





BnTc3 1 .....  
 BnTc4 1 .....  
 PpTc2 1 .....  
 HvTc4 1 .....  
 OsTc1 1 .....MKISCQYFPYKNIQRIEDII  
 BrTc1 1 .....  
 PxbTc1 1 .....  
 PpTc1 1 .....  
 PtTc1 1 .....  
 Tc1 1 .....  
 TuTc1 1 .....

Lem1 1 .....  
 Soymar1 1 .....MQRKVKMLSNEERITIIYQLLLQKSVDGKLPQGKESVASSFSVCRKT  
 Osmar5 61 DSDDDQEEHANENVASKSKDLTNIQRRGIYQLLLQKSKDGKLEKHTTRLVAQEFHVSIRT  
 Mos1 1 .....MSSFVPNKEQTRTVLIFCFHLKKTAAESHRMLVEAFGEQVPTVKTCER.  
 HvTc2 1 .....  
 LsTc2 1 .....  
 Impala 1 .....MPRGKELTPSLRSRICELKKQGYSYSQIHKHFPYIPLGTIKTTCR.  
 CsTc1 1 .....  
 HvTc3 1 .....  
 HvTc1 1 .....  
 LsTc1 1 .....  
 BrTc2 1 .....  
 BnTc1 1 .....MTQQYHHLTASQAHTINILTNLGHQSRTIAAQLSISQSTVSRQRN.  
 PxbTc2 1 .....  
 BnTc2 1 .....MAPLLSPRKRKIVAHVLDGKTYKEIAQKYQVAKGTIAYTMKR.  
 BnTc3 1 .....  
 BnTc4 1 .....  
 PpTc2 1 .....MKYRTLSPMQKNQIVGMRKAGMKYKDIAEVFSAPCSTISTILSH.  
 HvTc4 1 .....  
 OsTc1 21 SATVSLLLIKTNVIMERRRHSREEMLRVGMIEAGSRQRTVALALNTSQSVISRLWTR.  
 BrTc1 1 .....  
 PxbTc1 1 .....MDTTPPEAAQVVALLOQGLSQRAVAAQLHLSQSAVSRVYRR.  
 PpTc1 1 .....MPRLCESLKHQALVQLRSGVSTRKVADSLGMSQSSVAHLRRE.  
 PtTc1 1 .....  
 Tc1 1 .....  
 TuTc1 1 .....MGKAANLTLVEKNLIKFRNEGKSLSEIASLVRSRKTAVFQALKP.

Lem1 1 .....MTGELILEK.AKETMKLVYPLQDSVKQF  
Soymar1 48 IDRIWKRAKESETHDVSH...KKTKNNGRKRVEIDLSQLR.EIPLSQRTTVRTLAVAMK  
Osmar5 121 VQRIWKRAKICHEQGI AVNVDSRKHGNSGRKKVEIDL SVIA.AIPLHQRRNIRSLAQALG  
Mos1 49 ....WFQRFKSGDFD VDDKEHGKPKRYEDAELQALLDEDD.AQTQQLAE.....QLEV  
HvTc2 1 .....  
LsTc2 1 .....  
Impala 46 ...REAQRGAENTTLPRSGAPRKLTEEQRDQIYDTVITDP.HVTTRDLLDSV...DNVI  
CsTc1 1 .....  
HvTc3 1 .....  
HvTc1 1 .....KKTIFYHPKADVQ  
LsTc1 1 .....  
BrTc2 1 .....  
BnTc1 47 .....PTKSRPRQSKKRTVSSQFEQAATDAYHVQS.IHNLRWASNDHIRNVLQI  
PxbTc2 1 .....  
BnTc2 44 .....ERLHNTQKSLPTGRRPRKLSERSLRWLSREIGLFP.QSPWDYFAK.....ALSV  
BnTc3 1 .....  
BnTc4 1 .....  
PpTc2 45 .....WKVHGSLESLKSQCGRPKKLSERDFRVLCHAVSSNR.RHTLVELAN.....LVSV  
HvTc4 1 .....  
OsTc1 80 .....YRSTGTVAERHGGRYRCTTRRQDRYIQILTRRAPTITAMMLAVRLHHSSGNLI  
BrTc1 1 .....  
PxbTc1 42 .....FQETGAFNRRPRTGRHRCTSERDDRFIVSTSLRNRHLTGVDVQQELRRVRQVAV  
PpTc1 43 .....ISGEIEKQRGGRPKVLGEQEKRLGVHLVTAGCLKTASAATKQLREKTCKHF  
PtTc1 1 .....MTINRPRSGAPRKISPRGVSMLIRKVKKHP.RTTWEELVNDLKLAGTTV  
Tc1 1 .....MDRNILRSAREDPHRTATDIQMIISSPNEPVP  
TuTc1 46 .....VKSVL SRGRPKTTTQCDRLMARKIKKNP.FLSSAQLQEIQI...CAPV

Lem1 28 SQGWLEKFKLRHGIKSFRRFGESGSDV DTHDMEKKLEVIREKID.....  
Soymar1 103 TNTSAMYRLIQSGAIKRHSSAIKQLTEEGKRLRLEFCLSMLE..GIPHDPMFQSMYNI  
Osmar5 180 VPKSTLHRWFKEGLIRRHSNSLKPYLKEANKKERLQWCVSMLDPHTLPNNPKFIEMENII  
Mos1 99 SQQAVSNRLREMGKI QKVGWRVPHEINERQMERRKNTCEILLS.....R  
HvTc2 1 .MDSAHPMATKVVCGWIRK GKDKPLVKTGAKTRVNVMGAIEL.....  
LsTc2 1 .....  
Impala 98 KKRSLRYLLREMNRKRWIQK.KRVALTPLQARKRLDWAIRYQG.....  
CsTc1 1 .....  
HvTc3 1 .....MPRHYGYSPKGQR.....C  
HvTc1 13 ARKDFQTKLQGYEACDTPIIYVDES GF AHDMPRLYGYSVKGKR.....C  
LsTc1 1 .....MPRLYGYSVKGKR.....C  
BrTc2 1 .....  
BnTc1 95 SKRRQCKLYAQEGVKKRVAV.AKPYLSHKHMQRLLWAL.YRN.....  
PxbTc2 1 .....MSHNLCTIMMGKEYNDNQ.....  
BnTc2 92 SESTIRREAAKMGLHKRICR.KKPF LSEKSKAARRAWAATNVD.....  
BnTc3 1 .....  
BnTc4 1 .....  
PpTc2 94 SRTTVRFYLCELGFRNCIAP.KKPYLNVKHKADRLAFARAYES.....  
HvTc4 1 .....  
OsTc1 133 SDQTVRNRLHEVNLHSRRPL.RVPP I AMHNRRIRYQWALEHRN.....  
BrTc1 1 .....D  
PxbTc1 96 SEWTVRRRLKEANLTPKRPA.SGPKLTAGHRQARLQFAREHLD.....  
PpTc1 94 SDITLRCGLREAGLGACVQQ.KKPLAKRHVLRARLSFAHKYKN.....  
PtTc1 49 TTKKTIGNTLHRNGLKSCRAR.KVPL LKKAHVQARLKFANEHLN.....  
Tc1 33 SKRTVRRRLQOAGLHGRKPV.KKPF LSKKNRMAVAVAKAHLR.....  
TuTc1 90 STRTIRRRRLQELNLSRAPR.RVPL LSKQNIKNRISFAETHLS.....E

Lemil1 71 ..QFPLKDVFNMD**ET**GLFYKQLQADHSLATKQLEGRKQDKERLTVVICCNADGS.....EK  
 Soyamar1 161 HIDEK**W**FYMTKK**S**ERYLLPDEDKPHRSCKSKNFVVKVMFLTAVARPRFDSEKNVTFSGK  
 Osmar5 240 HIDEK**W**FNASK**K**EKTFYLYPDEEEPYFTVHNKNAIDKVMFLSAVAKPRYDDEGNCTFDGK  
 Mos1 143 YKRKS**F**LHRIVTG**D**EKWIFFVNPKRKKSYPVDPG...Q..PATSTARPNRFGKK.....TM  
 HvTc2 43 .....ST..MKVVSARPEQVNSE.....TT  
 LsTc2 1 MGAI**E**LST.....MKVVSARPEQVNSE.....TT  
 Impala 140 ...ID**W**RRVK**W**S**D**ECMVRRGQGM**R**PIWTFLS**R**..EA..LRVQDVQEARRLGA.....VR  
 CsTc1 1 ..QYN**W**Q.....L**K**..NQTNAIGAIHEGKL.....F**S**  
 HvTc3 15 YGQH**N**WQ.....AR..GRTNII**G**ALLEKEL.....L**T**  
 HvTc1 57 YGQH**D**W**H**.....AK..ARTN**V**IGAQLNGKL.....T**T**  
 LsTc1 15 YGQH**D**W**H**.....AK..ARTN**V**IGAQLNGKL.....T**T**  
 BrTc2 1 .....PLIDGM.....V**S**  
 BnTc1 136 W**S**VDN**W**NH**V**I**W**S**D**ESSINL**G**KLAGRRYVLRNSA..NK..YNHDYIVPAYKNHK.....K**S**  
 PxbTc2 21 .....KNIFHKYLCFEEKVAHGG.....G**S**  
 BnTc2 134 ...Q**D**WRRV**I**FT**D**EC**S**VQIGEDITRHYTIR**R**AG..EE..YEAKHIRPIFRSGR.....T**S**  
 BnTc3 1 .....**W**R.....  
 BnTc4 1 .....  
 PpTc2 136 W**T**FED**W**CN**I**I**W**T**D**ESSFETGKN**P**Q**I**R**V**WRKAY..EK..YNWDCIAP**S**FKSGH.....S**S**  
 HvTc4 1 .....  
 OsTc1 175 W**A**EEQ**W**RFVCF**S****D**ESRFGM**R**PD**T**RRIRHW**R**TPG..RQ..QRLK**S**CQEVHPYSG.....G**T**  
 BrTc1 2 W**S**IAQ**W**RSVL**F**T**D**ECRVCLHGSDRRGRVYRRPG..ER..FAQCCFAETVAYGG.....G**S**  
 PxbTc1 138 W**S**IAQ**W**RSVL**F**T**D**ECRVCLHGSDRRGRVYRRPG..ER..FAQCCFAETVAYGG.....G**S**  
 PpTc1 136 W**T**VDD**W**RQ**V**I**F**S**D**ETKINL**I**NSDGR**S**WC**W**LREG..ER..PGPKHVSQ**T**VKHGG.....G**S**  
 PtTc1 91 D**S**VSD**W**EKVL**W**S**D**ETK**I**ELFGIN**P**TRC**V**WRKKN..AA..YDPQNTV**P**TVKHGG.....G**N**  
 Tc1 75 W**G**RQ**E**WAK**H**I**W**S**D**ESK**F**NLFGSDGNS**W**VRR**P**VG..SR..Y**S**PKYQ**C**PT**V**KHGG.....G**S**  
 TuTc1 133 V**S**FEQ**W**RNVL**W**S**D**ESK**V**NLFGSD**C**PPR**V**RR**P**PN..TE..FDSRFT**I**K**T**VKHGG.....G**S**

Lemil1 124 V**P**L**W**I**I**GKYAK**P**RC**F**KN**V**N**M**S**G**L**N**CEY.....RSNK**R**AW**M**TS**V**I**F**E.EY**M**RF**D**N**K**M**H**G  
 Soyamar1 221 I**G**I**F**L**F**VTQ**E**PA**K**RT**S**V**N**R**V**AG**T**ME**T**KA**I**TS**I**NR**D**L**I**RS**V**F**I**E**K**VL**P**AT**K**EV**W**PR**D**EL**G**S  
 Osmar5 300 I**G**I**W**PF**T**R**K**E**P**ARRR**S**R**N**R**E**R**G**TL**V**T**K**PI..KVDR**D**T**I**RS**F**M**I**SK**V**L**P**A**I**R**A**C**W**P**R**E**D**A**R**K  
 Mos1 193 L**C**V**W**W**D**Q**S**G**V**I**Y**Y**E**LL**K**PG.....ET**V**NT**A**RY**Q**Q**L**I**N**L**N**R**A**L**Q**R**K**R**P**E**Y**Q  
 HvTc2 61 V**A**FF**E**Q**L**K.....T**A**Y**P**Y**A**Q.....  
 LsTc2 25 V**A**FF**E**Q**F**K.....T**A**Y**P**D**A**Q.....  
 Impala 188 Q**M**F**W**A**A**F**G**H**R**S**R**T**P**L**V**PL.....V**G**N**V**N**A**I**G**I**Y**E**L**Y**S**.F**I**L**P**W**F**L**Q**S...  
 CsTc1 24 V**G**L**F**D**C**.....K**I**NS**D**V**F**H**F**W**I**E**Q**.F**L**I**P**A**L**P**E**....  
 HvTc3 40 V**C**A**F**T**S**.....N**I**NS**D**I**F**H**A**W**I**T**Q**.D**L**L**P**K**V**P**L**....  
 HvTc1 82 V**S**T**F**D**C**.....H**I**NS**D**I**F**H**A**W**V**M**Q**.D**L**L**P**K**S**P**Q**....  
 LsTc1 40 V**C**T**F**D**C**.....H**I**NS**D**I**F**Y**A**W**V**T**Q**.D**L**L**P**K**S**P**P**....  
 BrTc2 9 M**T**P**W**.....  
 BnTc1 187 V**M**V**W**G**C**F**Y**G**D**T**R**G**P**L**H**Y**P**.....S**G**S**I**D**S**Q**K**Y**T**D**M**L**Q**R**S**L**L**P**I**I**D**Q**D**D**G**L  
 PxbTc2 41 F**H**M**R**A**G**I**S**A**E**G**Q**T**A**L**V**P**I**EN.....G**N**L**T**T**V**R**Y**I**N**E**V**L**N**E**H**A**G**P**F**L**A**N**M**G**E**.  
 BnTc2 182 L**M**V**W**G**A**I**A**Y**G**K**K**W**L**P**L**R**L**P**L**S**P**Q**E**V**A**I**D**G**L**G**K**G**L**N**S**A**R**Y**I**K**Y**V**L**D.G**P**L**K**R**C**V**Q**A**H**R**R**  
 BnTc3 3 .....  
 BnTc4 1 .....  
 PpTc2 187 V**M**V**W**G**A**F**T**G**F**D**K**S**P**L**V**I**I**P**L**D**K**R**S**A.....R**D**F**V**P**I**V**Y**E**G**V**L**S**G**F**Y**F**L**H**D**D**P**E....  
 HvTc4 1 .....  
 OsTc1 226 I**M**V**W**A**G**I**W**I**G**R**T**E**L**I**W**I**R**.....G**N**L**N**A**Q**I**A**E**T**I**V**S**D**V**I**V**P**L**Q**V**Q**I**G**P.  
 BrTc1 53 C**M**M**W**A**G**I**S**L**E**G**K**T**A**L**V**F**V**P**G**G**R**G.....G**G**L**T**A**D**R**Y**I**T**D**I**L**L**G**H**V**V**P**Y**A**E**F**V**G**E**.  
 PxbTc1 189 C**M**M**W**A**G**I**S**L**E**G**K**T**A**L**V**F**V**P**G**G**R**G.....G**G**L**T**A**D**R**Y**I**T**D**I**L**L**G**H**V**V**P**Y**A**E**F**V**G**E**.  
 PpTc1 187 I**M**I**W**G**C**M**T**A**F**G**P**G**A**W**Y**Q**I**.....E**G**R**M**E**Q**H**L**Y**K**K**I**L**E**T**Y**L**Q**S**T**T**Q**N**Y**N**L**D  
 PtTc1 142 I**L**L**L**G**C**F**S**A**K**G**T**G**L**I**R**I.....N**G**K**M**D**G**A**M**Y**R**E**I**L**N**D**N**L**L**P**S**A**R**K**L**K**M**G  
 Tc1 126 V**M**V**W**G**C**F**T**S**T**S**M**G**P**L**R**R**I**.....Q**S**I**M**D**R**F**Q**Y**E**N**I**F**E**T**T**M**R**P**W**A**L**Q**N**V**G**R  
 TuTc1 184 I**M**V**W**G**C**F**S**Y**D**G**V**G**P**L**F**W**I**.....K**E**T**M**T**K**E**I**Y**R**D**I**L**N**N**I**M**L**P**Y**A**Q**Q**N**M**A**P

Lemil1 177 R.....RVLFVVDNGPAHPKII EGL.....QNVELFFLPPNMTSKIQPCDAGII  
 Soyamar1 281 .....TIFIQQDNARTHINPDDPEFVQAATQDGFDIRLMCQPPN.SPDFNVLDLGGFF  
 Osmar5 359 .....TIWIQQDNARTHLPIDDAQFGVAVAQSGLDIRLVNQPPN.SPDMNCLDLGGFF  
 Mos1 239 KRQ....HRVIFLHDNAPSHTARAVRDTLET.....LNWEVLPAAAY.SPDLAPSDYHLF  
 HvTc2 76 .....KIHILDNSGYHCSQRVKDAALE.....KAIVLHYLPPY.SPNLNPIE.RLW  
 LsTc2 40 .....KIHILDNSGYHCSQRVKDAALE.....KAIILHYLPPY.SPNLNPIE.RLW  
 Impala 229 .....GDFMHDNASVHTARIVKALLEE.....LGVDLMTWPPY.SPDLNPIE.NLW  
 CsTc1 51 .....NSVVVMDNAAFHKKRADIQELLEQ.....QGHKILWLPAAY.SPDLNPIE.HMW  
 HvTc3 67 .....NSVMVMDNASFHKKRQDIQDAIKD.....AGFILEYLPVY.SPDLNPIE.KKW  
 HvTc1 109 .....GAVIVMDNVSFHKKRQDTQAAIQK.....AGFILEYLPY.SPDMNPIE.HKW  
 LsTc1 67 .....GAVIVRDNVSFHKKRQDIQAAIQK.....AGFILEYLPY.SPDMNPIE.HKW  
 BrTc2 13 .....LSVMQDNAPAHACENTMEEMRE.....RSIIPIDWPPN.SPDLNPIE.AVW  
 BnTc1 233 IENLLGDRNLYFQQDNAPIHTSAKSARFMKQ.....NGLKMLLWPAN.SPDLNPIE.HIW  
 PxbTc2 87 .....NAMCMHDNARAHTAQVVDEYLHD.....VGIHKMEWPAR.SPDLNPIE.HAW  
 BnTc2 241 ARW....RDVIVLEDNAPCHSSKATCAARQN.....LGITSLKHPSN.SPDLNAIE.NLW  
 BnTc3 3 .....DALVVEDGASCHWSKQTNKGREK.....LHIVNLNHPPQ.SPNLNPVE.NVC  
 BnTc4 1 .....DILVVEDGAPCHTCKLAKEARSK.....LGIPSLIHPPS.SPDLNPIE.NVW  
 PpTc2 235 .....QLILMEDGAPVHRSSLPLQWRRRA.....HGIEKLFWPAN.SPDLNPIE.NVW  
 HvTc4 1 .....QHDLAPAHSAKTTGKWFTD.....HGITVLNWPAN.SPDLNPVE.NLW  
 OsTc1 271 .....LFQLMHDNARPHTARVVRQTLAA.....ANINVLWPAPQ.SPDLNPIE.HAW  
 BrTc1 103 .....DFVLMHDNARCHTARVSRQFLRE.....KELRTMDWPAL.SPDLNPIE.HLW  
 PxbTc1 239 .....DFVLMHDNARCHTARVSRQFLRE.....KELRTMDWPAL.SPDLNPIE.HLW  
 PpTc1 232 PT.....KVVFQHDNDPKHTAKSVQFWLSS.....QPFQLLRWPAQ.SPDLNPME.HFW  
 PtTc1 187 R.....GWVFQHDNDPKHTAKATKEWLKK.....KHIKVMWPSQ.SPDLNPIE.TY.  
 Tc1 171 .....GFVFQDNDPKHTSLHVRSWFQR.....RHVHLLDWPSQ.SPDLNPIE.HLW  
 TuTc1 229 .....NWIQQDNDPKHSSILVRNWLAE.....NGVAVMQWPSQ.SPDLNPIE.HLW

Lemil1 221 RAFKMHYRRRFYREILEGYELGQSDPGTINVLD AISFAVSAWTINVRRETILNCFRHCKI  
 Soyamar1 332 SAIQ...SLH.....YKE.....APKTIDELVNAVVKSFENYCVVKSNIIFLSLQL  
 Osmar5 410 ASLQ...SLT.....HNR.....ISRNMDIELIENVHKEYRDYNPNTLNRVFLTLQS  
 Mos1 289 ASMG...HAL.....AEQ.....RFDSYESVKKWLDEWF AAKDDEFYWRGIHKLPE  
 HvTc2 121 KVMN...ERV.....RNNR.....FFSSAKEFRAAIAEFFDSTLAKIAPFLRGRIND  
 LsTc2 85 KLMN...ERV.....RNNR.....FFSSAKEFRGAIAEFFDSTLAKIAPFLTGRIND  
 Impala 274 ALMKAEIYRL.....HPELTHTED.TVATQHALVLAAMEAWDNIEDRVLKNCETMPN  
 CsTc1 96 AWVK...RKR.....KEW.....LIDSVDLFRVFFESCMMNKVF.....  
 HvTc3 112 AHAK...ARR.....RKE.....RCD.VDHLFSFFN.....  
 HvTc1 154 AQAK...ALR.....RKR.....QCD.IDTLFSAPLF.....  
 LsTc1 112 AQAK...ALR.....RK.....RLCDIDTLFYD.....  
 BrTc2 57 DWMK...DYI.....QRNYPNLDGGRQORTHNSLRVIVTEAWHSVPTEFFKRLILKGMPA  
 BnTc1 286 HLLK...RKTWRKWHGQKRNLH.....AQVTSDDL ENVVQDAWDSIDPSILVSLVSMPS  
 PxbTc2 132 DERC...RPV.....RDRV L.....PPITLRGLKDALIEEWNIPQHMLKNLV.....  
 BnTc2 290 DQVK...LKL.....GRMNR.....QATSLNELWEQIQQAWDEVDIGSVNRVVDSEEM  
 BnTc3 48 LQLK...LQV.....SCLPR.....KATTEEL.....  
 BnTc4 46 QLLK...TKV.....SQLPT.....RATNLDMLWEQVQACWADIDQGYI.....  
 PpTc2 280 MVVK...DLL.....KHHS.....RPNSKLEMIKIQSVWDTISIEWLRTL ISTMPY  
 HvTc4 42 DIVK...RKL.....RDA.....RPNTLDELKAAIEASWASRTPOQ.....  
 OsTc1 316 DMLQ...RRA.....LPNME.....GIQSQEDLFLLLIORTWAAIPQRDLDELILSMPN  
 BrTc1 148 DELK...RRV.....RARNP.....VPASVDELKTALLEEWDGIPQETVKKLIRSM..  
 PxbTc1 284 DELK...RRV.....RARNP.....VPASVDELKTALLEEWDGI.....  
 PpTc1 279 ALLK...QRL.....SQVTP.....RPRGVQELWENVCSIYPSFDAKDCEKVYKSMRP  
 PtTc1 232 .....  
 Tc1 216 EELE...RRL.....GGI.....RASNADAKFNQLENAWKATPMSVIHKLIDSMRP  
 TuTc1 274 AEVK...KRL.....QRE.....NIKNDQLWQEIQRTWINIPKSF CERLVMSMTS

Lem11	281	HSD.....
Soymar1	375	CMIETMKAKG SNRYTSQHMQKEKLETEEQLPIQLKCDPILVQETLDYLNNN
Osmar5	453	CYIEVMRANGGNRYKIPHMNKERLEALGVLPKALSCDRGLYERVESLAN.
Mos1	332	RWEKCVASDG GKYFE.....
HvTc2	165	NFQTI.....
LsTc2	129	NFQTI.....
Impala	326	RVTAVITAE GWYTKY.....
CsTc1		.....
HvTc3		.....
HvTc1		.....
LsTc1		.....
BrTc2	107	RCQ.....
BnTc1	338	RLEAVIKAKG GHTKY.....
PxbTc2	172	..EAVLRARGGNTKY.....
BnTc2	335	RRRDVVAAKG SYTRF.....
BnTc3		.....
BnTc4		.....
PpTc2	324	RMQAVIAAR GGSTRW.....
HvTc4		.....
OsTc1	361	RCSCVVSVR GRNTDY.....
BrTc1		.....
PxbTc1		.....
PpTc1	324	RISAVLEAKG GYWTKY.....
PtTc1	232	.....GGSSSE.....
Tc1	259	RCQAVIDANGYATKY.....
TuTc1	317	RCVEVLRNK GGATKY.....