHGRVVQVLLTTLTGFVEWVSM SHIMAAQ  
Dm-exp5 LVEQHVTAFRETT-RLCNYTKANAHSRVVEMVLLTSLSGFVEWVSIQHIMSS  
Ci-exp5 ALKKQISVLYDD-----ASPENIHLAGTTLRTISTYAEWVKLDHIFMN

cons : . : : \* . : : . \*

Hs-exp5 NCKLLEILCLLLNEQELQLGAAECLLI AVSRK GKLEDRKPLMVLF G DVAMH  
Ap-exp5 DCYIITVLCSLLDHFNFQRSAVDCLLVLLSRKCKNEERECVVQLLDQ-PLQ  
Am-exp5 DGRLQLILCLLLDGPIFQCSAAECLLQIVNRK GKAE DRKQLMILFSE DALR  
Ag-exp5 NGRLQLILCILLTDVEFQQPAAECLGQITNRRGQLKDRKPLLLLFEDAPVE  
Ph-exp5 DNALLKILCALLEDEHFQINAVDCLLQVVS RKGNPEEKKFFIEWFDLKV LQ  
Tc-exp5 NGRLHLILCLLLNDLAFQYPAAECLSQIVNRK GKVDERKPLLLLFNDEPIQ  
Dm-exp5 NGKLMHFLCILLNDKAFQCNAAECLAQITNRRGQTKERKPLLQLFNEEPLR  
Ci-exp5 DGILIEVIFGLLNNSELQLPSAAECLLSIANRKG TSE-RKRL LILTTDFFVE

cons : : : \* . : : : \* \* . \* : : : .

Hs-exp5 YIL-SAAQT----ADGGGLVEKH YVFLKRLCQVLCALGNQLCALLGADSDV  
Ap-exp5 QIYFVVHNA----ISRLEANEENNIFLKTLSKVVSMLS YVLCFAFWKDNKLH  
Am-exp5 YIY-TAATAVSPV TGTNEFHENHYLFLK KLTQVLTGMATQLCTLWGKDDSS  
Ag-exp5 HYY-QAATQ----NE-RLETEAYYLF LK KLAQVLTGLASQLTALWGKEECQ  
Ph-exp5 FML-DAANK----VSTKSLNENNYLFLK KLIQVLTGLGTYFTALCGKEDFV  
Tc-exp5 CLV-SASKNP----GAILDEQH YLFLK KLVQVLTGGLTTQLVVLWGKDSI-  
Dm-exp5 YIY-QASQIPAD-TSSTLAVEQH LNFLK KLLQVLTNGMAQQLVALWGKDDAT  
Ci-exp5 KYAVAIKNA----SQRDGLTEKKFQFLRCMTKLM MTFNSMIITQWLEDEKM

cons : \* \* : : : : : . : .

Hs-exp5 ---ETP-SNFGKYLESF LAFTTHPSQFLRSSTQMTWGALFRHEILSRDPL  
Ap-exp5 NFTVEKSEKILFCYVDLLQVCLFHDSLNVITNINQAWCILFKNPEISKNIL  
Am-exp5 N---IRP-AHFNIFLDTVLTFTMYSSLT LTHMANAIWVMLFKHEQIKQDPL  
Ag-exp5 P---IKP-HCLATFLGTVLIFTRHASYS LAHPAALIWTTLKHEQISKEHL  
Ph-exp5 SF--TRS-EYLN TYLNI MLTFFRHP SLTIISYTI STWSSFFKNPVISQDPV  
Tc-exp5 ---SRP-NNFSAFLEAILAFSSHQSLT LSHMANPLWNSMLKHEHISRDPV  
Dm-exp5 ---QRP-VHLEV LLECLLLL VQHPSLGLSHGSALIWQLLLKHEPSSKDFA  
Ci-exp5 I-RVHRSLENYQNFFQVLFFLTSHKSRVIAQSVILSWVNLLRVKEMKKDET

cons : \* : \* : : : . : :



Hs-exp5 CRDYPQLVLPNFDMLYNHVKQLLSNEL--LLTQMEKCALMEALVVLISNQFK  
Ap-exp5 SIKYPNLLLPLVFDKLCSLSDQLLSKTSKTGDNLAVCLRLQESLLVLNNHVP  
Am-exp5 SLKYPLLLLPLVFEQIHTMVRELAREPS--PLSKMETTLLYEALLLISNHFC  
Ag-exp5 AHKYPLLLLPIFDQINTSVKNLIVQPE--RLSKVEQVTLLEALLLISNHFC  
Ph-exp5 GQRYPLLLLPLFDQINTTVQAIIRDP---QLSKMEQVTIQEALLLICNHFY  
Tc-exp5 GNKYPLLLLPLVFDQIRATVENLSRSDSVAGLSTLEKVTLQEALLLISNHFC  
Dm-exp5 AHKYPLLLLPLVFEQINGHVELLLKEPGKHQLCRLMR TTLQEALILISNHFC  
Ci-exp5 AKSYSNIMIQYMEDINNWIQERTLGEK--SLSQFEMCSLFEGMIVLSSEWK

cons \* . : : : : : : : : : : : : : : : .

Hs-exp5 NYERQKVFLEELMAPVASI WLSQDMHRVLS D-VDAFIAYVGT DQKSCDPG-  
Ap-exp5 DFYKQTQLIKHILEPCQLMWQKV--QSI VSGP PEGLLAYLGLDRPPVD-F-  
Am-exp5 DYERQTRFVAEIIIGDASAKFIAL-GSESFKG-PLEFMRFIGLDRPPVENI-  
Ag-exp5 DFERQSGFVADVIRDGVS IWGGL-LVPVVK N-AHTFIEYVGLNRPAIEPFA  
Ph-exp5 DYNKQSQFVGELMKPGIDMWFEM--ENAFRS-ASDFMALVGLDKPPVEPS-  
Tc-exp5 DYDRQSNFVREVLAEANAQWRLIVASGAFES-ASKFISFVGLDTPPVAPH-  
Dm-exp5 DFERQTLFIEHIVQDKRTEWLA F--GDALKS-PLDFMSFVGLDKPPIFAV-  
Ci-exp5 NFDRQNK LIGNLMATTAPIVHADYFNKALAG-PMEFATAIGFCTT----D-

cons : : \* . : : . : : . : : : : : : : : : : \*

Hs-exp5 --LEDPCGLNRARMSFCVYSILGVVKRTCWPTDLEEAKAGGFVVGYTSSGN  
Ap-exp5 --ESDPCLENRNHLSHCINVLACVMARSNTNSNSKI-----  
Am-exp5 --TEDPAGQNRSDLMICICTILCVVKRCSIPDDPDRAARGSFVAALSESGN  
Ag-exp5 TTVEDPYNVNRRQLTYALNLVLGVIKRCSWPDDPDRC SRGGFVVALTESGN  
Ph-exp5 --QEDINGKNRSHLLFCLHLFFSVLLRSTWPEDPDRAARGGFVVDRTSTGN  
Tc-exp5 --ADNPHGHNRSSIVFCINLLLGAIKRCSWPEDPERATRGGFVVALTESGN  
Dm-exp5 --EGAVTLQNRSRLLDALHVVLGVVKRCTWPDDPERAQRGGFVIGCTELGN  
Ci-exp5 --ENEQSFEIRAGLYYYYISLTLGVLSRSKIPENQKELEAGGFIR-----N

cons : : \* : : : : : : : : : : : : : : : \*

Hs-exp5 PIFRNPCTEQILKLLDNLLALIRTHNTLYAPEMLAKMAEPFTKALDMLDAE  
Ap-exp5 -PNVSPVTEHVLLLLLPNVFLIIKNLNSLCS DNVKMMHPSYTTVLEIFPQE  
Am-exp5 PVYRNPA TP HVIPILPTLFALLRTMNALFTSTALAA LSEGYKNAHELLEAE  
Ag-exp5 PICRNPA TSHV VPLLPHILSLMRCLNELWKP DALQSFSDSFRNANGMQESE  
Ph-exp5 PIYRNPA TP HIIPILPNVLSLVKVLNALWAPDTLSRISEGYKDAFQMSENE  
Tc-exp5 PVCRNPA APHV VPLL PDILSLIRVFNELFTCEAQNLIHESYKGCLGMLETE  
Dm-exp5 PICRNPA TKHIVPLL SHVLSLMRVLNELFAPEALQALSEGYRGIHGMEHE  
Ci-exp5 GKVTNPPCCGYIEAAIDHMFTLTQLMSSMWSPEVGKVFHDPNAQALTIRSGE

cons . \* : : : : : : : : : : : : : : \*

Hs-exp5 KSAILGLPQPLL-E---LND-SPV-FKTVLERMQRFFSTLYENCFHILGKA  
Ap-exp5 REALLGKNIVSE-KNDPFQNFQRQPKPDPVYKIKLAILNAYEGCLNVLGKS  
Am-exp5 KANLLGLNTTNDNER--ASEPDQS-SVTALVRMQSFLNTINDLCYHMLGSG  
Ag-exp5 KKQLLGVSPVLQDP---LDPSQKL-PPTAFGRMQTFLAGIFEHCYHMMGSA  
Ph-exp5 KANLLSLV PQSNVQSDQLDAG- IK-VQSPLDRMQQFLETVHSNSYLF LGTI  
Tc-exp5 KSNLLGLIGH SVGD---LGE-LQA-VQSPMERMQRFLFGLHESCYHMIGSM  
Dm-exp5 KKLLMGI CALPTDP---LDTTIRS-EPTAF EKMQTFMMMVT EGCYHLMGSA  
Ci-exp5 KRCLVFIIEVDKM--KP-HQ-DE-VPRAHWEKIQFFLSLGLDSLFTLLGHT

cons : : : : : : : : : : : : : : \*







T-COFFEE, Version\_7.38Thu Nov 20 17:26:38 WEST 2008

Cedric Notredame

CPU TIME:27 sec.

SCORE=94

\*

BAD AVG GOOD

\*

Ap-agola : 94  
 Ap-agolb : 95  
 Am-agol : 94  
 Dm-agol : 94  
 Tc-agol : 94  
 Ph-agol : 94  
 Pm-agol : 94  
 Is-agol : 94  
 Ci-ago : 95  
 Hs-eIF2C2 : 94  
 cons : 94

Ap-agola	VFNCPRRPNLGREGRPIVLRANHFQ	-	ISMPRGYVHHYDINIQPKCPRKVN
Ap-agolb	VFNHPCRPNLGREGRPIRLRTNHFQ	-	VSMPRSIIQHYVIYIKPENCPRRVN
Am-agol	MFSCPRRPNIGREGRPIVLRANHFQ	-	ITMPRGYVHHYDINIQPKCPRKVN
Dm-agol	VFTCPRRPNLGREGRPIVLRANHFQ	-	VTMPRGYVHHYDINIQPKCPRKVN
Tc-agol	VFQCPRRPNLGREGRPIGLKANHFQ	-	VTMPRGFVHHYDVSIQPKCPRKVN
Ph-agol	MFCPCRRPSLGREGRPIALRANHFQ	-	ISMPRGYVHHYDINIQPKCPRKVN
Pm-agol	AFVAPRRPNLGREGRPITLRANHFQ	-	ISMPRGYIHHYDISITPKCPRKVN
Is-agol	MFVCPRRPNVGTTEGRPILLRANHFQ	-	ISMPRGYLHHYDVTITPKCPRKVN
Ci-ago	DFQAPRRPNQGQVVGKPIWLKANYFK	-	VSIPNGDIHHYDIDIKPKCPRRVN
Hs-eIF2C2	VFDG--RKNLYT-AMPLPIGRDKVELM	-	MDIPKIDIYHYELDIKPEKCPRRVN

cons \* \* . . \* : : : . : : : \* . : \*\* : \* \* : : \* \* : \* \* :

Ap-agola	REIIETMVHAY	-	SKLFGNLRPVFDGRNNLYTRDPLPIGNDRMELEVTLPG
Ap-agolb	REIIKIMVNAY	-	SKLFGNLRPAFDGRQNLYTRDPLPIGRKQVELEVTKLPGQ
Am-agol	REIIETMVHAY	-	TKIFGTLKPVFDGRNNLYTRDPLPIGTDKIELEVTLPG
Dm-agol	REIIETMVHAY	-	SKIFGVLKPVFDGRNNLYTRDPLPIGNERLELEVTLPG
Tc-agol	REIIETMVHAY	-	GKIFGNLKPVFDGRNNLYTRDPLPIGNSREELEVTLPG
Ph-agol	REIIETMVHAY	-	SKIFGSLKPVFDGRQNLYTRDPLPIGNDRVELEVTLPG
Pm-agol	REIIETMVHAF	-	PRIFGTLKPVFDGRSNLYTRDPLPIGNEKMELEVTLPG
Is-agol	REIIETMVQSY	-	SKIFGQKPVFDGRKNMYTRDDIPIGKDKAELEVTLPG
Ci-ago	REIINTMVENFR	-	SAIFQDRKPVFDGRKNLYTAQPLPIDKQKLEVEVTLPG
Hs-eIF2C2	REIVEHMQHFKT	-	QIFGDRKPVFDGRKNLYTAMPLPIGRDKVELEVTLPG

cons \* \* : \* . : : \* : \* \* \* \* . \* : \* \* : \* \* . . : \* : \* \* \* \* \* :









T-COFFEE, Version\_7.38Thu Nov 20 17:26:38 WEST 2008

Cedric Notredame

CPU TIME:1 sec.

SCORE=99

\*

BAD AVG GOOD

\*

Ap-dcrla : 99
Ak-dcrla : 99
Ap-dcrlb : 99
Ak-dcrlb : 99
Mp : 99
Rp : 99
Ag : 99
cons : 99

Ap-dcrla LSNNTPFIPEDSKYIKSEININYKINDSVNEVHGVQTGTFSFDFQPDLDNH
Ak-dcrla LSNNTPFKPEDSKSIKSEININYKIIDSVNNVNGVQTETFSFDYQPDLDNH
Ap-dcrlb LLNNTSFMPEDDKCIKNEIYKNNKTIDSINEVNDLQTETFSFDFQPDLDNYH
Ak-dcrlb LSNNTSFMPEDNKCICKNEIHKNNKTIDSINKVNDLQTETFSFDFQPDLDNYH
Mp LLNKTSFMPEDSEYIKSETYIDSKTIDSVNQVHGVQTETFSFDYQPDLDNH
Rp LSNNTSFVVPKDKICIKNGVHLNNKAIDNINKV-DIQNETFSFDFQPDLDNNH
Ag LSNNTSFVVPKDEKCIKNEIHINKKTIDNINKVHDIQNETFSFDFQPDLDNH

cons \* \* : \* . \* \* : \* . \* \* . : \* \* \* : \* : \* \* . \* . \* \* \* \* : \* \* \* \* : \*

Ap-dcrla PGPSPSVLLQALTMSNANDGINLERLETIGDSFLKYAITAYLYCTHDNVHE
Ak-dcrla PGPSPSVLLQALTMSNANDGINLERLETIGDSFLKYAITAYLYCTHDNVHE
Ap-dcrlb PGPSPSILLQALTANAIIDGYDLERLETIGDSFLKYAVTAYLYCTHNNVHE
Ak-dcrlb PGPSPSILLQALTTSNANDGINLERLETIGDSFLKYAVTAYLYCTHNNVHE
Mp PGPSPSVLLQALTMSNANDGINLERLETIGDSFLKYAITAYLYCTHDNVHE
Rp PGPSPSVLLQALTMSNANDGINLERLETIGDSFLKYAITAYLYCTHDNVHE
Ag PGPSPSVILQALTMSNANDGINLERLETIGDSFLKYAITAYLYCTHDNVHE

cons \* \* \* \* \* : \* \* \* \* \* : \* \* \* \* \* : \* \* \* \* \* : \* \* \* \* \* : \* \* \* \* \*

Ap-dcrla GKLSHLRSKQVSNLNLNLYRLGKLMFGERMISTKFEPHDNWLPPCYFVPHKL
Ak-dcrla GKLSHLRSKQVSNLNLNLYRLGKLMFGERMISTKFEPHDNWLPPCYFVPHKL
Ap-dcrlb GILSDLRSNHVSNLNLNLYRLGKLMFGERMISTKFEPHRSNWLPPCYIGPHKL
Ak-dcrlb GILSDLRSNHVSNLNLNLYRLGKLMFGERMISTKFEPHRSNWLPPCFIEPHKL
Mp GKLSHLRSKQVSNLNLNLYRLGKLMFGERMISTKFEPHDNWLPPCYFVPHKL
Rp GKLSHLRSKQVSNLNLNLYRLGKLMFGERMISTKFEPHDNWLPPCYFVPHKL
Ag GKLSHLRSKQVSNLNLNLYRLGKLMFGERMISTKFEPHDNWLPPCYFVPHKL

cons \* \* \* . \* \* \* : \* \* \* \* \* : \* \* \* \* \* : \* \* \* \* \* : \* \* \* \* \* : \* \* \* \* \*

Ap-dcrla EKALINASIPTTLWNMITLPTFKDPTDKEIEEVIQQFKVGFSNEDIENTPL
Ak-dcrla EKALINASIPTTLWNMITLPTFKDPTDKEIEEVIQQFKNGFSNEDVENTPL
Ap-dcrlb EKAVINSNIS-----
Ak-dcrlb EKAVINSNIS-----
Mp EKALINASIPTTLWNMITLPTFKDPTDKEIEEVIQQFKVGFSNENIENTPL
Rp EKALINASIPTSLWNMITLPTFKDPTDKEIEEVIQQFKVGFSNDDLENTPL
Ag EKALINASIPTSLWNMITLPTFKDPTDKEIEEVIQQFKVGFSNEDLESTPL

cons \* \* \* : \* \* : \* . \*



