

SacCe\_c1 -----MFSNLSKRWAQRTLSKSFYSTATGAASKSGKLTQKLVTAGVAAAAGITAST-  
 BosTa\_c1 -----  
 ParDe\_c1 ----- 195 amino acid residues -----  
 RhoCa\_c1 -----MKLLIS-  
 NeiMe\_c1 -----MRAAKMKQTLK**NWFAALLLAV**PM**SAAVASG**-  
 BorBr\_c1 -----MTMIKKL**IGAV**ALMI**TCTATLAAEG**-  
 XylFa\_c1 -----MAD**WGRLRLRCLCWILCLLFP**CV**LMSAAQAVD**-  
 VibCh\_c1 -----M**KKWIVVLF**FAM**LSLAMAAGAN**-  
 AquAe\_c1 -----MNT**WGLIKTIF**FAGST**L**VFF**FLWFY**N**PFKHVEHYEV**DEEV**KAIIDN**-----  
 CamJe\_di-c -----MRE**IKIFL**VVV**VFTALVY**WG**VEPYAHSVM**K**PHVAPAN****FDFAVEDTTF**AK  
 HelPy\_di-c -----MKE**FKILILIV**V**VGVIYY**WG**VEPYAHSVM**H**PKVAPADFAFK**-----  
 WolSu\_di-c -----MKD**FKLLLIVAAITGILY**WG**VEPLAHSVM**H**PAVAPADYGF**S-----  
 HelHe\_di-c -----MKE**IKILAIIVVIVGVLY**WG**VEPLAHATFHP**E**VAKADFAFK**-----  
 DeiRa\_c4 -----MSR**FSSRL**L**LWLAVPAL**L**LGTSVFAA**TP**PGTTPQGTAA**P-----  
 NeiMe\_c4 -----MK**RLTLLAFVLA**-----  
 PseSt\_c4 -----M**NKVLVSL**LLT-----  
 VibCh\_c4 -----MR**GTPEWY**W**KLDNYKWN****VMKKLALIS**-----

SacCe\_c1 LLYADSLTAEAMTAAE-----HGLHAPAYAWSHNGP--FETFD**HASIRRGYQVY**  
 BosTa\_c1 -----SDLELHPPSYPW

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SHRGL--LSSLD**H**T**SIRRGFQVY**  
 ParDe\_c1 ADHGDAAAQEAGD-SHA-----AAHIEDISFSFEGP--FGKFDQHQ**LQRGLQVY**  
 RhoCa\_c1 AVSALVLGSGAALA-----NSNVQDHAFSFE**GI--FGKFDQQLR****RGFQVY**  
 NeiMe\_c1 -----GGHYEKVD-----IDL**R**DQVSLQ**HGAQIF**  
 BorBr\_c1 -----G**FPLEKAP**-----DRINDV**ASLQNGAKLF**  
 XylFa\_c1 -----G**VPLEHAG**-----NDVSDR**MSLQRGVQLY**  
 VibCh\_c1 -----V**HLDKAN**-----NDLT**DQASLQNGAKLF**  
 AquAe\_c1 -----PW**KTESGKTIAE**GG**RELF**  
 CamJe\_di-c **GIVEAKELALKDAQASGDAKRIESANKELEKAKEELS**SKVETL**WVDVAKIDFAKGD**AK**KKEFF**  
 HelPy\_di-c -----DLE**PMDL**KNGDANK**GKQLV**  
 WolSu\_di-c -----DLE**KIDSSK**GNA**AKGAELV**  
 HelHe\_di-c -----D**LEEIDVSK**GNA**QRGKALI**  
 DeiRa\_c4 -----KN**PLALQFKTP**SA**AARGAAI**-  
 NeiMe\_c4 -----AGAVSASP**KADVEK****GKQVA**  
 PseSt\_c4 -----L**GITGMAHAAGDAEAGQ****GK**-  
 VibCh\_c4 -----V**LASC**SVWAQ**GSIEAGKAK**-

SacCe\_c1 **RE**V**CAACH**SLDR**VAWR**-**TL**VGVS----HT**NEEVRNMAE**EFEYDD-EPDEQG-----  
 BosTa\_c1 **KQV**CSS**CHSMDYVAYR**-HLVGVC---Y**TEDEAKALAE**EV**EQD**-GNEDG-----  
 ParDe\_c1 **TEV**C**SACH**GLRY**VPLR**-**TLAEGGPQ**--LP**EDQVRAYAANF**DI**TD**PETEEDR-----  
 RhoCa\_c1 **SEV**C**STCH**GMKF**PIR**-**TL**SDDGG**PQLDPTFVREYAAGLDTIIDKDS**GEER-----  
 NeiMe\_c1 **TNY**CL**SCHS**ASGM**RFN**-RLKD**IGL**---**TDEEIKKNLMFT**-----  
 BorBr\_c1 **VNY**CL**NCHSAQ**SMR**YN**-KLQD**IGL**---TDQ**QIQDSLLFT**-----  
 XylFa\_c1 **MNY**CV**GCH**SLK**YLRYSR**-**IAAD****GL**---**SEVQVMSTLNVT**-----  
 VibCh\_c1 **MNY**CV**GCH**STQ**YQRYERV**AND**LGI**---PAD**LMKENLIFDP**-----  
 AquAe\_c1 **IAS**CSS**CHSLRYDGIY**-----**IMS**V**AA**N**PKWKNIEKTS**GR**PVYRFGTLYK**  
 CamJe\_di-c **EN**NC**FACH**G**VKEDG**-----IAANITDSS**MG**-----  
 HelPy\_di-c **AEN**CT**ACHGIKSQ**N-----IPAP**MD**SL**SASNSFG**-----  
 WolSu\_di-c **MAN**CV**ACHGIKSQ**G-----FD**APMDHE**SASASYG-----  
 HelHe\_di-c **EG**NC**TACHTLKDVG**-----I**AGGEMAVYVRD**GKEAT-----  
 DeiRa\_c4 **AG**T**CAGCHGKT**GVS-----  
 NeiMe\_c4 **AT**VC**AACHGAD**GNS-----  
 PseSt\_c4 **VAV**CG**ACHGVD**GNS-----  
 VibCh\_c4 **SLT****CAACHGAD**GNS-----

SacCe\_c1 -----  
 BosTa\_c1 -----  
 ParDe\_c1 -----  
 RhoCa\_c1 -----  
 NeiMe\_c1 -----  
 BorBr\_c1 -----  
 XylFa\_c1 -----  
 VibCh\_c1 -----  
 AquAe\_c1 -----  
 CamJe\_di-c --VIPPDL**SAAGAI**FDEKFLAALIMHPALALKVDHKFGD-----AFIMTAYNK--  
 HelPy\_di-c --VVPDDL**SHVAGV**LNANFLAHFIKDPVK**TAKLSHK**FND-----ERPYPMPAFSQ--  
 WolSu\_di-c --VVPDDL**SSAGRI**YESNYLANFIKNPT**KAAHLTH**KFNES-----KPYPMPAYDW--  
 HelHe\_di-c --IFTPDLSTAGAIYNDKFLANLILDPANALHLAHKFPDG-----DFPMTQYFGEE  
 DeiRa\_c4 VQADIPSL-----AGQIPNYTQ**FQLAA**FRAKLRPS-----NVMQQVASK-  
 NeiMe\_c4 GIAMYPR**L**-----**AAQH**TAYIYHQTIGIRDGKRTHG-----**SAAV**MKPVVMN-  
 PseSt\_c4 PAPN**FPKL**-----AGQ**GERYLL**QLQDIKAGSTPGAPEGVGRKVLEMTGMLDP-  
 VibCh\_c4 PLTI**YEKL**-----AGQ**HEKYLE**KLKELKLGASSGGKQ--GRYDPV**MSAMAMP**-

SacCe\_c1 -----  
 BosTa\_c1 -----  
 ParDe\_c1 -----  
 RhoCa\_c1 -----  
 NeiMe\_c1 -----  
 BorBr\_c1 -----  
 XylFa\_c1 -----  
 VibCh\_c1 -----  
 AquAe\_c1 -----  
 CamJe\_di-c DTSGESEEATNANIANVIAYLKD**VSVKFEANEDATIKKDVEAKYAKMEN**----  
 HelPy\_di-c -----FSDKDLSDIVAYLTSI-----  
 WolSu\_di-c -----**MSNEE**IADIVAY**FAST**-----  
 HelHe\_di-c -----**DSKQEV**ADMVAYLKS**VGSI**ALKKQVLESEEFIGKKNIEKSSSLE  
 DeiRa\_c4 -----LSDQ**DIADL**SAY**YAAQA**VGP**AWK**-----GQK**QNEI**-----  
 NeiMe\_c4 -----LSDQDI**LN**VSA**FYAKQ**QPKSGEA-----  
 PseSt\_c4 -----LS**DQDLE**DIAAY**F**SQKGSVG-Y-----  
 VibCh\_c4 -----LS**DEDIAD**LAAY**YASMP**ISGN-T-----

SacCe\_c1 -----NPKKRP**GK**LSDY**I**PGPY**PNEQ**-----  
 BosTa\_c1 -----EMFMR**PGK**LSDY**F**PKPY**PNPE**-----  
 ParDe\_c1 -----PRVPTDHFPTVSGEGMG**PDLS**MAK-  
 RhoCa\_c1 -----DRKETDMFPTRVGDGM**PDLS**MAK-  
 NeiMe\_c1 -----TDNVGD**VMHSA**  
 BorBr\_c1 -----GDK**VG**DL**MKIA**  
 XylFa\_c1 -----GAK**FGDT**IM**TA**  
 VibCh\_c1 -----ETKIG**QLMENA**  
 AquAe\_c1 -----DR**FFVP**--**KDVYEAF**A  
 CamJe\_di-c **SAQKAALMEK**DIK**FAKDKATFIEA****C**GR**CH**DMKYDS-----**FT**  
 HelPy\_di-c --LPKNLS**DKEV**-----**FAQS****QRCHSLDYAK**-----**DKA**  
 WolSu\_di-c --**APEK**VSN**QEV**-----**FVDA****QRCHSMKYDK**-----**LLA**  
 HelHe\_di-c **AKLEEN**LTNKAV-----**FLNA****SRCHTMKYDN**-----**TKA**  
 DeiRa\_c4 **AEP**AARAR**GQK**LFTAGDPARNVIA**C**AV**CH**GSNGRGLN-----  
 NeiMe\_c4 NPKENPE**L**GAKIYR**G**LS**DKKVPAC**MS**CH**GPSGAGMP-----  
 PseSt\_c4 AD**PALAKQGEK**L**FR**GGKLDQ**MPAC**T**G**CHAPNGVGND-----  
 VibCh\_c4 TPED**VVAQ**GKVLYTAGDAS**RGLTAC**I**ACH**GPRNGTE-----

SacCe\_c1 ----AARAANQ**GALPPDLS**LIVKAR-----HGG**CDYIFSLLT**GYPDEPPAG-----VAL  
 BosTa\_c1 ----AARAAN**NGALPPDLS**YIVRAR-----HGG**EDYVFSLLT**GYCE-PPTG-----VSL  
 ParDe\_c1 ----ARA---**GFHGFYGTGLS**QLFNG-----IGG**PEYIHAVLT**GYDGE**EEKEEAG**-----  
 RhoCa\_c1 ----ARA---**GFSGFAGSGMN**QLFKG-----IGG**PEYIYRYVT**GFPEENPACAP-----EG  
 NeiMe\_c1 MNPK-DAA**KWFGAAPPDL**TLIARSK-----GAD**YLYAYMRGFYK**DPTRP-----  
 BorBr\_c1 **MT**PQ-D**AKKWFGTTPDLS**VIARAKSVNAGPSGAD**LYTYLRTFY**RDTSKA-----  
 XylFa\_c1 **MP**VD-TSEQ**WFGKI**PPDLSLVARVR-----GSD**WIYTYLRSFY**VDSTRP-----  
 VibCh\_c1 IPDK-SAA**KWFGAPPDL**TLVARVR-----GTD**WLYTYLRSFY**TDPSRP-----  
 AquAe\_c1 **HDDIQGLKASLGOVPPDLS**SMYLAR-----**GEGYLYQFILN**PQK-----  
 CamJe\_di-c PSNQ**NDLKYLGSVPPDLS**MMIRSR-----**GEQYLHDFINNT**QK-----  
 HelPy\_di-c **FSDPKDLANYLGS**HAPDLS**MMIRAK**-----**GEHGLNIFINDP**QK-----  
 WolSu\_di-c **ETPEETLKDYMG**SKAPDLS**MMIRSK**-----**GEHYLHTFINEP**QK-----  
 HelHe\_di-c STSPES**LSVYLGSAAPDLS**TMIRSK-----**GAHYLEYFINDP**QK**VSYKAIQDAI**INK  
 DeiRa\_c4 ----AN**HIASVTNLP**PEY**ALEV**LKE-----**FHEA**PTFG-----  
 NeiMe\_c4 -----GGGSE**IQA**YER**LGGQHQA**Y**IVEQ**MNA-----YKSGQ-----  
 PseSt\_c4 -----LAG--**FPK**LGG**QHAAY**TAK**QLTD**-----**FRE**GNRTN-----  
 VibCh\_c4 -----LSG--**FEK**IS**GQHADY**IK**AQLEK**-----**FRS**GTRAN-----

SacCe\_c1 PPGSNYPYFPG-----GSI**AM**ARVLFDDMVEYEDGTP-----  
 BosTa\_c1 REGLYFN**PYFPG**-----QAI**GMA**PIYNEVLEFDDGTP-----  
 ParDe\_c1 -**AVL**Y**HNAAF**AGN-----W**IQMAA**PLSDDQV**TYEDGTP**-----  
 RhoCa\_c1 **IDG**Y**YNEVFQV**GGVPD**TCKDAAGIK**TT**HGSWAQMP**PALFDDLV**TYEDGTP**-----  
 NeiMe\_c1 -----SGW**NTVFDKVGMP**HPL**WEQQGVQ**AVEL**DAKGQ**PVMV----  
 BorBr\_c1 -----TG**WNNLAF**PNV**GM**PHAL**WDRQGP**REL**TTVA**V**HQVEA**ADGTR  
 XylFa\_c1 -----LG**WNNR**LFV**NVSM**PNLSHLQGV**QRAE**YGGASQAGAD----  
 VibCh\_c1 -----FG**VNNIV**FPS**VGMP**HVLEELQGT**PEPIFETK**VVDGNE----  
 AquAe\_c1 -----**VLPGT**MP**QLFN**PQ**FDE**-----  
 CamJe\_di-c -----**LLPGT**AMPRVG-----  
 HelPy\_di-c -----**LLPGT**AMPRVG-----  
 WolSu\_di-c -----**LLHGT**AMPRVG-----  
 HelHe\_di-c EGSLPPNDKRSE**WQDERDYS**NLAKELG**VMPVGLS**MPRVG-----  
 DeiRa\_c4 -----GL**V**PE**TM**RIAVKP-----  
 NeiMe\_c4 -----R**KNTI**MEDIA**NR**-----  
 PseSt\_c4 -----D**GDTM**IMRG**VAAK**-----  
 VibCh\_c4 -----D**MN**-**EMMR**DVA**HK**-----

SacCe\_c1 -----AT**TSQMAKDV**TT**FLNW**CAEP**EH**D  
 BosTa\_c1 -----AT**MSQVAKDV**CT**FLRWA**AE**PE**HD  
 ParDe\_c1 -----AT**VDQMATD**VAA**FLMW**TAE**PKMM**  
 RhoCa\_c1 -----AT**VDQMGQD**VAS**FLMW**AAE**PKLV**  
 NeiMe\_c1 -----**KDEH**GEM**KPKLY**WESTG---L**HSRRL**PNG**KVIQ**KEY**DAYVRDLV**N**YLVY**-MGE  
 BorBr\_c1 NWER**VTTVYDAQGYA**T**AKTE**PL**ADYR**GHGS**LETR**FK**AVNPAQ**SA**AYDQD**VAD**LTA**FMS**WMAE**  
 XylFa\_c1 -----R**LVTGL**VL**VQPGQ**NP**A**E**FDR**TL**RDI**V**NFLQY**-**AAE**  
 VibCh\_c1 -----**VQH**V**VGVK**-----S**RNG**ELSEGE**YNQAVRDLVN**F**LEY**-S**GE**  
 AquAe\_c1 -----**QAK**E**KVAKIVAYMKS**V**NT**PPP  
 CamJe\_di-c -----L**TEAAQAKV**SY**IDQV**GDS**KK**  
 HelPy\_di-c -----L**SEQAQKQVI**AY**LEKAG**DR**KK**  
 WolSu\_di-c -----L**NEEA**E**KQVVS**Y**IES**IGDS**KK**  
 HelHe\_di-c -----L**TQEAQ**ER**VVAYI**ESIGDS**KK**  
 DeiRa\_c4 -----L**TDKDLKDV**AT**YI**SS**MK**----  
 NeiMe\_c4 -----M**SEED**L**KAVANFI**Q**GLR**----  
 PseSt\_c4 -----L**SNK**D**IEALSSYI**Q**GLH**----  
 VibCh\_c4 -----L**TDAD**I**DIL**SK**YV**G**GLH**----

