Supplementary Figure 1. Multiple sequence alignment of all 75 β -CAs in metazoan and protozoan species with β -CA of *Pelosinus fermentans* (a bacterial out group). β -CAs contain two highly conserved active site motifs, CxDxR as well as HxxC (C=Cysteine, D=Aspartic acid, R=Arginine, H=Histidine, C=Cysteine) which are indicated by arrows. Alignment was visualized in Jalview [53].

1		
1		- HYESERS - KIPKROL 37
1		KOEOOVK DHPEPKA 34
		FORVOVK NUPERKA 34
	1	- EQFVQVK-NHPEPKA 34
	1	- EQFVQVK - NNPEPKA 34
1	1MDR F RG MK Y R TN - RAKMV	- EQFVQVK-NNPEPKA 34
1	1	- EE <mark>F</mark> KKVA - LG <mark>P</mark> SVRS 34
1	1	- KEEKOVB-DNPOPKA 34
1		KOEEOLD NNDHDTA 27
	I MPGLINKILQUIVNI AQIA - KKELV	- KOFEQIK-NNFHFIA 37
1	IAAASIIVIAILIINGSESWSAYCEVCVIGIPPGSKWYRSEVKFAIIHRVGSWAWDIA	SFSCLSSV-CSSSPKA 86
1	1MERILRGVMRYRHTTREQMV	- QEFRKVR - DNPQPKA 34
1	1MDKI KG MKYRKCH - REEMV	- KQFQKVK - DCPEPKA 34
1		- KKLOFIK - KHGHPTA 37
1 1		KOEEEVK NNDSDTA 34
2 1		
2 1	I MPGLQKILNGVIRFRQIV - RKDLV	- KOPEHTR-DNPHPTA 37
1 1	1	- KQFEHVS - DHPNPTA 34
2 1	1 MPGLQKILNGVIRFRQTV RKDLV	- KQFEQVR - DNPHPTA 37
1	1	- KOFEEIK-NNPSPTA 34
1		- KOEEBIB-DNPHPTA 37
		KOLEETK NNDODTE 34
	I MINKIL RGVINIKQTI - REDLV	- KQFEETK-NNPQP15 54
1	1	- KQFEQIR-DNPHPTA 37
1	1 MDKVLRG I LQYNRSAK - KKDVL	- KQLSKIVDSQSTPSS 36
1	1MDRILKGIMKYRKCH - REGMV	- KOFORVR - DHPEPKA 34
1		- KEFOKVB - DNPOPKA 34
		KOEOOVK-DNBVBKA 34
	MURIL KGIMKI KVLU - KAIMV	- KQLQQVK-DNPVPKA 34
1	1MDKILKGILKYRKTYRTEMV	- EQFKQVA - DRPEPKA 34
1	1	- QQFVKVK - DNPTPKA 34
1	1 MERIL RG IMRY RN TT REOMV	- KEFQKVR - DNPEPKA 34
1	1	- KEEOKVB-DNPEPKA 34
		KEEOKVA DNDERKA 34
	I MERTERO VMRTANTI - REQMV	- KEFQKVK-DNFEFKA 34
	1 MERILKGIMRYRNII - REQMV-	- KEFQKVR-DNPEPKA 34
1	1	- KEFQKVR - DHPEPKA 34
1	1 MERIL RG VMRY RN TT REQMV	- KEFQKVR - DNPEPKA 34
A 1	1MERIL RGVMRYRNTTREOMV	- KEFOKVR - DNPEPKA 34
1	1 MERLI BOIMPYENTT - REOMV	- KEEOKVB-DNPEPKA 34
	I MERIL RGIMKIRNII - REQMV	- KEFQKVK-DNPEPKA 34
1	1	- KEFQKVR - DNPEPKA 34
1	1 MERILRG IMRYRN TT REQMV	- KEFQKVR - DNPEPKA 34
1	1MERIL RG IMRY RN TT REOMV	- KEFOKVR - DNPEPKA 34
1		- ERRKELL-NKOEPLA 45
1		ERRELV NROEDIA 45
		- ERRKELV-NKQEPTA 45
-	I	- ERRKELV - NKQEPTA 45
1	1 MDRILKGIMKYRKCH - REGMV	- KQFQKVR - DHPEPKA 34
CA 1	1MDRILRGIMRYRVLDRASMV	- KQFQEVK-DNPVPKA 34
1	1	
4 1		- KQFQQVK - DNPQPKC 37
		- KQFQQVK - DNPQPKC 37
1		- KQFQQVK - DNPQPKC 37 - LFFEKLA - KTQSPKF 34
	1 MSLCSCGCPHPTKPTLDVPSMYFSTTPELLCNRNMSEPSANATLTKEKLASLVGGRLVQSVQREQPPRGSGIQPLLDFNKHWAGEIVQLNP	- KQFQQVK-DNPQPKC 37 - LFFEKLA-KTQSPKF 34 - DYFVELA-KQQKPQY 105
1	1 MSLCSCGCPHPTKPTLDVPSMYFSTTPELLCNRNMSEPSANATLTKEKLASLVGGRLVQSVQREQPPRGSGIQPLLDFNKHWAGEIVQLNP 1 MSLCSCGCPHPTKPTLDVPSMYFSTTPELLCNRNMSEPSANATLTKEKLASLVGGRLVQSVQREQPPRGSGIQPLLDFNKHWAGEIVQLNP	- KQFQQVK-DNPQPKC 37 - LFFEKLA-KTQSPKF 34 - DYFVELA-KQQKPQY 105 - DYFVELA-KQQKPQY 105
, 1 1 1	1 MSLC SCGC PH P TKP TLD VP SMY F S TTP ELLCNRNMS E P SANA TL TKEKLASL VGG RL VQ SVQ REQ P P RGSG I Q P L LD FN KHWAGE I V - QLN P 1 MSLC SCGC PH P TKP TLD VP SMY F S TTP ELLCNRNMS E P SANA TL TKEKLASL VGG RL VQ SVQ REQ P P RGSG I Q P L LD FN KHWAGE I V - QLN P 1 MSLC SCGC PH P TKP TLD VP SMY F S TTP ELLCNRN VS E P SANA TP TKEKLANL VGG RL VQ SVQ REQ P P RG SG I Q P L LD FN KHWAGE I V - QLN P 1 MSLC SCGC PH P TKP TLD VP SMY F S TTP ELLCNRN VS E P SANA TP TKEKLANL VGG RL VQ SVQ REQ P P RG SG I Q P L LD FN KHWAGE I V - QLN P	- KQFQQVK-DNPQPKC 37 -LFFEKLA-KTQSPKF 34 -DYFVELA-KQQKPQY 105 -DYFVELA-KQQKPQY 105 -DYFVELA-KQQKPQY 105
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, 1 1 1 1 1	1 MSLCSCGCPHPTKPTLDVPSMYFSTTPELLCNRNMSEPSANATLTKEKLASLVGGRL ···· VQSVQREQPPRGSGIQPLLDFNKHWAGEI V · QLNP ····· 1 MSLCSCGCPHPTKPTLDVPSMYFSTTPELLCNRNMSEPSANATLTKEKLASLVGGRL ···· VQSVQREQPPRGSGIQPLLDFNKHWAGEI V · QLNP ····· 1 MSLCSCGCPHPTKPTLDVPSMYFSTTPELLCNRNVSEPSANATPTKEKLANLVGGRL ···· VQSVQREQPPRGSGIQPLLDFNKHWAGEI V · QLNP ····· 1 MSLCSCGCPHPTKQTLDVPSMYFSTTPELLCNRNTSEASETATLRKEKLASLVGGRL ···· VQSVQREQPPRGSGIQPLLDFNKHWAGEI V · QLNP ····· 1 MSLCSCGCPHPTKQTLDVPSMYFSTTPELLCNRNTSEASETATLRKEKLASLVGGRL ···· VQSVQREQPPRGSGIQPLLDFNKHWAGEI V · QLNP ····· 1 MSLCSCGCPHPTKQTLDVPSMYFSTTPGLLCDRNTSEASETATLRKEKLASLVGGRL ···· VQSVQREQPPRGSGIQPLLDFNKHWAGEI V · QLNP ······ 1 MSLCSCGCPHPTKQTLDVPSMYFSTTPGLLCDRNTSEASETATLRKEKLASLVGGRL ···· VQSVQREQPPRGSGIQPLLDFNKHWAGEI V · QLNP ······ 1 MSLCSCGCPHPTKQTLDVPSMYFSTTPGLLCDRNTSEASETATLRKEKLASLVGGRL ····· VQSVQREQPPRGSGIQPLLDFNKHWAGEI V · QLNP ·········· 1 MSLCSCGCPHPTKQTLDVPSMYFSTTPGLLCDRNTSEASETATLRKEKLASLVGGRL ···································	- KQ F QQ WK - DN PQ P KC 37 - LF F EKLA - KTQS P KF 34 - DYF VELA - KQQ KPQY 105 - TKLSKI KESGSS PST 35 - KQF GOQ R - DH PE OA 24
, 1 1 1 1 1 1 1	IMSLCSCGCPHPTKPTLDVPSMYFSTTPELLCNRNMSEPSANATLTKEKLASLVGGRL VQSVQREQPPRGSGIQPLLDFNKHWAGEIV QLNP IMSLCSCGCPHPTKPTLDVPSMYFSTTPELLCNRNMSEPSANATLTKEKLASLVGGRL VQSVQREQPPRGSGIQPLLDFNKHWAGEIV QLNP IMSLCSCGCPHPTKPTLDVPSMYFSTTPELLCNRNVSEPSANATLTKEKLANLVGGRL VQSVQREQPPRGSGIQPLLDFNKHWAGEIV QLNP IMSLCSCGCPHPTKPTLDVPSMYFSTTPELLCNRNVSEPSANATPTKEKLANLVGGRL VQSVQREQPPRGSGIQPLLDFNKHWAGEIV QLNP IMSLCSCGCPHPTKQTLDVPSMYFSTTPELLCNRNVSEPSANATPTKEKLANLVGGRL VQSVQREQPPRGSGIQPLLDFNKHWAGEIV QLNP IMSLCSCGCPHPTKQTLDVPSMYFSTTPGLLCDRNTSEASETATLRKEKLASLVGGRL VQSVQREQPPRGSGIQPLLDFNKHWAGEIV QLNP IMSLCSCGCPHPTKQTLDVPSMYFSTTPGLLCDRNTSEASETATLRKEKLASLVGGRL VQSVQREQPPRGSGIQPLLDFNKHWAGEIV QLNP IMSLCSCGCPHTKQTLDVPSMYFSTTPGLLCDRNTSEASETATLRKEKLASLVGGRL VQSVQREQPPRGSGIQPLLDFNKHWAGEIV VQSVQREQPPRGSGIQPLLDFNKHWAGEIV IMSLCSCGCPHTKQTLDVPSMYFSTTPGLLCDRNTSEASETATLRKEKLASLVGGRL VQSVQREQPPRGSGIQPLLDFNKHWAGEIV VQSVQREQPPRGSGIQPLLDFNKHWAGEIV	- KQ FQQVK - DN PQ P KC 37 - LF F E KLA - KTQS P KF 34 - DY F VELA - KQQK PQY 105 - TKLSK I KESGSSPST 35 - KQ FQQVR - DH PE PQA 34 - KLSK I KESGSSPST 35 - KQ FQQVR - DH PE PQA 34
, 1 1 1 1 1 1 1 1 1 1	I MSLCSCGCPHPTKPTLDVPSMYFSTTPELLCNRNMSEPSANATLTKEKLASLVGGRL VQSVQREQPPRGSG IQPLLDFNKHWAGE I V QLNP	- KQ F QQ WK - DN PQ P KC 37 - LF F EKLA - KTQS P KF 34 - DY F VELA - KQQ K PQY 105 - TKLSK I KESGSS PST 35 - KQ F QQ WA - DH PE PQA 34 - PSL REVA - EKVAP KT 34
, 1 1 1 1 1 1 1 1 1 1 1 1 1 1	I MSLCSCGCPHPTKPTLDVPSMYFSTTPELLCNRNMSEPSANATLTKEKLASLVGGRL VQSVQREQPPRGSGIQPLLDFNKHWAGEIV 1 MSLCSCGCPHPTKPTLDVPSMYFSTTPELLCNRNMSEPSANATLTKEKLASLVGGRL VQSVQREQPPRGSGIQPLLDFNKHWAGEIV 1 MSLCSCGCPHPTKPTLDVPSMYFSTTPELLCNRNMSEPSANATLTKEKLASLVGGRL VQSVQREQPPRGSGIQPLLDFNKHWAGEIV 1 MSLCSCGCPHPTKPTLDVPSMYFSTTPELLCNRNVSEPSANATPTKEKLASLVGGRL VQSVQREQPPRGSGIQPLLDFNKHWAGEIV 1 MSLCSCGCPHPTKQTLDVPSMYFSTTPELLCNRNVSEPSANATPTKEKLASLVGGRL VQSVQREQPPRGSGIQPLLDFNKHWAGEIV 1 MSLCSCGCPHPTKQTLDVPSMYFSTTPELLCNRNTSEASETATLRKEKLASLVGGRL VQSVQREQPPRGSGIQPLLDFNKHWAGEIV 1 MSLCSCGCPHPTKQTLDVPSMYFSTTPELLCNRNTSEASETATLRKEKLASLVGGRL VQSVQREQPPRGSGIQPLLDFNKHWAGEIV 1 MSLCSCGCPHPTKQTLDVPSMYFSTTPELLCNRNTSEASETATLRKEKLASLVGGRL VQSVQREQPPRGSGIQPLLDFNKHWAGEIV 1 MSLCSCGCPHTKQTLDVPSMYFSTTPELLCNRNTSEASETATLRKEKLASLVGGRL VQSVQREQPPRGSGIQPLLDFNKHWAGEIV 1 MSLCSCGCPHTKQTLDVPSMYFSTTPELLCNRNTSEASETATLRKEKLASLVGGRL VQSVQREQPPRGSGIQPLLDFNKHWAGEIV 1 MSLCSCGCPHTKQTLDVPSMYFSTTPELLCNRNTSEASETATLRKEKLASLVGGRL VQSVQREQPPRGSGIQPLLDFNKHWAGEIV 1 MSLCSCGCPHTKQTLDVPSMYFSTTPELLCNRNTSEASETATLRKEKLASLVGGRL MDRILKGVKVRCH 1 MSLCSCGCPHTKQTLDVPSMYFSTTPELLCNRNTSEASETATLRKKLASLVGGRL 1 MSLCSCGCPHTKQTLAKKL MDRILKGVKVKL 2 MORTHKYVKKL MSLCSCGCPHTKQTLAKKL	- KQ F QQ VK - DN PQ P KC 37 - LF F EKLA - KTQS P KF 34 - DY F VELA - KQQ K PQY 105 - TKLSK I KESGSS PST 35 - KQ F QQ VR - DH PE PQA 34 - PSL REVA - EKVAPKT 34 - NY F KNLS - KGQS P KY 49
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, , , , , , , , , , , , , , , , , , ,	I MSLC SCGC PH P TKP TLD VP SMY F S TTP ELLCN RNMS E P SAN AT L TKE KLAS L VGG RL VQ SVQ REQ P P RG SG I Q P L LD F NKH WAGE I V - QLN P	- KQ F QQ W K - DN PQ P KC 37 - LF F EKLA - KTQS P KF 34 - DY F VELA - KQQ K PQY 105 - DY F VELA - KQQ K PQY 105 - DY F VELA - KQQ K PQY 105 - TKLSK I KESGSS PST 35 - KQ F QQ W - DH PE PQ A 34 - PSL REWA - EKVAP KT 34 - NY F KNLS - KGQS P KY 49 - QY F KKLS - TGQ T P KY 49 - QY F KKLS - TGQ T P KY 49 - DY F RKLA - KGON F KY 49 - DY F RKLA - F KY 49 - DY F F KY 49 - DY
, , , , , , , , , , , , , , , , , , ,	I MSLCSCGCPHPTKPTLDVPSMYFSTTPELLCNRNMSEPSANATLTKEKLASLVGGRL VQSVQREQPPRGSG QPL LDFNKHWAGE V - QLNP - I MSLCSCGCPHPTKPTLDVPSMYFSTTPELLCNRNMSEPSANATLTKEKLASLVGGRL VQSVQREQPPRGSG QPL LDFNKHWAGE V - QLNP - I MSLCSCGCPHPTKPTLDVPSMYFSTTPELLCNRNVSEPSANATPTKEKLASLVGGRL VQSVQREQPPRGSG QPL LDFNKHWAGE V - QLNP - I MSLCSCGCPHPTKPTLDVPSMYFSTTPELLCNRNVSEPSANATPTKEKLASLVGGRL VQSVQREQPPRGSG QPL LDFNKHWAGE V - QLNP - I MSLCSCGCPHPTKQTLDVPSMYFSTTPELLCNRNVSEPSANATPTKEKLASLVGGRL VQSVQREQPPRGSG QPL LDFNKHWAGE V - QLNP - I MSLCSCGCPHPTKQTLDVPSMYFSTTPGLLCDRNTSEASETATLRKEKLASLVGGRL VQSVQREQPPRGSG QPL LDFNKHWAGE V - QLNP - I MSLCSCGCPHPTKQTUDVPSMYFSTTPGLLCDRNTSEASETATLRKEKLASLVGGRL VQSVQREQPPRGSG QPL LDFNKHWAGE V - QLNP - I MSLCSCGCPHTKQTUDVPSMYFSTTPGLLCDRNTSEASETATLRKEKLASLVGGRL VQSVQREQPPRGSG QPL LDFNKHWAGE V - QLNP - I MSLCSCGCPHTKQTUDVPSMYFSTTPGLLCDRNTSEASETATLRKEKLASLVGGRL VQSVQREQPPRGSG QPL LDFNKHWAGE V - QLNP - I MSLCSCGCPHTKQTUDVPSMYFSTTPGLLCDRNTSEASETATLRKEKLASLVGGRL VQSVQREQPPRGSG QPL LDFNKHWAGE V - QLNP - I MSLCSCGCPHTKQTUDVPSMYFSTTPGLLCDRNTSEASETATLRKEKLASLVGGRL MCQ VSVQREQPPRGSG QPL LDFNKHWAE A REGNV - I MSLCSCGCPHTKQTUDVPSMYFSTTPGLLCDRNTSEASETATLRKEKLASLVGGRL MNQQ VSNS QE THYNRV GNKNYVAKKL - ASDD - I MNQQ VSNS REFSQVNRVLEGNN Y VAKKT - AEDP - MQQ VHES SEMKKYAKALQGNN VAKKM - A IYY - I MOQ VHES EEVKLYNKVL	- KQ F QQ VK - DN PQ P KC 37 - LF F EKLA - KTQS P KF 34 - DY F VELA - KQQ K PQ Y 105 - DY F VELA - KQQ K PQ Y 105 - DY F VELA - KQQ K PQ Y 105 - DY F VELA - KQQ K PQ Y 105 - TKLSKI K ESGSS P ST 35 - KQ F QQ VR - DH PE PQ A 34 - PS L REVA - EKVAP KT 34 - NY F KNLS - KQQ N F KY 49 - EY F RKLS - QQ P KY 49 - QY F KKLS - TQQ T F KY 49 - DY F R KLA - KQQ N F KY 49 - YF R KLA - KQQ N F KY 49 - YF R KLA - KY 49 - YF R
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	I MSLCSCGCPHPTKPTLDVPSMYFSTTPELLCNRNMSEPSANATLTKEKLASLVGGRL VQSVQREQPPRGSG IQPLLDFNKHWAGE IV - QLNP- 1 MSLCSCGCPHPTKPTLDVPSMYFSTTPELLCNRNMSEPSANATLTKEKLASLVGGRL VQSVQREQPPRGSG IQPLLDFNKHWAGE IV - QLNP- 1 MSLCSCGCPHPTKPTLDVPSMYFSTTPELLCNRNVSEPSANATPTKEKLASLVGGRL VQSVQREQPPRGSG IQPLLDFNKHWAGE IV - QLNP- 1 MSLCSCGCPHPTKQTLDVPSMYFSTTPELLCNRNVSEPSANATPTKEKLASLVGGRL VQSVQREQPPRGSG IQPLLDFNKHWAGE IV - QLNP- 1 MSLCSCGCPHPTKQTLDVPSMYFSTTPELLCNRNTSEASETATLRKEKLASLVGGRL VQSVQREQPPRGSG IQPLLDFNKHWAGE IV - QLNP- 1 MSLCSCGCPHPTKQTLDVPSMYFSTTPGLLCDRNTSEASETATLRKEKLASLVGGRL VQSVQREQPPRGSG IQPLLDFNKHWAGE IV - QLNP- 1 MSLCSCGCPHTKQTLDVPSMYFSTTPGLLCDRNTSEASETATLRKEKLASLVGGRL VQSVQREQPPRGSG IQPLLDFNKHWAGE IV - QLNP- 1 MSLCSCGCPHTKQTLDVPSMYFSTTPGLLCDRNTSEASETATLRKEKLASLVGGRL MCQNQ IVSNS IQEITTYRVL EGNKKYKNKL - REGNV- 1 MSQIVSNS IQEITHYNKVL EGNKRYVAKKKL - ASDD- MNQQIVSNS IQEITHYNKVL EGNKRYVAKKKL - ASDD- 1 MNQQIVSNS IREFSQYNRVLEGNNIYVEKKM - AIYY MNQQIVSNS IREFSQYNRVLEGNNIYVEKKM - AIYY 1 MNQQIVSNS IEELENKYVKKKL - AQDE- MNQQIVSNS ILEINHYNKVL EGNKSYVKKKKL - AQDE-	- KQ F QQ W K - DN PQ P KC 37 - LF F EKLA - KTQS P KF 34 - DY F VELA - KQQ K PQY 105 - DY F VELA - KQQ K PQY 105 - DY F VELA - KQQ K PQY 105 - TKLSK I KESGSS PST 35 - KQ F QQ W - DH PE PQ A 34 - PSL REWA - EKVAP KT 34 - NY F KNLS - KGQS P KY 49 - QY F KKLS - TGQ T P KY 49 - QY F KKLS - KGQ N P KY 49 - DY F KKLS - KGQ N P KY 49 - DY F KKLS - KGQ N P KY 49 - SY F KTLS - KG N P KY 49 - SY F KTLS - KG N P KY 49 - SY F KTLS - KG N P KY 49 - SY F KTLS - KG N P KY 49 - SY F KTLS - KG N P KY 49 - SY F KTLS - KG N P KY 49 - SY F KY - SY F KY
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	I MSLCSCGCPHPTKPTLDVPSMYFSTTPELLCNRNMSEPSANATLTKEKLASLVGGRL VQSVQREQPPRGSG IQPLLDFNKHWAGE I V - QLNP- I MSLCSCGCPHPTKPTLDVPSMYFSTTPELLCNRNMSEPSANATLTKEKLASLVGGRL VQSVQREQPPRGSG IQPLLDFNKHWAGE I V - QLNP- I MSLCSCGCPHPTKPTLDVPSMYFSTTPELLCNRNVSEPSANATPTKEKLASLVGGRL VQSVQREQPPRGSG IQPLLDFNKHWAGE I V - QLNP- I MSLCSCGCPHPTKQTLDVPSMYFSTTPELLCNRNVSEPSANATPTKEKLASLVGGRL VQSVQREQPPRGSG IQPLLDFNKHWAGE I V - QLNP- I MSLCSCGCPHPTKQTLDVPSMYFSTTPELLCNRNVSEPSANATPTKEKLASLVGGRL VQSVQREQPPRGSG IQPLLDFNKHWAGE I V - QLNP- I MSLCSCGCPHPTKQTLDVPSMYFSTTPGLLCDRNTSEASETATLRKEKLASLVGGRL VQSVQREQPPRGSG IQPLLDFNKHWAGE I V - QLNP- I MSLCSCGCPHPTKQTLDVPSMYFSTTPGLLCDRNTSEASETATLRKEKLASLVGGRL VQSVQREQPPRGSG IQPLLDFNKHWAGE I V - QLNP- I MSLQVVPSVVKFRG I I RYKNAY - KDDVF MEKUPRGVVRKYKKL - REGMV- I MNQQ I VSNS I QE I THYNRVL EGNRRYVAKKL - RESLL MNQQ I VSNS I QE I THYNRVL EGNRRYVAKKL - ASDD- I MNQQ I VSNS I SI SEMKKYAKAL QGNKN YVAKKT - AEDP - MNQQ I VSNS I REFSQYNRVL EGNKN YVAKKT - AEDP - I MNQQ I VSNS I REFSQYNRVL EGNKSYVKKKL - AQDE - MNQQ I VSHS I LE INHYNRVL EGNKRYVAKKL - AQDE - I MNQQ I VSHS I LE INHYNRVL EGNKRYVKKKL - AQDE - MNQQ I VSHS I LE INHYNRVL EGNKRYVKKKL - AQDE -	- KQ F QQ VK - DN PQ P KC 37 - LF F EKLA - KTQS P KF 34 - DY F VELA - KQQ KPQY 105 - DY F VELA - KQQ KPQY 105 - DY F VELA - KQQ KPQY 105 - TKLSK I KESGSS P ST 35 - KQ F QQ VR - DH PE PQA 34 - PSL REVA - EKVAP KT 34 - NY F KNLS - KGQS P KY 49 - EY F RKLS - TGQ T PKY 49 - QY F KKLS - KGQN P KY 49 - DY F RKLA - KGQN P KY 49 - SY F KTLS - KGQN P KY 49 - SY F KTLS - KGQN P KY 49 - PQ F E RVR - DN PE PTA 37
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	I MSLCSCGCPHPTKPTLDVPSMYFSTTPELLCNRNMSEPSANATLTKEKLASLVGGRL VQSVQREQPPRGSG IQPLLDFNKHWAGE IV - QLNP- 1 MSLCSCGCPHPTKPTLDVPSMYFSTTPELLCNRNMSEPSANATLTKEKLASLVGGRL VQSVQREQPPRGSG IQPLLDFNKHWAGE IV - QLNP- 1 MSLCSCGCPHPTKPTLDVPSMYFSTTPELLCNRNMSEPSANATPTKEKLASLVGGRL VQSVQREQPPRGSG IQPLLDFNKHWAGE IV - QLNP- 1 MSLCSCGCPHPTKQTLDVPSMYFSTTPELLCNRNVSEPSANATPTKEKLASLVGGRL VQSVQREQPPRGSG IQPLLDFNKHWAGE IV - QLNP- 1 MSLCSCGCPHPTKQTLDVPSMYFSTTPELLCNRNVSEPSANATPTKEKLASLVGGRL VQSVQREQPPRGSG IQPLLDFNKHWAGE IV - QLNP- 1 MSLCSCGCPHPTKQTLDVPSMYFSTTPGLLCDRNTSEASETATLRKEKLASLVGGRL VQSVQREQPPRGSG IQPLLDFNKHWAGE IV - QLNP- 1 MSLCSCGCPHTKQTLDVPSMYFSTTPGLLCDRNTSEASETATLRKEKLASLVGGRL MRQIVSNS IQEIGNKYVKKL - REGMV 1 MNQQIVSNS IQEITHYNKVLGNKKYXAKAL ASDD MNQQIVSNS IQEITHYNKVLGNKKYXAKAL ASDD 1 MNQQIVSNS IREFSQYNRVLEGNNIYVKKKL - ACDD- MNQQIVSNS IREFSQYNRVLEGNNIYVKKKL - ACDD- 1 MNQQIVSHS ILEINHYNKVLGNKKYXAKKM - AEDP MNQQIVSHS ILEINHYNKVLGNKKYXAKKM - AEDP 1 MNQQIVSHS ILEINHYNKVLGNKKM - ACDD- MNQQIVSHS ILEINHYNKVLGNKKMAKMA - AEDP	- KQ F QQ W K - DN PQ P KC 37 - LF F EKLA - KTQS P KF 34 - DY F VELA - KQQ K PQY 105 - DY F VELA - KQQ K PQY 105 - DY F VELA - KQQ K PQY 105 - TKLSK I KESGSS PST 35 - KQ F QQ W - DH PE PQ A 34 - PSL REWA - EKVAP KT 34 - NY F KNLS - KGQ S P KY 49 - QY F KKLS - TGQ T P KY 49 - QY F KKLS - KGQ N F KY 49 - DY F RKLS - KGQ N F KY 49 - DY F RKLS - KGQ N F KY 49 - SY F KTLS - KGQ N P KY 49 - PQ F E R W R - DN PE P TA 37 - NQ L KTN - E KPN ILA 33
CA 1	I MSLCSCGCPHPTKPTLDVPSMYFSTTPELLCNRNMSEPSANATLTKEKLASLVGGRL VQSVQREQPPRGSG QPL LDFNKHWAGE V - QLNP - I MSLCSCGCPHPTKPTLDVPSMYFSTTPELLCNRNMSEPSANATPTKEKLASLVGGRL VQSVQREQPPRGSG QPL LDFNKHWAGE V - QLNP - I MSLCSCGCPHPTKQTLDVPSMYFSTTPELLCNRNVSEPSANATPTKEKLASLVGGRL VQSVQREQPPRGSG QPL LDFNKHWAGE V - QLNP - I MSLCSCGCPHPTKQTLDVPSMYFSTTPELLCNRNVSEPSANATPTKEKLASLVGGRL VQSVQREQPPRGSG QPL LDFNKHWAGE V - QLNP - I MSLCSCGCPHPTKQTLDVPSMYFSTTPELLCNRNVSEPSANATPTKEKLASLVGGRL VQSVQREQPPRGSG QPL LDFNKHWAGE V - QLNP - I MSLCSCGCPHPTKQTLDVPSMYFSTTPGLLCDRNTSEASETATLRKEKLASLVGGRL VQSVQREQPPRGSG QPL LDFNKHWAGE V - QLNP - I MSLCSCGCPHTKQTLDVPSMYFSTTPGLLCDRNTSEASETATLRKEKLASLVGGRL VQSVQREQPPRGSG QPL LDFNKHWAGE V - QLNP - I MSLCSCGCPHTKQTLDVPSMYFSTTPGLLCDRNTSEASETATLRKEKLASLVGGRL VQSVQREQPPRGSG QPL LDFNKHWAKE - REMV I MSLCSCGCPHTKQTLDVPSMYFSTTPGLLCDRNTSEASETATLRKEKLASLVGGRL VQSVQREQPPRGSG QPL LDFNKHWAKE - REMV I MSLCSCGCPHTKQTLDVPSMYFSTTPGLLCDRNTSEASETATLRKEKLASLVGGRL VQSVQREQPPRGSG QPL LDFNKHWAKE - REMV I MNQQ VSNS QE THYNRVL EGNKYVAKKL - REDP MRQQ VSNS QE THYNRVL EGNKYVAKKL - ASDD I MNQQ VSNS REFSQYNRVLEGNNI YVEKKM - A I Y MNQQ VSNS REFSQYNRVLEGNKSYVAKKL - AQDE I MNQQ VSHS LE INHVNRVLEGNKSYVKKKM - ADP MNQQ VSHS LE INHVNRVLEGNKSYVKKK - ADP I MNQQ VSHS LE INHVNRVLEGNKSYVKKKM - ADP MNQQ VSHS LE INHVNRVLEGNKSYVKKKM	- KQ F QQ VK - DN PQ P KC 37 - LF F EKLA - KTQS P KF 34 - DY F VELA - KQQ K PQY 105 - DY F VELA - KQQ K PQY 105 - DY F VELA - KQQ K PQY 105 - TKLSKI KESGSS PST 35 - KQ F QQ VR - DH PE PQA 34 - PSL REVA - EKVAPKT 34 - NY F KNLS - KGQS P KY 49 - QY F KKLS - TGQ T P KY 49 - QY F KKLS - TGQ T P KY 49 - DY F RKLA - KGQN P KY 49 - DY F RKLA - KGQN P KY 49 - DY F RKLS - KGQN P KY 49 - PQ F E RVR - DN PE PTA 37 - NQ L KTFN - EK PN I LA 33 - KG F QQVR - DH PE PKA 34
3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	I MSLCSCGCPHPTKPTLDVPSMYFSTTPELLCNRNMSEPSANATLTKEKLASLVGGRL VQSVQREQPPRGSG IQPLLDFNKHWAGE IV - QLNP- 1 MSLCSCGCPHPTKPTLDVPSMYFSTTPELLCNRNMSEPSANATLTKEKLASLVGGRL VQSVQREQPPRGSG IQPLLDFNKHWAGE IV - QLNP- 1 MSLCSCGCPHPTKPTLDVPSMYFSTTPELLCNRNVSEPSANATPTKEKLASLVGGRL VQSVQREQPPRGSG IQPLLDFNKHWAGE IV - QLNP- 1 MSLCSCGCPHPTKQTLDVPSMYFSTTPELLCNRNVSEPSANATPTKEKLASLVGGRL VQSVQREQPPRGSG IQPLLDFNKHWAGE IV - QLNP- 1 MSLCSCGCPHPTKQTLDVPSMYFSTTPELLCNRNVSEPSANATPTKEKLASLVGGRL VQSVQREQPPRGSG IQPLLDFNKHWAGE IV - QLNP- 1 MSLCSCGCPHPTKQTLDVPSMYFSTTPGLLCDRNTSEASETATLRKEKLASLVGGRL VQSVQREQPPRGSG IQPLLDFNKHWAGE IV - QLNP- 1 MSLCSCGCPHTKQTLDVPSMYFSTTPGLLCDRNTSEASETATLRKEKLASLVGGRL VQSVQREQPPRGSG IQPLLDFNKHWAGE IV - QLNP- 1 MSCSCGCPHTKQTLDVPSMYFSTTPGLLCDRNTSEASETATLRKEKLASLVGGRL VQSVQREQPPRGSG IQPLLDFNKHWAGE IV - QLNP- 1 MSCSCGCPHTKQTLDVPSMYFSTTPGLLCDRNTSEASETATLRKEKLASLVGGRL VQSVQREQPPRGSG IQPLLDFNKHWAGE IV - QLNP- 1 MSCSCGCPHTKQTLDVPSMYFSTTPGLLCDRNTSEASETATLRKEKLASLVGGRL VQSVQREQPPRGSG IQPLLDFNKHWAGE IV - QLNP- 1 MSCSCGCPHTKQTLDVPSMYFSTTPGLLCRNTSEASETATLRKEKLASLVGGRL VQSVQREQPPRGSG IQPLLDFNKHWAGE IV - QLNP- 1 MNQQIVSNSIQEITHTNRVE GNKRYVAKKL - AEDD- 1 MNQQIVSNSIREFSQVNRVLEGNNIYVEKKL - AEDP 1 MNQQIVSHSILEINHYNRVE GNKSYVKKKKL - AEDP 1 MN	- KQ F QQ W K - DN PQ P KC 37 - LF F EKLA - KTQS P KF 34 - DY F VELA - KQQ K PQY 105 - DY F VELA - KQQ K PQY 105 - DY F VELA - KQQ K PQY 105 - TKLSK I KESGSS PST 35 - KQ F QQ W - DH PE PQ A 34 - PSL REWA - EKVAP KT 34 - NY F KNLS - KGQ S PKY 49 - QY F KKLS - TGQ T P KY 49 - QY F KKLS - TGQ T P KY 49 - DY F RKLS - KGQ N PKY 49 - DY F RKLS - KGQ N PKY 49 - SY F KTLS - KGQ N PKY 49 - PQ F E RWR - DN PE P TA 37 - NQ L KTN - EKPN LA 33 - KQ F QQ W R - DH PE P KA 34 - RO F QU K - DD P B QA 44
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	IMSLCSCGCPHPTKPTLDVPSMYFSTTPELLCNRNMSEPSANATLTKEKLASLVGGRL VQSVQREQPPRGSG IQPLLDFNKHWAGE IV - QLNP- IMSLCSCGCPHPTKPTLDVPSMYFSTTPELLCNRNMSEPSANATLTKEKLASLVGGRL VQSVQREQPPRGSG IQPLLDFNKHWAGE IV - QLNP- IMSLCSCGCPHPTKPTLDVPSMYFSTTPELLCNRNVSEPSANATPTKEKLASLVGGRL VQSVQREQPPRGSG IQPLLDFNKHWAGE IV - QLNP- IMSLCSCGCPHPTKQTLDVPSMYFSTTPELLCNRNVSEPSANATPTKEKLASLVGGRL VQSVQREQPPRGSG IQPLLDFNKHWAGE IV - QLNP- IMSLCSCGCPHPTKQTLDVPSMYFSTTPGLLCDRNTSEASETATLRKEKLASLVGGRL VQSVQREQPPRGSG IQPLLDFNKHWAGE IV - QLNP- IMSLCSCGCPHPTKQTLDVPSMYFSTTPGLLCDRNTSEASETATLRKEKLASLVGGRL VQSVQREQPPRGSG IQPLLDFNKHWAGE IV - QLNP- IMSLCSCGCPHTKQTLDVPSMYFSTTPGLLCDRNTSEASETATLRKEKLASLVGGRL VQSVQREQPPRGSG IQPLLDFNKHWAGE IV - QLNP- IMSLCSCGCPHTKQT MEKUTRGNTSEASETATLRKEKLASLVGGRL VQSVQREQPPRGSG IQPLLDFNKHWAGE IV - QLNP- IMSLCSCGCPHTKQT MEKUTRGNTSEASETATLRKEKLASLVGGRL MEKUTRGNTSEASETATLRKEKLASLVGGRL MEKUTRGNTSEASETATLRKEKLASLVGGRL IMSCSCGCPHTKQT MNQQIVSNSIQEIPPRGSG INKNYAKKL ASDD MEKUTRGNTSEASETATLRKEKLASLVGGRL IMSUTTSEASETATLTKKKLASLV	- KQ F QQ VK - DN PQ P KC 37 - LF F EKLA - KTQS P KF 34 - DY F VELA - KQQ K PQY 105 - DY F VELA - KQQ K PQY 105 - DY F VELA - KQQ K PQY 105 - TKLSK I KESGSS PST 35 - KQ FQQ VR - DH PE PQA 34 - PSL REVA - EKVAP KT 34 - NY F KNLS - KGQS P KY 49 - QY F KKLS - TGQ T P KY 49 - QY F KKLS - TGQ T P KY 49 - DY F RKLA - KGQN PKY 49 - DY F RKLA - KGQN PKY 49 - DY F RKLS - KGQN PKY 49 - PQ F ERVR - DN PE P TA 37 - NQ L KTFN - EK PN I LA 33 - KG FQQ VR - DH PE P KA 34 - RQ EQ I I K - DD PH PD A 44 - SOT PB CVC I W DA 44 -
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	IMSLCSCGCPHPTKPTLDVPSMYFSTTPELLCNRNMSEPSANATLTKEKLASLVGGRL VQSVQREQPPRGSG IQPLLDFNKHWAGE IV - QLNP- IMSLCSCGCPHPTKPTLDVPSMYFSTTPELLCNRNMSEPSANATLTKEKLASLVGGRL VQSVQREQPPRGSG IQPLLDFNKHWAGE IV - QLNP- IMSLCSCGCPHPTKPTLDVPSMYFSTTPELLCNRNVSEPSANATPTKEKLASLVGGRL VQSVQREQPPRGSG IQPLLDFNKHWAGE IV - QLNP- IMSLCSCGCPHPTKQTLDVPSMYFSTTPELLCNRNVSEPSANATPTKEKLASLVGGRL VQSVQREQPPRGSG IQPLLDFNKHWAGE IV - QLNP- IMSLCSCGCPHPTKQTLDVPSMYFSTTPELLCNRNVSEPSANATPTKEKLASLVGGRL VQSVQREQPPRGSG IQPLLDFNKHWAGE IV - QLNP- IMSLCSCGCPHPTKQTLDVPSMYFSTTPGLLCDRNTSEASETATLRKEKLASLVGGRL VQSVQREQPPRGSG IQPLLDFNKHWAGE IV - QLNP- I MREXTRG II RYKNAY - KDOVF. I MRQIVSNS IQE ITHNRV EGNKYKKKL - REGMV. I MNQQIVSNS IQE ITHNRV EGNKRYVAKKL - ASDD- I MNQQIVSNS IRFSQURVEGNN IVVEKKL - AQP. I MNQQIVSNS IRFSQURVEGNN IVVEKKL - AQP. I MNQQIVSNS IRFSQURVEGNK SVYKKKL - AQP. I MNQQIVSNS IRFSQURVEGNK SVYKKKL - AQP. I MNQQIVSNS ILE INHYNRVL EGNKRYVAKKKL - AZDP. I MNQQIVSNS IRFSQURVEGNK SVYKKKL - AQE. I MNQQIVSNS IRFSQURVEGNK SVYKKKKL - AQE. I MNQQIVSHS ILE INHYNRVL EGNKRYVAKKM AEDP. I MNQQIVSHS ILE INHYNRVL EGNKRYVAKKM AEDP. I MNQQIVSHS ILE INHYNRVL E	- KQ F QQ W - DN PQ P KC 37 - LF F EKLA - KTQS P KF 34 - DY F VELA - KQQ K PQY 105 - DY F VELA - KQQ K PQY 105 - DY F VELA - KQQ K PQY 105 - TKLSK I KESGSS PST 35 - KQ F QQ W - DH PE PQ A 34 - PSL REWA - EKVAP KT 34 - NY F KNLS - KGQ N P KY 49 - QY F KKLS - TGQ T P KY 49 - QY F KKLS - TGQ T P KY 49 - DY F KKLS - KGQ N P KY 49 - DY F RKLS - KGQ N P KY 49 - DY F RKLS - KGQ N P KY 49 - DY F RKLS - KGQ N P KY 49 - NY E KNLS - KGQ N P KY 49 - NY E KNLS - KGQ N P KY 49 - NY E KNLS - KGQ N P KY 49 - NY E KNLS - KGQ N P KY 49 - NQ L KT N - E KP N LA 33 - KQ F QQ W R - DH PE P KA 34 - RQ F Q I K - DD P P DA 44 - SQ T R P F Q V G L KP P LA 42
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	IMSLCSCGCPHPTKPTLDVPSMYFSTTPELLCNRNMSEPSANATLTKEKLASLVGGRL VQSVQREQPPRGSG IQPL LDFNKHWAGE IV - QLNP- IMSLCSCGCPHPTKPTLDVPSMYFSTTPELLCNRNMSEPSANATLTKEKLASLVGGRL VQSVQREQPPRGSG IQPL LDFNKHWAGE IV - QLNP- IMSLCSCGCPHPTKPTLDVPSMYFSTTPELLCNRNVSEPSANATPTKEKLASLVGGRL VQSVQREQPPRGSG IQPL LDFNKHWAGE IV - QLNP- IMSLCSCGCPHPTKQTLDVPSMYFSTTPELLCNRNVSEPSANATPTKEKLASLVGGRL VQSVQREQPPRGSG IQPL LDFNKHWAGE IV - QLNP- IMSLCSCGCPHPTKQTLDVPSMYFSTTPGLLCDRNTSEASETATLRKEKLASLVGGRL VQSVQREQPPRGSG IQPL LDFNKHWAGE IV - QLNP- IMSLCSCGCPHPTKQTLDVPSMYFSTTPGLLCDRNTSEASETATLRKEKLASLVGGRL VQSVQREQPPRGSG IQPL LDFNKHWAGE IV - QLNP- IMSLCSCGCPHTKQTLDVPSMYFSTTPGLLCDRNTSEASETATLRKEKLASLVGGRL VQSVQREQPPRGSG IQPL LDFNKHWAGE IV - QLNP- IMSCSCGCPHTKQT MEKUTRGUNASEYAKKKL - ASDD MEKUTRGUNKYYAKKKL - ASDD IMNQQIVSNSIREFSQNNTVEGNNTYVEKKKM - ALTY MNQQIVSNSIREFSQNNTKVLEGNKSYVKKKKL - AQDE IMNQQIVSNSIREFSQNTKVEGNNTSVEGNKKVAKKKM - AEDP MNQQIVHESIEEYLTNKVLEGNKSYVKKKK - AEDP	- KQ F QQ VK - DN PQ P KC 37 - LF F EKLA - KTQS P KF 34 - DY F VELA - KQQ K PQY 105 - DY F VELA - KQQ K PQY 105 - DY F VELA - KQQ K PQY 105 - TKLSK I KESGSS PST 35 - KQ FQQ VR - DH PE PQ A 34 - NY F KNLS - KGQS P KY 49 - EY F RKLS - GQ TP KY 49 - QY F KKLS - TGQ TP KY 49 - DY F KKLS - KGQN P KY 49 - DY F RKLA - KGQN P KY 49 - DY F RKLS - KGQN P KY 49 - NG LKTFN - EK PN 1LA 33 - KQ FQQ VR - DH PE P KA 34 - RQ EQ I I K - DD PH P DA 44 - SQ TR PF VGLK FP LA 42 - KF E ERLA - KTQ TP EY 51
CA 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	IMSLCSCGCPHPTKPTLDVPSMYFSTTPELLCNRNMSEPSANATLTKEKLASLVGGRL VQSVQREQPPRGSG IQPL LDFNKHWAGE IV - QLNP- IMSLCSCGCPHPTKPTLDVPSMYFSTTPELLCNRNMSEPSANATLTKEKLASLVGGRL VQSVQREQPPRGSG IQPL LDFNKHWAGE IV - QLNP- IMSLCSCGCPHPTKPTLDVPSMYFSTTPELLCNRNVSEPSANATPTKEKLASLVGGRL VQSVQREQPPRGSG IQPL LDFNKHWAGE IV - QLNP- IMSLCSCGCPHPTKQTLDVPSMYFSTTPELLCNRNVSEPSANATPTKEKLASLVGGRL VQSVQREQPPRGSG IQPL LDFNKHWAGE IV - QLNP- IMSLCSCGCPHPTKQTLDVPSMYFSTTPGLLCDRNTSEASETATLRKEKLASLVGGRL VQSVQREQPPRGSG IQPL LDFNKHWAGE IV - QLNP- IMSLCSCGCPHPTKQTLDVPSMYFSTTPGLLCDRNTSEASETATLRKEKLASLVGGRL VQSVQREQPPRGSG IQPL LDFNKHWAGE IV - QLNP- I MRSQUSVQREQPPRGSG IQPL LDFNKHWAGE IV - QLNP- I MREXTRG II RYKNAY - KDDF I MRXQUVSNSIQE ITHTNRVEGNRYVAKKH - REGMV I MNQQIVSNSIQE ITHTNRVEGNNEYVKKKL - AZDD- I MNQQIVSNSIREFSQVNRVLEGNNIYVEKKM - ALPP- I MNQQIVSNSIREFSQVNRVLEGNNIYVEKKM - ALPP- I MNQQIVSHSILE INHYNRVLEGNKSYVKKKL - AQDE- I MNQQIVSHSILE INHYNRVLEGNKSYVKKKL - AZDD- I MNQQIVSHSILE INHYNRVLEGNKSYVKKKKL - AZDP- I MNQQIVSHSILE INHYNRVLEGNKSYVKKKKL - AZDP- I MNQQIVSHSILE INHYNRVLEGNKSYVKKKKL - AZDP- I MNQQIVSHSILE INHYNRVLEGNKSYVKKKH - REGMV- I MNQQIVS	- KQ F QQ W K - DN PQ P KC 37 - LF F EKLA - KTQ S PKF 34 - DY F VELA - KQQ K PQ Y 105 - DY F VELA - KQQ K PQ Y 105 - DY F VELA - KQQ K PQ Y 105 - TKL SK I KESGSS PS T 35 - KQ F QQ VR - DH PE PQ A 34 - PSL REWA - EKVAP KT 34 - NY F KNLS - KGQS PKY 49 - QY F KKLS - TGQ TP KY 49 - QY F KKLS - TGQ TP KY 49 - DY F RKLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KTP P F S 1 - KF F Q R LA - KTQ TP EY 51 - KF F Q R LA - KTQ F F Q F LA - KTQ F F Q F LA - KTQ F F LA - TC F C
CA 1 1 1 1 1 1 1 1 1 1 1 1 1 1	I MSLCSCGCPHPTKPTLDVPSMYFSTTPELLCNRNMSEPSANATLTKEKLASLVGGRL VQSVQREQPPRGSG QPL LDFNKHWAGE V - QLNP- 1 MSLCSCGCPHPTKPTLDVPSMYFSTTPELLCNRNMSEPSANATPTKEKLASLVGGRL VQSVQREQPPRGSG QPL LDFNKHWAGE V - QLNP- 1 MSLCSCGCPHPTKPTLDVPSMYFSTTPELLCNRNVSEPSANATPTKEKLASLVGGRL VQSVQREQPPRGSG QPL LDFNKHWAGE V - QLNP- 1 MSLCSCGCPHPTKQTLDVPSMYFSTTPELLCNRNVSEPSANATPTKEKLASLVGGRL VQSVQREQPPRGSG QPL LDFNKHWAGE V - QLNP- 1 MSLCSCGCPHPTKQTLDVPSMYFSTTPGLLCDRNTSEASETATLRKEKLASLVGGRL VQSVQREQPPRGSG QPL LDFNKHWAGE V - QLNP- 1 MSLCSCGCPHPTKQTLDVPSMYFSTTPGLLCDRNTSEASETATLRKEKLASLVGGRL VQSVQREQPPRGSG QPL LDFNKHWAGE V - QLNP- 1 MSLCSCGCPHPTKQTLDVPSMYFSTTPGLLCDRNTSEASETATLRKEKLASLVGGRL VQSVQREQPPRGSG QPL LDFNKHWAGE V - QLNP- 1 MSLCSCGCPHTKQTLDVPSMYFSTTPGLLCDRNTSEASETATLRKEKLASLVGGRL VQSVQREQPPRGSG QPL LDFNKHWAGE V - QLNP- 1 MSLCSCGCPHTKQTLDVPSMYFSTTPGLLCDRNTSEASETATLRKEKLASLVGGRL VQSVQREQPPRGSG QPL LDFNKHWAGE V - QLNP- 1 MSLCSCGCPHTKQTLDVPSMYFSTTPGLLCDRNTSEASETATLRKEKLASLVGGRL MORQ VSNS QE MKKNK + AEDP- 1 MNQQ VSNS QE THYN RV LEGNKRY VAKKL - AQDE MNQQ VSNS REFSQYN RV LEGNKRY VAKKK - AEDP- 1 MNQQ VSNS REFSQYN RV LEGNKRY VAKKK - AEDP- MNQQ VSNS REFSQYN RV LEGNKRY VAKKK - AEDP- 1 MNQQ VSNS REFSQYN RV LEGNKRY VAKKK - AEDP- MNQQ VSNS REFSQYN RV LEGNKRY VAKKK - AEDP- 1 MNQQ VSNS REFSQYN RV LEGNKRY VAKKK - AEDP- MNQQ VH	- KQ F QQ W K - DN PQ P KC 37 - LF F EKLA - KTQS P KF 34 - DY F VELA - KQQ K PQY 105 - DY F VELA - KQQ K PQY 105 - DY F VELA - KQQ K PQY 105 - TKLSK I KESGSS PST 35 - KQ FQQVR - DH PE PQ A 34 - PSL REVA - EKVA P KT 34 - NY F KNLS - KGQS P KY 49 - QY F KKLS - TGQ T P KY 49 - QY F KKLS - TGQ T P KY 49 - DY F RKLA - KGQ N P KY 49 - DY F RKLS - KGQ N P KY 49 - DY F RKLS - KGQ N P KY 49 - DY F RKLS - KGQ N P KY 49 - QY F KKLS - TGQ T P KY 49 - DY F RKLS - KGQ N P KY 49 - QY F KKLS - TGQ T P KY 49 - DY F R KLA - KGQ N P KY 49 - QY F R KLA - KGQ N P KY 49 - QY F R C - DN PE P TA 37 - NQ L KT N - E K PN LA 33 - KQ F QQ V R - DH PE P KA 34 - RQ E Q I I K - DD PH P DA 44 - SQ T R P C VG L K P P LA 42 - KF F E R LA - KTQ T P EY 51 - KF F QR LA - KTQ F F Y 51 - KF F Y 5
3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	IMSLCSCGCPHPTKPTLDVPSMYFSTTPELLCNRNMSEPSANATLTKEKLASLVGGRL VQSVQREQPPRGSG IQPL LDFNKHWAGE IV - QLNP- IMSLCSCGCPHPTKPTLDVPSMYFSTTPELLCNRNMSEPSANATLTKEKLASLVGGRL VQSVQREQPPRGSG IQPL LDFNKHWAGE IV - QLNP- IMSLCSCGCPHPTKPTLDVPSMYFSTTPELLCNRNVSEPSANATPTKEKLASLVGGRL VQSVQREQPPRGSG IQPL LDFNKHWAGE IV - QLNP- IMSLCSCGCPHPTKQTLDVPSMYFSTTPELLCNRNVSEPSANATPTKEKLASLVGGRL VQSVQREQPPRGSG IQPL LDFNKHWAGE IV - QLNP- IMSLCSCGCPHPTKQTLDVPSMYFSTTPGLLCDRNTSEASETATLRKEKLASLVGGRL VQSVQREQPPRGSG IQPL LDFNKHWAGE IV - QLNP- IMSLCSCGCPHPTKQTLDVPSMYFSTTPGLLCDRNTSEASETATLRKEKLASLVGGRL VQSVQREQPPRGSG IQPL LDFNKHWAGE IV - QLNP- I MKLVFRG I I RYKNAY - KDDF I MKICSVKKKL - REGMV I MKQIVSNS I QE I THYNRVL EGNRRYVAKKL - ASDD- I MNQQIVSNS I QE I THYNRVL EGNKRYVAKKL - AEDP I MNQQIVSNS I REFSQVN RVLEGNN I VEKKM - AIYY I MNQQIVSNS I REFSQVN RVLEGNN I VEKKM - AEDP I MNQQIVSNS I REFSQVN RVLEGNN I VEKKM - AEDP I MNQQIVSNS I REFSQVR RLEVY VAKKM - AEDP I MNQQIVSNS I REFSQVN RVLEGNN RVAKKM - QSFL I MNQQIVSHS I LE INHYNRVL EGNKRYVAKKM - AEDP I MNQQIVSHS I LE INHYNRVL EGNKRYVAKKM - AEDP I MNQQIVSHS I LE INHYNRVL EGNKRYVAKKM - REGMV I MNQQIVSH SI R	- KQ F QQ W - DN PQ P KC 37 - LF F EKLA - KTQS P KF 34 - DY F VELA - KQQ K PQY 105 - DY F VELA - KQQ K PQY 105 - DY F VELA - KQQ K PQY 105 - TKL SK I KE SG S P ST 35 - KQ F QQ V R - DH PE PQ A 34 - PSL RE WA - EK VA P KT 34 - NY F KNLS - KGQ S P KY 49 - QY F KKLS - TGQ T P KY 49 - QY F KKLS - TGQ T P KY 49 - DY F KKLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 50 - KF F Q LA - KAQ H P KY 59 - KF F Q LA - KQ H P KF 73 - SY F TQ LA - KAQ H P KF 79 - SY F TQ LA - KAQ H P KF 79 - SY F TQ LA - KAQ H P KF 79 - SY F TQ LA - KAQ H P KF 79 - SY F TQ LA - KAQ H P KF 79 - SY F TQ LA - KAQ H P KF 79 - SY F TQ LA - KAQ H P KF 79 - SY F TQ LA - KAQ H P KF 79 - SY F TQ LA - KAQ H P KF 79 - SY F TQ LA - KAQ H P KF 79 - SY F TQ LA - KAQ H F KF 79 - SY F TQ LA - KAQ H P KY 59 - SY F TQ LA - KAQ H P KY 59 - SY F TQ LA - KAQ H P KY 59 - SY F TQ LA - KAQ H F KY 59 - SY F TQ LA - KAQ H F KY 59 - SY F TQ LA - KAQ H F KY 59 - SY F TQ LA - KAQ H F KY 59 - SY F TQ LA - KAQ H F KY 59 - SY F TQ LA - SY F TQ LA - SY F Y SY
8CA 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	IMSLCSCGCPHPTKPTLDVPSMYFSTTPELLCNRNMSEPSANATLTKEKLASLVGGRL VQSVQREQPPRGSG IQPLLDFNKHWAGE IV - QLNP- IMSLCSCGCPHPTKPTLDVPSMYFSTTPELLCNRNMSEPSANATPTKEKLASLVGGRL VQSVQREQPPRGSG IQPLLDFNKHWAGE IV - QLNP- IMSLCSCGCPHPTKPTLDVPSMYFSTTPELLCNRNVSEPSANATPTKEKLASLVGGRL VQSVQREQPPRGSG IQPLLDFNKHWAGE IV - QLNP- IMSLCSCGCPHPTKQTLDVPSMYFSTTPELLCNRNVSEPSANATPTKEKLASLVGGRL VQSVQREQPPRGSG IQPLLDFNKHWAGE IV - QLNP- IMSLCSCGCPHPTKQTLDVPSMYFSTTPGLLCDRNTSEASETATLRKEKLASLVGGRL VQSVQREQPPRGSG IQPLLDFNKHWAGE IV - QLNP- IMSLCSCGCPHTKQTLDVPSMYFSTTPGLLCDRNTSEASETATLRKEKLASLVGGRL VQSVQREQPPRGSG IQPLLDFNKHWAGE IV - QLNP- IMSLCSCGCPHTKQTLDVPSMYFSTTPGLLCDRNTSEASETATLRKEKLASLVGGRL VQSVQREQPPRGSG IQPLLDFNKHWAGE IV - QLNP- IMSLCSCGCPHTKQTLDVPSMYFSTTPGLLCDRNTSEASETATLRKEKLASLVGGRL VQSVQREQPPRGSG IQPLLDFNKHWAGE IV - QLNP- IMSCSCGCPTT MMQQIVSNSIQEITHTNRVLEGNKKNYAKKL - ACDP- IMNQQIVSNSIREFSYNRVLEGNKRYVAKKKL - AQDE MNQQIVSNSIREFSQNRVVLEGNKKKKL - AQDE IMNQQIVSNSIREFSYNRVLEGNKRYVAKKK- AEDP- MNQQIVSNSIREFSQNRVVLEGNKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKK	- KQ F QQ W K - DN PQ P KC 37 - LF F EKLA - KTQS P KF 34 - DY F VELA - KQQ K PQY 105 - DY F VELA - KQQ K PQY 105 - DY F VELA - KQQ K PQY 105 - TKLSK I KESGSS PST 35 - KQ F QQ W R - DH PE PQ A 34 - PSL REVA - EKVA P KT 34 - NY F KNLS - KGQS P KY 49 - QY F KKLS - TGQ T P KY 49 - DY F KKLS - KGQ N P KY 49 - DY F KKLS - KGQ N P KY 49 - DY F KKLS - KGQ N P KY 49 - DY F KKLS - KGQ N P KY 49 - DY F KKLS - TGQ T P KY 49 - DY F KKLS - TGQ T P KY 49 - DY F KKLS - KGQ N P KY 49 - QY F KKLS - TGQ T P KY 49 - QY F KKLS - TGQ T P KY 49 - QY F KKLS - TGQ T P KY 49 - QY F F KLS - KGQ N P KY 49 - QY F F F C V G L Y P T A 37 - NQ L KT P V G L Y P T A 37 - KG F QQ U R - D H P E P KA 34 - RQ F Q I I K - DD P H P D A 44 - SQ T R P F Q V G L K P P L A 42 - KF F E R L A - KTQ T P EY 51 - KF F Q R L A - KTQ T P EY 51 - KF F D E L A - KQQ T P KF 73 - SF N W A A KAQ N F Y 64
CA 1 BCA 1 BCA 1 BCA 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	IMSLCSCGCPHPTKPTLDVPSMYFSTTPELLCNRNMSEPSANATLTKEKLASLVGGRL VQSVQREQPPRGSG IQPL LDFNKHWAGE IV - QLNP- IMSLCSCGCPHPTKPTLDVPSMYFSTTPELLCNRNMSEPSANATLTKEKLASLVGGRL VQSVQREQPPRGSG IQPL LDFNKHWAGE IV - QLNP- IMSLCSCGCPHPTKPTLDVPSMYFSTTPELLCNRNVSEPSANATPTKEKLASLVGGRL VQSVQREQPPRGSG IQPL LDFNKHWAGE IV - QLNP- IMSLCSCGCPHPTKQTLDVPSMYFSTTPELLCNRNVSEPSANATPTKEKLASLVGGRL VQSVQREQPPRGSG IQPL LDFNKHWAGE IV - QLNP- IMSLCSCGCPHPTKQTLDVPSMYFSTTPGLLCDRNTSEASETATLRKEKLASLVGGRL VQSVQREQPPRGSG IQPL LDFNKHWAGE IV - QLNP- IMSLCSCGCPHTKQTLDVPSMYFSTTPGLLCDRNTSEASETATLRKEKLASLVGGRL VQSVQREQPPRGSG IQPL LDFNKHWAGE IV - QLNP- IMSLCSCGCPHTKQTLDVPSMYFSTTPGLLCDRNTSEASETATLRKEKLASLVGGRL VQSVQREQPPRGSG IQPL LDFNKHWAGE IV - QLNP- IMSLCSCGCPHTKQTLDVPSMYFSTTPGLLCDRNTSEASETATLRKEKLASLVGGRL VQSVQREQPPRGSG IQPL LDFNKHWAGE IV - QLNP- IMSLCSCGCPHTKQTLNVE MEXTLQSVXRXKKL - ADDF IMNQQIVSNSIQEITHTNKVEGNNEYVKKKKL - ADDF IMNQQIVSNSIREFSQVNRVLEGNNIYVKKKKL - ADDF IMNQQIVSNSIREFSQVNRVKVKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKK	- KQ F QQ W K - DN PQ P KC 37 - LF F EKLA - KTQS P KF 34 - DY F VELA - KQQ K PQY 105 - DY F VELA - KQQ K PQY 105 - DY F VELA - KQQ K PQY 105 - TKL SK I KE SG S P ST 35 - KQ F QQ V R - DH PE PQA 34 - PSL RE WA - EK VA P KT 34 - NY F KNLS - KGQ S P KY 49 - QY F KKLS - TGQ T P KY 49 - QY F KKLS - TGQ T P KY 49 - DY F RKLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 50 - KF F Q LA - KTQ T P EY 51 - EY F TQLA - KAQ H P KY 59 - KF F D ELA - KQ N P KF 73 - SF F N KLA - KAQ N P KF 73 - SF F N KLA - SF F Y F Y F Y F Y F Y F Y F Y F Y F Y
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CA 1 BCA 1 BCA 1 BCA 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 MSLC SCGC PH TKP TLDVP SMYF S TT PE LLCN RNMS E P SAN AT L TK E KLASL VGGRL VQ SVQ REQ P PRGSG I QPL DFN KHWAGE I V Q N P 1 MSLC SCGC PH TKP TLDV P SMYF S TT PE LLCN RNWSE P SAN AT L TK E KLASL VGGRL VQ SVQ REQ P PRGSG I QPL DFN KHWAGE I V Q N P 1 MSLC SCGC PH TKQ TLDV P SMYF S TT PE LLCN RNWSE P SAN AT L TK E KLASL VGGRL VQ SVQ REQ P PRGSG I QPL DFN KHWAGE I V Q N P 1 MSLC SCGC PH TKQ TLDV P SMYF S TT PE LLCN RNWSE P SAN AT L TK E KLASL VGGRL VQ SVQ REQ P PRGSG I QPL DFN KHWAGE I V Q N P 1 MSLC SCGC PH TKQ TLDV P SMYF S TT PG LLCO RN TSEAS E TATL RK E KLASL VGGRL VQ SVQ REQ P PRGSG I QPL DFN KHWAGE I V Q N P 1 MSLC SCGC PH TKQ TLDV P SMYF S TT PG LLCO RN TSEAS E TATL RK E KLASL VGGRL VQ SVQ REQ P PRGSG I QPL DFN KHWAGE I V Q N P 1 MSLC SCGC PH TKQ TLDV P SMYF S TT PG LLCO RN TSEAS E TATL RK E KLASL VGGRL VQ SVQ REQ P PRGSG I QPL DFN KHWAGE I V Q N P 1 MSLC SCGC PH TKQ TLDV P SMYF S TT PG LLCO RN TSEAS E TATL RK E KLASL VGGRL VQ SVQ REQ P PRGSG I QPL DFN KHWAGE I V Q N P 1 MSLC SCGC PH TKQ TLDV P SMYF S TT PG LLCO RN TSEAS E TATL RK E KLASL VGGRL VQ SVQ REQ P PRGSG I QPL DFN KHWAGE I V Q N P 1 MSLC SCGC PH TKQ TLDV P SMYF S TT PG LLCO RN TSEAS E TATL RK E KLASL VGGRL VQ SVQ REQ P PRGSG I QPL DFN KHWAGE I V Q N P 1 MSLC SCGC PH TKQ TLDV P SMYF S TT PG LLCO RN TSEAS E TATL RK E KLASL VGGRL VQ SVQ REQ P PRGSG I QPL DFN KHWAGE I V Q N K KL A SDD E 1 MNQ I VSNS I QE I TH YN RV E GN KR YV AKKL A ED P 1 MNQ I VSNS I NE FISSANAT L TK KKLASL VG S N KKKL A QD E 1 MNQ I VSNS I NE FISSAN AT L FK KKM V KKKKLA A QD E 1 MNQ I VSNS I NE FISSAN AT L FK KKM V KKKLA A QD E 1 MNQ I VSNS I NE FISSAN AT L TK KKLASL VG S N KKKLASL A QD E 1 MNQ I VSNS I NE FISSAN AT L TK KKLASL VG S N KKKLASL A QD E 1 MST M N K KKL KSTF M KKM KK KK KKKLASL KKKKLASL KKKKLASL KKKKLASL KKKKLASL KKKKLASL KKKKLASL KKKKKKLAS KKKKLASL KKKKKKKKKK	- KQ F QQ W K - DN PQ P KC 37 - LF F EKLA - KTQ S P KF 34 - DY F VELA - KQQ K PQ Y 105 - DY F VELA - KQQ K PQ Y 105 - DY F VELA - KQQ K PQ Y 105 - TKL 5K I KE SG S S P ST 35 - KQ F QQ V R - DH PE PQ A 34 - P SL RE VA - EKVAP KT 34 - NY F KNLS - KGQ S P KY 49 - QY F KKLS - TGQ T P KY 49 - QY F KKLS - TGQ T P KY 49 - DY F RKLS - KGQ N P KY 49 - DY F RKLS - KGQ N P KY 49 - SY F KNLS - KGQ N P KY 49 - SY F KNLS - KGQ N P KY 49 - SY F KNLS - KGQ N P KY 49 - SY F KNLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 50 - KF F Q LA - KTQ T P EY 51 - KF F Q LA - KTQ T P EY 51 - EY F TQLA - KAQ H P KY 59 - KF F D LA - KQQ P KF 73 - SF F N KLA - KAQ N P EY 64 - Q F L N TS - KE I E H KY 37 - T F T ELA - KKQ T D Y 73 - D F P G LA - QQ T P KF 17 - KG F KEV - D N PM KK 34
BCA 1 BCA 1 BCA 1 BCA 1 BCA 1 1 3 1 1 22 1 3 1 1 44 1 55 1 1 66 1 7 1 1 48 1 1	I MSLCSCGCPHP TKP TLDVP SMYF S TTPELLCN RNMSE P SAN AT L TK EKLASL VGGRL VQ SVQ REOP PRGSG 10 P L D D N KHWAGE I V - Q LNP 1 MSLCSCGC PH TKP TLDVP SMYF S TTPELLCN RN MS EP SAN AT T TK EKLASL VGGRL VQ SVQ REOP PRGSG 10 P L D D N KHWAGE I V - Q LNP 1 MSLCSCGC PH TKQ TLDVP SMYF S TTPELLCN RN MS EP SAN AT T TK EKLASL VGGRL VQ SVQ REOP PRGSG 10 P L D D N KHWAGE I V - Q LNP 1 MSLCSCGC PH TKQ TLDVP SMYF S TTPGLLC RN TS EASE TAT L RKEKLASL VGGRL VQ SVQ REOP PRGSG 10 P L D N KHWAGE I V - Q LNP 1 MSLCSCGC PH TKQ TLDVP SMYF S TTPGLLC RN TS EASE TAT L RKEKLASL VGGRL VQ SVQ REOP PRGSG 10 P L D N KHWAGE I V - Q LNP 1 MSLCSCGC PH TKQ TLDVP SMYF S TTPGLLC RN TS EASE TAT L RKEKLASL VGGRL VQ SVQ REOP PRGSG 10 P L D N KHWAGE I V - Q LNP 1 MSLCSCGC PH TKQ TLDVP SMYF S TTPGLLC RN TS EASE TAT L RKEKLASL VGGRL VQ SVQ REOP PRGSG 10 P L D N KHWAGE I V - Q LNP 1 MSLCSCGC PH TKQ TLDVP SMYF S TTPGLLC RN TS EASE TAT L RKEKLASL VGGRL VQ SVQ REOP PRGSG 10 P L D N KHWAGE I V - Q LNP 1 MSLCSCGC PH TKQ TLDVP SMYF S TTPGLLC RN TS EASE TAT L RKEKLASL VGGRL VQ SVQ REOP PRGSG 10 P L D N KHWAGE I V - Q LNP 1 MSLCSCGC PH TKQ TLDVP SMYF S TTPGLLC RN TS EASE TAT L RKEKLASL VGGRL VQ SVQ REOP PRGSG 10 P L D N KHWAGE I V - Q LNP 1 MSQ 1 VSN S1 QE I THYR VL EG N KRY VKKKL - ADD P 1 MNQ 1 VSN S1 REF FSQ N RN V EG N KNY VAKKH - AED P 1 MNQ 1 VSN S1 REF FSQ N RN V EG N KNY VAKKH - AED P 1 MNQ 1 VSN S1 REF SVQ V R RY N VKK KL - AQD E 1 MNQ 1 VSN S1 R L R NY V K V KK KL - AQD E 1 MNY N NY APQHHYG 1 VKV L EG N KS Y VKKKL - AQD E 1 MNY NY APQHHYG 1 VKV L EG N KS Y VKKKL - ACD P 1 MNY APQHHYG 1 VKV L EG N KS Y VKKKL - ACD P 1 MNY APQHHYG 1 VKV L EG N KS Y VKKKL - ACD P 1 MST N O Q Q V K P S TS M NY NY NY Y V C K R S S K P K MY 1 MD K V APQ HYG 1 VKV R G 1 I R Y R NY H F - R E KMY 1 MD K V APQ HYG 0 C K V R R S S T N NY K Y K C K E KMY 1 MD K V APQ HYG 0 C K Y K K K V Y V C K R S S K C K Y V Y V Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y	- KQ F QQ W K - DN PQ P KC 37 - LF F EKLA - KTQS P KF 34 - DY F VELA - KQQ K PQ Y 105 - DY F VELA - KQQ K PQ Y 105 - DY F VELA - KQQ K PQ Y 105 - TKLS K I KESGSS P ST 35 - KQ F QQ W R - DH PE PQ A 34 - PSL REWA - EKVAP KT 34 - NY F KNLS - KGQ S P KY 49 - QY F KKLS - TGQ T P KY 49 - QY F KKLS - TGQ T P KY 49 - DY F KKLS - KGQ N P KY 49 - DY F KKLS - KGQ N P KY 49 - DY F KKLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 50 - F F E RLA - KTQ T P EY 51 - KF P Q LA - KQQ T P KY 59 - KF F D E LA - KQQ T P KY 59 - KF F D E LA - KQQ T P KY 73 - SF F NKLA - KAQ T P KY 73 - SF F N KLA - KQQ T P KF 17 - KP E RLA - C N P M F A - F F E LA - KQ T P M F A - TF T E LA - KQ T P M F A - TF T E LA - KQ T P M F A - KF P Q LA - Q Q T P KF 17 - KP E R A - Q Q T P KF 17 - KP E R A - Q Q T P KF 17 - KP E A - Q Q T P KF 17 - KP E A - Q Q T P KF 17 - KP E A - Q Q T P KF 17 - KP E A - Q Q T P KF 17 - KP E A - Q Q T P KF 17 - KP E A - Q Q T P KF 17 - KP E A - KQ T P D Y 73 - FF T E A - KQ T P D Y 73 - FF F C A - Q Q T P KF 17 - KP E KW - D N P M P KA 34 - KF P Q K - D + V = V + 20 - XF P K K - D P Y F K 17 - KP E KW - D N P M F KA 34 - KF P Q K - D + V = V + 20 - XF - Y - Y - Y - Y - Y - Y - Y - Y - Y -
BCA 1 1 3 3 4 4 1 3 1 1 3 1 1 3 1 1 1 1 1 1 1 1 1 1 1 1 1	I MSLCSCGCPHP TKP TLDVPSMYFS TTPELLCNRNMSEPSANATLTKEKLASLVGGRL. VQSVQREQPPRGSG 1QPL DDNKHWAGE IVQLNP- 1 MSLCSCGCPHPTKPTLDVPSMYFS TTPELLCNRNVSEPSANATTKEKLASLVGGRL. VQSVQREQPPRGSG 1QPL DDNKHWAGE IVQLNP- 1 MSLCSCGCPHPTKQTLDVPSMYFS TTPELLCNRNVSEPSANATTKEKLASLVGGRL. VQSVQREQPPRGSG 1QPL DDNKHWAGE IVQLNP- 1 MSLCSCGCPHPTKQTLDVPSMYFS TTPGLLCDRN TS EASETATL RKEKLASLVGGRL. VQSVQREQPPRGSG 1QPL DDNKHWAGE IVQLNP- 1 MSLCSCGCPHTKQTLDVPSMYFS TTPGLLCORN TS EASETATL RKEKLASLVGGRL. VQSVQREQPPRGSG 1QPL DDNKHWAGE IVQLNP- 1 MSLCSCGCPHTKQTLDVPSMYFS TTPGLLCORN TS EASETATL RKEKLASLVGGRL. VQSVQREQPPRGSG 1QPL DDNKHWAGE IVQLNP- 1 MSLCSCGCPHTKQTLDVPSMYFS TTPGLLCORN TS EASETATL RKEKLASLVGGRL. VQSVQREQPPRGSG 1QPL DDNKHWAGE IVQLNP- 1 MSLCSCGCPHTKQTLDVPSMYFS TTPGLLCORN TS EASETATL RKEKLASLVGGRL. VQSVQREQPPRGSG 1QPL DDNKHWAGE IVQLNP- 1 MSLCSCGCPHTKQTLDVPSMYFS TTPGLLCORN TS EASETATL RKEKLASLVGGRL. VQSVQREQPPRGSG 1QPL DDNKHWAGE IVQLNP- 1 MSLCSCGCPHTKQTLDVPSMYFS TTPGLLCORN TS EASETATL RKEKLASLVGGRL. VQSVQREQPPRGSG 1QPL DDNKHWAGE IVQLNP- 1 MSLCSCGCPHTKQTLDVPSMYFS TTPGLLCORN TS EASETATL RKEKLASLVGGRL. VQSVQREGPPRGSG 1QPL DDNKHWAGE IVQLNP- 1 MSVGTVSS 1QE 1 THYNRVL EGNRKTVAKKL. ASDD- 1 MNQQ1 VSS 1 QE 1 THYNRVL EGNRKTVAKKKL. ASDD- 1 MNQQ1 VSS 1 REF 5QYNRVL EGNKSTVKKKL. AQDE 1 MNQQ1 VSS 1 REF 5QYNRVL EGNKSTVKKKL. AQDE 1 MNQQ1 VSS 1 LE 1 MYNRVL EGNKSTVKKK. AEDP- 1 MNQQ1 VSS 1 LE 1 MYNRVL EGNKSTVKKK. AEDP- 1 MNY NQQ1 VSS 1 LE 1 MYNRVL EGNKSTVKKK. AEDP- 1 MNY NQQ1 VSS 1 LE 1 MYNRVL EGNKSTVKKKH. AEDP- 1 MNY NQQ1 VSS 1 LE 1 MYNRVL EGNKSTVKKK VQQ 1Q. VEDP- 1 MNY NNY NQQ0 EL MYNRVL MQQ1 I NYNKSK 1 K. VEDP- 1 MSST NQQQD KKQTCHGCCLHNDQNEFTFFDKGGDDEDAG 1 NNWSKK 1 K. VEDP- 1 MSST NQQQD KKQTCHGCCLHNDQNEFTFFDKGGDDEDAG 1 NNWSKK 1 K. VEDP- 1 MSST NQQQD KKQTCHGCCLHNDQNEFTFFDKGGDDEDAG 1 NRL NWAXKNK 1 C- HEDP- 1 MSST NQQQD KKQTCHGCCLHNDQNEFTFFDKGGDDEDAG 1 NRL NWAXKNK 1 C- HEDP- 1 MSST NQQQD KKQTCHGCCLHNDQNEFTFFDKGGDDEDAG 1 DRL QYNKSMATAR - I EDP- 1 MSST NQQQD KKQTCHGCCLHNDQNEFTFFDKGGDDEDAG 1 DRL QYNK MAXKNC 1 L- TOP- 1 MS	- KQ F QQ VK - DN PQ P KC 37 - LF F EKLA - KTQS P KF 34 - DY F VELA - KQQ K PQY 105 - TKL 5K I KE SG S P ST 35 - KQ F QQ VR - DH PE PQA 34 - PSL REVA - EKVAP KT 34 - NY F KNLS - KGQS P KY 49 - QY F KKLS - QG N P KY 49 - QY F KKLS - TGQ TP KY 49 - DY F RKLS - KGQ N P KY 49 - DY F RKLS - KGQ N P KY 49 - SY F KNLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N F K7 - SY F KTLS - KG N P LA 33 - KQ F L N TS - KE I EH KY 37 - TF F TELA - KKQ TP DY 73 - DF P GLA - QQ T P KF 17 - KQ F E KV - DN PM KA 34 - KL RQ V K - DF HP V KA 34 - KL P V KA 50 - KL F V K
ICA 1 BCA 1 BCA 1 BCA 1 1 3 4 5 1 3 1 3 1 3 1 3 1 3 1 3 1 3 1 3 1 3 1 1 1 1 1 1 1 1 1 1 1 1 1	1 MSLCSCGCPH PTKPTLDVPSMYFSTTPELLCNRNMSEPSANATLTKEKLASLVGGRL VOSVQREQPPRGSG (QPL DFNKHWAGE IV QLNP 1 MSLCSCGCPH PTKPTLDVPSMYFSTTPELLCNRNMSEPSANATTTKEKLASLVGGRL VOSVQREQPPRGSG (QPL DFNKHWAGE IV QLNP 1 MSLCSCGCPH PTKQTLDVPSMYFSTTPELLCNRNVSEPSANATTTKEKLASLVGGRL VOSVQREQPPRGSG (QPL DFNKHWAGE IV QLNP 1 MSLCSCGCPH PTKQTLDVPSMYFSTTPGLLCORNTSEASETATLRKEKLASLVGGRL VOSVQREQPPRGSG (QPL DFNKHWAGE IV QLNP 1 MSLCSCGCPH TKQTLDVPSMYFSTTPGLLCORNTSEASETATLRKEKLASLVGGRL VOSVQREQPPRGSG (QPL DFNKHWAGE IV QLNP 1 MSQUSSNSIGEI THYNRY E GNRRYVAKKL A ADDP 1 MNQQIVSNSIGEI THYNRY E GNRRYVAKKL AEDP 1 MNQQIVSNSIREFSQNRV E GNNI YVKKKL AQDE 1 MNQQIVSNSIREFSQNRV E GNNI YVKKL AQDE 1 MNQQIVSNSIREFSQNRV E GNNI YVKKL AQDE 1 MNQQIVSNSIREFSQNRV E GNNI YVKKL AEDP 1 MNQQIVSNSIREFSQNRV E GNNI YVKKL AEDP 1 MNQQIVSNSIREFSQNRV E GNNI YVKKL AEDP 1 MNNN QADQQQELQTHG IDSL QVNKWAQQIQ VEDP 1 MALKKLSSTF KASLSSQALRYKD IDR INN WSKNI KCH PEGMV 1 MALKKLSSTF KASLSSQALRYKD IDR INN WSKNI KCH PEGMV 1 MDQKVQPRKTDMHSDEQ E MNDYKK MEX ILONN INWSKNI VEDP 1 MALKKLSSTF NQQQDKKQTCHGCCLHNDQNEFTFFDKGGDDEDAG IDR IQVNKWAXNI QCH PEDP 1 MDQKVQPRKTDMHSDEQ E MNDYFCHETAAKKNE IEDP 1 MDQKVQPRKTDMFTSDEQ E MNDYKCH KEXLINNNEWSKNI I CHPP 1 MDQKVQPRKTDMFTSDEQ E MNDYKCH KEXNI I CHPP 1 MDQKVQTRETAA KEXNI I PHFF 1 MSULELITSANQACHELAN KEXNI I PHFF 1 MSULELITSANQACHELAN KEXNI I PHFF 1 MSULE	- KQ F QQ VK - DN PQ P KC 37 - LF F EKLA - KTQS P KF 34 - DY F VELA - KQQ K PQY 105 - TKLS K I KE SGS S P ST 35 - KQ F QQ VR - DH PE PQ 34 - PSL REVA - EKVAP KT 34 - NY F KNLS - KGQ S P KY 49 - QY F KKLS - TGQ T P KY 49 - QY F KKLS - TGQ T P KY 49 - DY F RKLA - KQQ N P KY 49 - DY F RKLS - KGQ N P KY 49 - DY F RKLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 59 - F F Q LA - KTQ T P EY 51 - KF P Q LA - KTQ T P EY 51 - KF P Q LA - KAQ T P EY 51 - KF P Q LA - KAQ T P KY 59 - KF F O E LA - KQQ T P KF 73 - SF F NKLA - A AQN P EY 64 - Q F L N TS - KE I EH KY 37 - TF F TELA - KKQ T P DY 73 - SF F NKLA - AQQ T P KF 17 - KQ F KW C D N PM F KA 34 - KKL R Q KE V K - D N PM F KA 34 - KKL R Q KE V K - D F H V T 34 - P L T KLN - KAP Q R H 32
3 3 3 3 3 3 3 3 3 4 4 1 1 1 1 1 1 1 1 1 1 1 1 1	1 MSLCSCGC PHPTKPTLDVPSMYFSTTPELLCNRNMSEPSANATLTKEKLASLVGGRL 1 MSLCSCGC PHPTKPTLDVPSMYFSTTPELLCNRNMSEPSANATLTKEKLASLVGGRL 1 MSLCSCGC PHPTKPTLDVPSMYFSTTPELLCNRNMSEPSANATLTKEKLASLVGGRL 1 MSLCSCGC PHPTKPTLDVPSMYFSTTPELLCNRNVSEPSANATPTKEKLASLVGGRL 1 MSLCSCGC PHPTKPTLDVPSMYFSTTPELLCNRNVSENSENT 1 MSLCSCGC PHPTKPTLDVSSINFTPELLCNRNVSENSENT 1 MSLCSCGC PHPTKPTLDVSSINFTPELLCNRNVSENSENT 1 MSLCSCGC PHPTKPTLOVSSINFTPELLCNRNVSENSENT 1 MSLCSCGC PHPTKPTLOVSSINFTPELLCNRNVSENSENT 1 MSLCSCGC PHPTKPTGILCDNSSINFTSSINFT 1 MSLCSCGC PHPTKPTGILCDNSSINFTSSINFTS 1 MSLCSCGC PHPTKPTGILCDNSSINFTSSINFTS 1 MSLCSCGC PHPTKPTGILCDNSSINFTSSINFTS 1 MSLCSCGC PHTKPTLOVSSINFTSSINFTS 1 MSLCSCGC PHTKPTLOVSSINFTSSINFTSSINFTS 1 MSLCSCGC PHTKPTHSSINFTSSINFTSSINFTSSINFTS 1 MSLCSCGC PHTKPTHSSINFTSSINF	- KQ F QQ VK - DN PQ P KC 37 - LF F EKLA - KTQS P KF 34 - DY F VELA - KQQ K PQY 105 - TKL 5K I KE SG S P ST 35 - KQ FQQ VR - DH PE PQA 34 - PSL REVA - EKVAP KT 34 - NY F KNLS - KQG SP KY 49 - QY F KKLS - TGQ TP KY 49 - QY F KKLS - TGQ TP KY 49 - DY F RKLS - GQ NP KY 49 - DY F RKLS - KGQ NP KY 49 - DY F RKLS - KGQ NP KY 49 - SY F KTLS - KQ NP KA 34 - SQ T F T TLA - KKQ TP DY 73 - DF F PCLA - QQ TP KF 17 - KQ F E KY CN NP MP KA 34 - FL TKLN - KA P Q RH 32 - PDL PK KN - KCLQ KK 32 - PDL PK KN - KCLQ RK 32 - PL
BCA 1 3CA 1 3CA 1 3CA 1 3CA 1 3 3CA 1 3 1 3 1 3 1 3 1 3 1 3 1 3 1 3 1 3 1 3		- KQ F QQ VK - DN PQ P KC 37 - LF F EKLA - KTQS P KF 34 - DY F VELA - KQQ K PQY 105 - DY F VELA - KQQ K PQY 105 - DY F VELA - KQQ K PQY 105 - TKLSK I KESGSS P ST 35 - KQ F QQ VR - DH PE PQ 34 - PSLREVA - EKVAP KT 34 - NY F KNLS - KGQ S P KY 49 - QY F KKLS - TGQ T P KY 49 - DY F RKLS - KGQ N F KY 49 - DY F RKLS - KGQ N F KY 49 - DY F RKLS - KGQ N F KY 49 - DY F RKLS - KGQ N F KY 49 - DY F RKLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 57 - SY F KTLS - KGQ N P KY 49 - SY F KTLS - KGQ N P KY 51 - KF P QRLA - KTQ T P EY 51 - KF P QRLA - KTQ T P EY 51 - KF P QRLA - KTQ T P EY 51 - KF P QRLA - KTQ T P EY 51 - KF P QRLA - KTQ T P EY 51 - KF P QRLA - KTQ T P EY 51 - KF P QRLA - KTQ T P EY 51 - KF P QRLA - KTQ T P EY 51 - KF P QRLA - KTQ T P EY 51 - KF P QRLA - KTQ T P EY 51 - KF P G LA - QQ T P KF 17 - KQ E KEVK - DN PM P KA 34 - KRL R QVK - ED F H VT 34 - P L T KLN - KA P Q R H 32 - P L P K N K L Q R K 32 - T L Y A OVA - E K VQ F SC 35 - T K T C A - KCU P SC 35 - T K T C A - KCU P SC 35 - T L Y A OVA - E KVQ F SC 35 - T L Y A OVA - E KVQ F SC 35 - T L Y A OVA - E KVQ F SC 35 - T L Y A OVA - E KVQ F SC 35 - T L Y A OVA - E KVQ F SC 35 - T L Y A OVA - E KVQ F SC 35 - T L Y A OVA - E KVQ F SC 35 - T L Y A OVA - E KVQ F SC 35 - T L Y A OVA - E KVQ F SC 35 - T L Y A OVA - E KVQ F SC 35 - T L Y A OVA - E KVQ F SC 35 - T L Y A OVA - E KVQ F SC 35 - T L Y A OVA - E KVQ F SC 35 - T L Y A OVA - E KVQ F SC 35 - T L Y A OVA - E KVQ F SC 35 - T L Y A OVA - E KVQ P SC 35

EIW34693_Pelosinus_fermentans-BCA F4WAG3 Acromyrmex echinatior-BCA I9K706 Acvrthosiphon pisum-BCA1 C4WVD8_Acyrthosiphon_pisum-BCA2 [9JZY3_Acyrthosiphon_pisum-BCA3 D4NWE5_Adineta_vaga-BCA2 Q17N64 Aedes aegypti-BCA FC551456 Ancylostoma caninum-BCA E3X5Q8_Anopheles_darlingi-BCA Q5TU56_Anopheles_gambiae-BCA H9KS29 Apis mellifera-BCA F1LE18 Ascaris suum-BCA G0MSW4 Caenorhabditis brenneri-BCA G0MRG1_Caenorhabditis_brenneri-BCA A8XKV0 Caenorhabditis briggsae-BCA A8WN21 Caenorhabditis briggsae-BCA 022460 Caenorhabditis elegans-BCA1 Q2YS41_Caenorhabditis_elegans-BCA2 E3LDN3 Caenorhabditis remanei-BCA. E3MK96_Caenorhabditis_remanei-BCA C1C2M7 Caligus clemensi-BCA E2ANO9 Camponotus floridanus-BCA B0WKV7_Culex_quinquefasciatus-BCA G6D7Z4 Danaus plexippus-BCA E9GLB5 Daphnia pulex-BCA [3]TM9 Dendroctonus ponderosae-BCA B3LZ10 Drosophila_ananassae-BCA B3P1V8_Drosophila_erecta-BCA B4JHY1_Drosophila_grimshawi-BCA 09VHI5 Drosophila melanogaster-BCA B4KDC1_Drosophila_mojavensis-BCA B4GFA1 Drosophila persimilis-BCA Q296E4_Drosophila_pseudoobscura-B0 B4HKY7 Drosophila sechellia-BCA B4OXC5 Drosophila simulans-BCA B4LZE7_Drosophila_virilis-BCA B4NBB9 Drosophila willistoni-BCA B4PTY0 Drosophila yakuba-BCA B0E7M0 Entamoeba dispar-BCA C4LXK3_Entamoeba_histolytica-BCA K2GQM0 Entamoeba nuttalli-BCA E2B2Q1_Harpegnathos_saltator-BCA HMEL015257 Heliconius melpomene-l EY481200 Hirudo medicinalis-BCA G0QPN9_Ichthyophthirius_multifiliis-BC E9B8S3_Leishmania_donovani-BCA A4HSV2 Leishmania infantum-BCA Q4QJ17_Leishmania_major-BCA E9AKU0_Leishmania_mexicana-BCA D3PI48_Lepeophtheirus_salmonis-BCA K7IWK8 Nasonia vitripennis-BCA A7S717 Nematostella vectensis-BCA A0BD61 Paramecium tetraurelia-BCA1 A0E8J0_Paramecium_tetraurelia-BCA2 A0CEX6_Paramecium_tetraurelia-BCA3 A0BDB1 Paramecium tetraurelia-BCA4 A0C922 Paramecium_tetraurelia-BCA5 187043763_Saccoglossus_kowalevskii-G4V6B2_Schistosoma_mansoni-BCA E9IP13 Solenopsis invicta-BCA SMAR006741_Strigamia_maritima-BCA H3I177_Strongylocentrotus_purpuratus Q22U21_Tetrahymena_thermophila-BC Q22U16_Tetrahymena_thermophila-BC I7MDL7_Tetrahymena_thermophila-BC I7LWM1_Tetrahymena_thermophila-BC I7M0M0_Tetrahymena_thermophila-BC I7MD92_Tetrahymena_thermophila-BC 17M748_Tetrahymena_thermophila-BC/ Q23AV1_Tetrahymena_thermophila-BC D6WK56_Tribolium_castaneum-BCA E5SH53_Trichinella_spiralis-BCA A2ENQ8 Trichomonas vaginalis-BCA1 A2DLG4 Trichomonas vaginalis-BCA2 B3S5Y1 Trichoplax_adhaerens-BCA 117195962_Xenoturbella_bocki-BCA

							1				
ns-BCA	$\downarrow \downarrow \downarrow$ 38 A F TCMD TR L VD F L E P AMG K R G E A K V	· · · · · · · · · · · · · · · · · · ·	VTGPFEA-T-	IRS		VKEVF <mark>VIGH</mark> LD	↓ CGVSHTTS	SOGLTEKM		- LARG	121
ior BCA	25 VEETCMDCDMID TRETETNICDMEV	VPNDCNI	IDUCUUEVD		LELCCVVVNN	IPHILVCCHST	CKAMNULIN	ALPOKE		10 M 10 10 10	110
BCA1	35 L F F T C MD S R M L P A R F T E SN V G D M F I 35 L F F T C MD S R M L P A R F T E T N I G D M F I	VRNAGNL	IPH SQH F PD -	EY TSC E P A A	LELGCVHND	I RHV I VC GH SE	CKAMNLL	ILLRDTE - ·			118
n-BCA2	35 L F F TCMD S RML P A R F T E TN I GDMF I	<mark>V RN</mark> AGN L	IPH SQHFLD -	EY TTC EPAA	LELGCVHND	I RH V I <mark>V</mark> C <mark>GH</mark> S [C KAMNLL	IL <mark>L</mark> RDTE - ·	*********		118
ICA3	35 L F F TCMD S R ML P A R F T E TN I G D M F I	<mark>V RN</mark> AGN L	IPHSQHFLD-	EY TTC E P A A	LELGCVHND	I RH V I <mark>V</mark> C GH SI	CKV		*********	на ва на 🔅	107
	35 L F F T L M D S RM L P A R F T E T N I G D M F I 35 L F F T C M D S RM L P A R F T E T N I G D M F I 35 L L L T C V D S R V V A S R L T Q A V P G Q L F I 35 V F F T C M D S R M L P T R T T D T H V G D M F V 38 V F F S C M D S R M L P T R F T E T H V G D M F V 35 V F F T C M D S R M I P T R F T E T H V G D M F V 35 V F F T C M D S R M I P T R F T E T H V G D M F V 35 V F F T C M D S R M I P T R F T E T H V G D M F V	VRN PGN L'	VPSYDYFEK-	N G I V S G E C A A	LELACSRNN	V P V I A <mark>V F GH</mark> S [CKAMNLLY	RIRNEI - ·		2	119
	35 VFFTCMDSRMIP TRYTDTHVGDMFV	I RN AGNL	VPHAEHFQD-	EYFSCEPAG	LELGCVVNN	IKHIIVCGHSD	CKAMNLLY	QLRDPE			118
um-BCA	38 VFFSCMDSRMLP ARFTSSQVGDMFV	VRN SGNM	IPHANNYGP -	AGYE VSVTTEPAA	LELAVKRGH	INHVIVCGHSL	CKAINTL	NTHECP - ·			125
CA	87 VEFTCMDSRMIP IRFTETHVGDMEV	VRN AGNL	VPHAEHFQD-	EYFSCEPAA	LELGCVVNK		CKAMNLL	KLKDPE			170
BCA	35 AFFTCMDSRMIP TRFTETHVGDMFV	VENAGNL	I PHEONEED	ELAMCEDAA				CL DEEE			110
	38 VL FACMDARMTP L SF TQ TEAGDMYV	VRNGGNM'	VPPATHEGA-	CODE - VI VATEPAA		KHALVCGHS	CKAMSTL	KMHIHP.			125
neri-BCA1	35 VMF TCMDSRMLP TRF TQSQVGDMFV	· · · · · · · · · · · · · · · · · · ·	IPDAPNYGA-	F-SFVSVNTEPAA	LELAVKRGG		CKAINTL	GLHOCP -			121
neri-BCA2	35 VMF TC MD S RML P TR F TQ SQ VG DMF V 38 VF F TC MD S RML P AR I TS SQ VG DMF V 35 VMF TC MD S RML P TR F TQ SA VG DMF V 38 VF F TC MD S RML P AR I TS SQ VG DMF V 38 VF F TC MD S RML P AR I TS SQ VG DMF V 35 VMF TC MD S RML P TR F TQ SR VG DMF V 38 VF F TC MD S RML P AR I TS SQ VG DMF V 38 VF F TC MD S RML P AR I TS SQ VG DMF V 37 VL F T C MD S RML P AR I TS SQ VG DMF V 37 VL F T C MD S RML P AR I TS SQ VG DMF V 38 VF F TC MD S RML P AR I TS SQ VG DMF V 37 VL F T C MD S RML P AR I TS SQ VG DMF V 37 VL F T C MD S RML P AR I TS SQ VG DMF V 37 VL F T C MD S RML P AR I TS SQ VG DMF V 38 VF F TC MD S RML P AR I TS SQ VG DMF V 38 VF F TC MD S RML P AR I TS SQ VG DMF V 38 VF F TC MD S RML P AR I TS SQ VG DMF V 38 VF F TC MD S RML P AR I TS SQ VG DMF V 38 VF F TC MD S RML P AR I TS SQ VG DMF V 38 VF F TC MD S RML P AR I TS SQ VG DMF V 38 VF F TC MD S RML P AR I TS SQ VG DMF V 38 VF F TC MD S RML P AR I TS SQ VG DMF V 38 VF F TC MD S RML P AR I TS SQ VG DMF V 38 VF F TC MD S RML P AR I TS SQ VG DMF V 38 VF F TC MD S RML P AR I TS SQ VG DMF V 38 VF F TC MD S RML P AR I TS SQ VG DMF V	· · · · · · · · · · · · · · · · · · VRN SGNM	IPHANNYGP -	SGYE VSVTTEPAA	LELAVKRGK	INHVIVCGHSD	CKAINTL	NLHKCP -		i	125
sae-BCA1	35 VMF TCMDSRMLP TRF TOSAVGDMFV	VRNAGNM	IPAAPNYGS-	Y-SEVSINTEPAA	LELAVKRGK	IRHVVVCGHSD		OLHOCP -		7	121
sae-BCA2	38 VFFTCMDSRMLPARITSSQVGDMFV	VRN SGNM	IPHANNYGP -	SGYE VSVTTEPAA	LELAVKRGK	INHVIVCGHSD	CKAINTLY	NLHKCP			125
ns-BCA1	35 VMFTCMDSRMLPTRFTQSQVGDMFV	<mark>V RN</mark> AGN M	IPDAPNYGA-	F-SEVSVNTEPAA	LELAVKRGG	I RH I V <mark>V</mark> C GH SE	CKAINTLY	GLHQCP-			121
ns-BCA2	38 VFFTCMDSRMLPARITSSQVGDMFV	VRN SGN M	IPHANNYGP -	SGYE VSVTTEPAA	LELAVKRGK	INHVI <mark>V</mark> CGHSD	CKAINTLY	(N L H K C P - ·			125
nei-BCA1	35 VMF TCMD S RML P T R F TQ S R V G D M F V	<mark>V RN</mark> AGN M	IPEAPTYGT-	S-SEVSVTTEPAA	LELAVKRGG	I RH V V <mark>V C GH</mark> S [CKAINTLY	(RLHQCP-·	********	***** (121
nei-BCA2	38 VFFTCMDSRMLPARITSSQVGDMFV	<mark>VRN</mark> SGN <mark>M</mark>	IPHANNYGP -	SGYE VSVTTEPAA	LELAVKRGK	INHVIVCGHSD	CKAINTLY	(N L H K C P		*****	125
us-BCA	35 VF F TCMD S RM I P TR F TE TN VGDM F V	VRN PGN V	VPHSQHFGD-	E F TMC E S A A	LELGCVVND	IRHVIVCGHSD	CKAMNLLY	ALRDEE	*********		118
tus-BCA	35 VFFTCMDSRMIPTRYTDTHVGDMFV	VRNAGNL	VPHAEHFQD-	EYFSCEPAA	LELGCVVNN	IKHIIVCGHSD	CKAMNLLY	QL RDPQ			118
CA	35 I F Y TCMD S RM I P TR F TE TC VGDMF V	I I I I I I I I I I I I I I I I I I I	IPHSRHFVD-	EMTSCEPAG	LELSCIVND	KHVIVCGHSL		KLKSAD-			118
CA BCA	35 V F F TCMD S RML P T R F TQ TD VGDMF I 35 V F F TC I D S RML P T R F TQ TN VGDMF I		VPHSKLTGI-		LELGCIVNN						110
sae-BCA	35 VF FTC TD S RM I P T RFTQ I N VGDM FT	VPNAGNI									110
e-BCA	35 VEETCMDSRMIP TRY TD THVGDMEV	VRNAGNI	I PHAOHEOD -	ETT SCEPAA							118
-BCA	35 VEETCMDSBMIP TRY TD THVGDMEV	VRNAGNI	IPHAHHEHD-	EYESCEPAA			CKAMNIL	OL BDPF -			118
ster-BCA	35 VFFTCMDSRMIPTRYTDTHVGDMFV										
is-BCA	35 VEETCMDSRMIP TRYTDTHVGDMEV	VRNAGNL	IPHAOHFOD-	EYESCEPAA	LELGCVVND	IBHIIVCGHSD	CKAMNLLY	OL RDPD - ·			118
-BCA	35 VFFTCMDSRMIP TRYTDTHVGDMFV	VRNAGNL	IPHAQHFOD -	EYFSCEPAA	LELGCVVND	IRHIIVCGHSE	CKAMNLLY	QLRDPE			118
scura-BCA	35 VFFTCMDSRMIP TRYTDTHVGDMFV	VRNAGNL	IPHAQHFQD -	EYFSCEPAA	LELGCVVND	IRHIIVCGHSE	CKAMNLLY	QLRDPE - ·			118
BCA	35 VFFTCMDSRMIP TRYTDTHVGDMFV	VRNAGNL	I PH AQH F QD -	EYFSCEPAA	LELGCVVND	I RH I I VCGH SE	CKAMNLLY	QLRDPD		;	118
	35 VFFTCMDSRMIPTRYTDTHVGDMFV	VRNAGNL	IPHAQHFQD-	EYFSCEPAA	LELGCVVND	IRHIIVCGHSD	CKAMNLLY	QLRDPD	*********	*****	118
BCA	35 VFFTCMDSRMIP TRYTDTHVGDMFV	VRNAGNL	TPHAQHEQD-	EYFSCEPAA	LELGCVVND	RHIIVCGHSL	CKAMNLLY	QL RDPE			118
CA CA	35 VFFICMUSRMIP IKTIDIHVGDMFV	VRSACOV	I COTEL	ETFSCEPAA	LELGCVVND			QL RDPD			118
a-BCA	46 TULCCSDSRAPP ETLENVNEGDIEV	VPSAGGV	IGOTEL		VEYOVTHLK		CGAC TAAC			22222	117
BCA	35 VF F TC MD S RM I P - T RY TD TH VG DM F V 35 VF F TC MD S RM I P - T RY TD TH VG DM F V 35 VF F TC MD S RM I P - T RY TD TH VG DM F V 35 VF F TC MD S RM I P - T RY TD TH VG DM F V 46 TV I C SD S RAP P - E YL FN VN F GD I F V 46 TV I C SD S RAP P - E YL FN VN F GD I F V 46 TI I C C SD S RAP P - E YL FN VN F GD I F V 46 TI I C C SD S RAP P - E YL FN VN F GD I F V 47 T I C C SD S RAP P - E YL FN VN F GD I F V 46 TV I C SD S RAP P - E YL FN VN F GD I F V 47 T I C C SD S RAP P - E YL FN VN F GD I F V 47 T I C C SD S RAP P - E YL FN VN F GD I F V 48 T I C C SD S RAP P - E YL FN VN F GD I F V 49 T I C C SD S RAP P T R FT T V C DM F V 40 T I C C SD S RAP P T R T T T T T T T T T T T T T T T T	VRSAGGV	IGOTEL		VEYGVTHLK	TPLIVVLSHTS	CGAC TAAC	CKHAH			117
omene-BCA	35 I F Y TCMD S RM I P TR F TE TS VGDMF V	VRNAGNL	IPHSEHFVD-	EMTSCEPAG	LELSCIIND	IKHVIVCGHSD	CKAMNLLY	KLKSDK-			118
BCA	38 VMFSCMDSKLVI TKMINQDVGYMFL	<mark>V RN</mark> AGN L	IPNNDSLSF -	DSVTT <mark>EPA</mark> A	LELGCIINN	I H H V V <mark>V C G H</mark> S C	CKAMNAL	GMMDSV-			121
tifiliis-BCA	35 LWIGCSDSRVAA ERLTGMIPGELFV	H <mark>RN</mark> VA <mark>N</mark> Q'	VI <mark>H</mark> TDLN-C-	L <u>S</u> V	IQYAVDVLN	I KD I I <mark>V</mark> CGHYI	CGGVAAS	AN P K		(109
-BCA 1	35 IF YTCMDSRM I P - TRFTETSVGDMFV	H <mark>RN</mark> IA <mark>N</mark> I	VCNSDLN-A-	L <mark>A</mark> V	IQYAIDCLK	VEHVI <mark>V</mark> S <mark>GH</mark> YH	C <mark>GGVTAAL</mark>	HEDR		?	180
-BCA 1	106	HRNIANI'	VCNSDLN-A-	L <mark>A</mark> V	IQYAIDCLK	VEH V I <mark>V</mark> S <mark>GH</mark> Y I	C <mark>GGVTAAL</mark>	HEDR			180
4 1	LO6 L W I G C S D S R V P A N E I V G L Y P G D I F V	HRN IAN I	VCNSDLN-A-	LAV	IQYAIDCLK	VEHVIVSGHYI	CGGVTAAL	HEDR			180
BCA 1		VDNDCN I		DTDADEDAC	I C C C V V I C	KNVVVCCUS	CGGVIAAL	HEDR			120
nis-BCA1 CA		VRNACNU		SRIPAPEPAG							110
is-BCA	35 VI VACVDC BIMP ETYMSSEPGDMEV	VETAGNI	PHAKLYGD.	VGSCSELAA	LOMALOFGKY	/ENV/VCGHSN	CKGMTELI	SHDSB			117
lla-BCA1	50 LLIGCSDSRAPP NELTETDPGEIFI	HRN LANLI	MIPTDLN-S-	NCV	IOYAVEHLN	IHS I I VMGH TO	CGGIKAAN	11005			124
ia-BCA2	50 LLIGCSDSRAPP NEITETDPGEIFI	HRN AN V	VVPTDLN-I-	NCV	IOYALEHLKY	VHN I VIMGH TH	CGGVKAAN	1KODS			124
lia-BCA3	50 LL IGC SDSRAPP NEL TE TDPGEIFI	HRNIANL	VIPTDLN-L-	NCV	IQYAVEHLN	I H S I I VM <mark>GH</mark> TO	CGGIKAAN	1AQDS			124
lia-BCA4	50 L L I G C S D S R A P P N E I T E T D P G E I F I	H <mark>RN</mark> IA <mark>N</mark> I	VIPTDLN-I-	NCV	IQYAIEHLKY	VHNIIVMGH TO	C <mark>GGIKAAN</mark>	1KQDS			124
lia-BCA5	50 LL IGCSDSRAPP NEL TETDPGEIFI	H <mark>RN</mark> IANL	VIPTDLN-L-	<u>-NCV</u>	IQYAVEHLH	I H N I V <mark>V M G H</mark> T (CGGVKAAN	1 TQDS		нының (124
alevskii-BCA	38 I L F TC MD S R ML P T R F C Q T N V G D M F M	<mark>VRN</mark> AGNL	IPHSELFCG-	D S L N T E P A A	LELACIKND	VNHVI <mark>V</mark> CGHSD	CKAMNCLY	(G <mark>I</mark> RNVT - ·		нының ў	121
i-BCA	34 AVVACVDSRVLTSKLLCSNVGELFI	E RN PGN F'	VCCEKSSLEH	F NENCVTPGF	LELTLLRCR	INDIIICGHSE	CRAMNLL	INLGKCKH	EKSHSYLAHHEI	HQPIN	136
	35 VFF ICMDSRMIP IRFIEINVGDMFVEPI	KHYVSDSLIEFIFSVRNPGNV	VPHSRHFVD-	EFIMCESAA	LELGCVVND	KHVIVCGHSL	CKAMNLLY	ALRDEE			135
ima-BCA	45 VFFTCTDSRMTPTRFTMTNVGDMLT	IRNAGNL	IPHASSYDP-		LELGCVINN	I KDV I VCGHSL	CKAIGILE	IGL RDPA - ·			128
rpuratus-BCA	43 VLVICOCDCRUPA - SKIFKAERGELLI		VPHSCKCEPS	EGSEAPAFPSGELAG			CRAGEAL			PIG.	130
phila-BCA1 phila-BCA2	52 LWIGCSDSRVPA EAL TGLGPGQVPV		LIVIDIN A		IQTAVDILK		CGGVKAA				120
phila-BCA2 phila-BCA3	60 I WIGCSDSRVPA - FRI TGTYPGFI FV			LSV	VOFAVDVIKY	KHILICGHY	GGVNAA				134
phila-BCA3	74 I WIGC SDSRVAAERI TG THPG ELEV		VIH TOLN-C-	ISV	VOFAVDVLK	KHVIVCGHY	GGVAAS				148
phila-BCA5	65 LWIGCSDSRVPA ETLTGLGPGOVEV		I IH TDLN - A-	ISV	VOYAVDVIK	KHILICGHY	GGVKAA	ENPK			139
phila-BCA6	38 LWIGCSDSRVSA EOLTSLOPGDIIV		VIHTDLN-C-	LSA	IOGAVDEHK	VEHIIVCGHY	GGVKAAN	/ENPN			112
phila-BCA7	74 LWIGCSDSRVPV EKLVGLGPGEVEV	HRNVANO'	VIHTDLN-C-	LSV	IQYAVEVLK	KHILICGHY	CGGVAAAF	DNP0			148
phila-BCA8	18 LWIGCVDSRVSP ERLTGMLPGQLFV	QRNVGNQ	VIHTDLN-C-	LSV	VQYAVEVLK	RHIIVCGHYM	CSSVKIA	TNQQ			92
n-BCA	35 VFFTCIDSRMIP TRFTQTNVGDMFV	· · · · · · · · · · · · · · · · · · ·	IPHSQHFLD-	E L T T N <mark>E P A</mark> A	LELGCVVND	IRHIIVCGHSD	CKAINLLY	KLQDSE -			118
A	35 ILFSCVDARLITSRVMQLDIGDAYM	VK <mark>N</mark> PGNM	I PC TY TCG TK	LQQN AAGLSAL <mark>A</mark> S	I EL AC L MKN	KD I V <mark>VCGH</mark> SE	C S AMN L L F	SMEQRD -	*********		123
is-BCA1	33 A I V TCMD TRL VN F AEDA I G V KRGEA TV	I KAAGNG	IWTTGLSDI-	VVS	LLVSIYELG	VQEIFIMGHEO	CGMTHAS	TDSLGAQM.	*********	- LKSG	117
is-BCA2	36 VLF TC MD S R I H P T R F TE T N V G M F V	IKAAGNG	VWITGLSDT-	VVS	LLVSIYELG	AKEIFVIGHE	GMTHATS	SDSLSLAM.		- IKAG	117
-BCA <i-bca< td=""><td>36 IF I TCMDSR VFP SN IAS IAPGESFI 38 LFFTC IDSRMLP SRFTQ TN VGDMYI</td><td>VRNVCNV</td><td>IDUCUMYDD</td><td> RWIPAEAAA</td><td>MDLACVTCS</td><td></td><td></td><td></td><td></td><td></td><td>125</td></i-bca<>	36 IF I TCMDSR VFP SN IAS IAPGESFI 38 LFFTC IDSRMLP SRFTQ TN VGDMYI	VRNVCNV	IDUCUMYDD	RWIPAEAAA	MDLACVTCS						125
-DCA				ENERGIVIIEPAA	MULACVIUS		LAPINILS	STIDEC -			120

EIW34693_Pelosinus_fermentans-F4WAG3 Acromyrmex echination 19K706 Acyrthosiphon pisum-BCA C4WVD8_Acyrthosiphon_pisum-Be [9]ZY3_Acyrthosiphon_pisum-BCA D4NWE5_Adineta_vaga-BCA2 Q17N64_Aedes_aegypti-BCA FC551456 Ancylostoma caninum E3X5Q8 Anopheles darlingi-BCA Q5TU56_Anopheles_gambiae-BCA H9KS29_Apis_mellifera-BCA F1LE18 Ascaris suum-BCA GOMSW4_Caenorhabditis_brenne GOMRG1_Caenorhabditis_brennel A8XKV0 Caenorhabditis briggsae A8WN21 Caenorhabditis briggsa Q22460 Caenorhabditis_elegans-Q2YS41_Caenorhabditis_elegans-E3LDN3_Caenorhabditis_remanei E3MK96_Caenorhabditis_remane C1C2M7 Caligus clemensi-BCA E2ANQ9_Camponotus_floridanus-BOWKV7_Culex_quinquefasciatus G6D7Z4 Danaus plexippus-BCA E9GLB5_Daphnia_pulex-BCA [3]TM9 Dendroctonus ponderosa B3LZ10_Drosophila_ananassae-B B3P1V8_Drosophila_erecta-BCA B4JHY1_Drosophila_grimshawi-BC Q9VHJ5 Drosophila melanogaste B4KDC1_Drosophila_mojavensis-L B4GFA1_Drosophila_persimilis-BC Q296E4 Drosophila pseudoobscu B4HKY7_Drosophila_sechellia-BC B4QXC5_Drosophila_simulans-BC B4LZE7_Drosophila_virilis-BCA B4NBB9_Drosophila_willistoni-BC B4PTY0 Drosophila yakuba-BCA B0E7M0_Entamoeba_dispar-BCA C4LXK3_Entamoeba_histolytica-B K2GQM0_Entamoeba_nuttalli-BCA E2B2Q1_Harpegnathos_saltator-E HMEL015257_Heliconius_melpom EY481200 Hirudo medicinalis-BC G0QPN9_Ichthyophthirius_multifil E9B8S3_Leishmania_donovani-BC A4HSV2_Leishmania_infantum-BC Q4QJ17 Leishmania major-BCA E9AKU0_Leishmania_mexicana-B D3PI48_Lepeophtheirus_salmonis K7IWK8 Nasonia vitripennis-BCA A7S717 Nematostella vectensis-A0BD61_Parameclum_tetraurella A0E8J0_Paramecium_tetraurelia-A0CEX6_Paramecium_tetraurelia-A0BDB1_Paramecium_tetraurelia A0C922 Paramecium tetraurelia-187043763_Saccoglossus_kowale G4V6B2_Schistosoma_mansoni-B E9IP13_Solenopsis_invicta-BCA SMAR006741_Strigamia_maritim H3I177_Strongylocentrotus_purpl Q22U21_Tetrahymena_thermoph Q22U16_Tetrahymena_thermoph I7MDL7_Tetrahymena_thermophi I7LWM1 Tetrahymena thermoph I7M0M0_Tetrahymena_thermophi I7MD92_Tetrahymena_thermophi 17M748 Tetrahymena thermophi Q23AV1_Tetrahymena_thermoph D6WK56_Tribolium_castaneum-B E5SH53_Trichinella_spiralis-BCA A2ENQ8_Trichomonas_vaginalis-A2DLG4 Trichomonas vaginalis-I B3S5Y1_Trichoplax_adhaerens-B0 117195962_Xenoturbella_bocki-BCA EIW34693_Pelosinus_fermentans-BCA F4WAG3 Acromyrmex echinatior-BCA 19K706 Acyrthosiphon pisum-BCA1 C4WVD8 Acyrthosiphon pisum-BCA2 J9JZY3_Acyrthosiphon_pisum-BCA3 D4NWE5 Adineta vaga-BCA2 Q17N64_Aedes_aegypti-BCA FC551456 Ancylostoma caninum-BCA E3X5Q8 Anopheles darlingi-BCA Q5TU56 Anopheles gambiae-BCA H9KS29_Apis_mellifera-BCA F1LE18 Ascaris suum-BCA G0MSW4 Caenorhabditis brenneri-BCA1 G0MRG1 Caenorhabditis brenneri-BCA2 A8XKV0_Caenorhabditis_briggsae-BCA1 A8WN21 Caenorhabditis briggsae-BCA2 Q22460 Caenorhabditis elegans-BCA1 02YS41 Caenorhabditis elegans-BCA2 E3LDN3_Caenorhabditis_remanei-BCA1 E3MK96_Caenorhabditis_remanei-BCA2 C1C2M7 Caligus clemensi-BCA E2ANO9 Camponotus floridanus-BCA BOWKV7_Culex_quinquefasciatus-BCA G6D7Z4_Danaus_plexippus-BCA E9GLB5 Daphnia pulex-BCA [3]TM9_Dendroctonus_ponderosae-BCA B3LZ10 Drosophila_ananassae-BCA B3P1V8_Drosophila_erecta-BCA B4JHY1_Drosophila_grimshawi-BCA 09VHI5 Drosophila melanogaster-BCA B4KDC1 Drosophila mojavensis-BCA B4GFA1 Drosophila persimilis-BCA Q296E4_Drosophila_pseudoobscura-BCA B4HKY7 Drosophila sechellia-BCA B4QXC5 Drosophila simulans-BCA B4LZE7_Drosophila_virilis-BCA B4NBB9_Drosophila_willistoni-BCA B4PTY0 Drosophila yakuba-BCA B0E7M0_Entamoeba_dispar-BCA C4LXK3_Entamoeba_histolytica-BCA K2GQM0_Entamoeba_nuttalli-BCA E2B2Q1_Harpegnathos_saltator-BCA HMEL015257_Heliconius_melpomene-BCA EY481200 Hirudo medicinalis-BCA GOOPN9 Ichthyophthirius multifiliis-BCA E9B8S3_Leishmania_donovani-BCA A4HSV2_Leishmania_infantum-BCA Q4QJ17 Leishmania major-BCA E9AKU0_Leishmania_mexicana-BCA D3PI48_Lepeophtheirus_salmonis-BCA1 K7IWK8_Nasonia_vitripennis-BCA A7S717 Nematostella vectensis-BCA A0BD61 Paramecium tetraurelia-BCA1 A0E8J0 Paramecium tetraurelia-BCA2 A0CEX6_Paramecium_tetraurelia-BCA3 A0BDB1_Paramecium_tetraurelia-BCA4 A0C922 Paramecium tetraurelia-BCA5 187043763 Saccoglossus kowalevskii-BCA G4V6B2_Schistosoma_mansoni-BCA E9IP13_Solenopsis_invicta-BCA SMAR006741 Strigamia maritima-BCA H3I177_Strongylocentrotus_purpuratus-BCA 1 Q22U21_Tetrahymena_thermophila-BCA1 Q22U16_Tetrahymena_thermophila-BCA2 I7MDL7_Tetrahymena_thermophila-BCA3 I7LWM1 Tetrahymena thermophila-BCA4 I7M0M0_Tetrahymena_thermophila-BCA5 17MD92 Tetrahymena thermophila-BCA6 I7M748_Tetrahymena_thermophila-BCA7 Q23AV1 Tetrahymena thermophila-BCA8 D6WK56 Tribolium castaneum-BCA E5SH53_Trichinella_spiralis-BCA A2ENQ8_Trichomonas_vaginalis-BCA1 A2DLG4_Trichomonas_vaginalis-BCA2 B3S5Y1 Trichoplax adhaerens-BCA 117195962_Xenoturbella_bocki-BCA

122 I S PDA I KM I E K E L ED WL DN FH	NVKEVVEKIRKNPLIP162
119 - FASQASRRMSPLKAWLCAHASSSLIKFQHLEIIGF - HEPILFQ-GEMSLRKFVAYIDPEDKFAIEDKLSQI-	NTLOOLONISSYGFLKKRLERH 209
119 - TGS TVNRRKSPL RAWLCSHAMSSLEKTQQLEAAGF GTPL VFQ-AE TPLRRTSAT TPPEDKLSV TDKLSQV	NTLOQUONIASYDELKKRLETY 209
119 - ASTONREMSPERSWECTHATSSEEKTQQLEAAGF DTPLTFQ-AETPLERETATIOPEDERSVTDRESQV	
	NTLOOLENCASHGELTEELEKK
	NTLOOLENLASYGELKERLESH
119 - FASEDNRR I SPL RAWLCEHANTSLAKFON I KEIGL DKPL I FS - SETPL RKEVATI DENNFALEDKL SOV	
119 J ASKVNRR ISPLKAWI CAHASNSI TREOLEISDE RDPLLEO GETSI RKEVAY IDPEDKEGVEDKI SOL	
126 KDEDEKSPLDHWYRKHGYVSLHKLDORLKEGPSCRLEFA-ENSPLHSFKALIDPENKLGVEDKLSOL	N TLOOMAN I TTHGELAKLINEK 213
122 KN FDVTSPMDHWVRRNGFASVKRLNERLHLGPSNMSFES-EVSPSOSFEALDPMDRLPVEDKLSOL	NVLOOLINICSHEFLKEYLESG 209
126 K S F D P E S P M D H WL R R H G F N S I K K L E K R L A D K K A G P I Q F V - S D N P L F S F Q A V I D P E D K L N V E D K L S Q I	NTLOOLENVASHGFLKEFLESQ 213
122 TKFDVSSPMDQWLRRNGFESMKKLNERLHIGP KTMKFES - EVAPSQSFEAIIDPMEKWSAEDKLSQI	NVLQQIMNISTHEFLKDYLEAG209
126 KSFDPESPMDHWLRRHGFNSIKKLEKRLADKK AGPIEFV - SDNPLFSFQAIIDPEDKLNVEDKLSQI	N TLQQLENVASHGFLKEFLESQ213
122 KNFDVTSPMDHWVRRNGFASVKRLNERLHRGP SSMKFES-EVAPSQSFDAIIDPMDTLAMEDKLSQI	NVLQQLINICSHEFLKEYLESG209
126 KSFDPESPMDHWLRRHGFNSIKKLEKRLADKK AGPIGPV - SDNPLFSFQAVIDPEDKLNVEDKLSQI	NTLQQLENVASHGFLKEFLVSQ 213
122 KEEDPSSPMDNWVRRSGYSS IKRLNER IHRGP SIMKPDS - EVAPSQSFEAIIDPMDKLSAEDKLSQVNIFQQTDNPVFICFQI 126 KSFDAESPMDHWLRHGFNSIKKLEKRLADKT AGPIEFV - SDNPLFSFQAIIDPEDKLNVEDKLSQI	NVLQQLVNICSHQILQEHLESG225
126 KSFDAESPMDH <mark>WL</mark> RRHGFNSIKKLEKRLADKT AGPIEFV-SDNPLFSFQAIIDPEDKLNVEDKLSQI	NTLQQLENVASHGFLKEFLESQ 213
122 - GWSEEELLQSPLKA <mark>WL</mark> YKHGMDSLNKLNDKLTS - P ESPLTFM KDTQHEF <mark>EANMD</mark> NKLLESDQ <mark>L</mark> SQI	NTLVQIENIYSYGFMKERMDQH208
119 - FASQTNRRISPLRAWLCAHASSSLTKFQHLEVAGFHEPIIFQ-AETPLRKFVAYIDPEDKFAIEDKLSQI	N TLQQLQN I ASYGFLKKRLERH 209
119 - FASRKNRRISPLRAWLCEHADTSLEKFONLOETGLDKPIIFS-SETPLRKFVAYIDPENOFAIEDKLSQV	N TLQQIENIASYGFLKKRLESH 209
119 - ESNLEQRRISPLKSWLCAHGRSSLNKFLDVRG-DFNKPILFS-AEIPQRKFVAYIDPPNQFCIEDKLSQV	NTLOOLONIASYGMLKKRLEKH 208
119 - EINMRILERSPLKAWLARHGSISLIKFERLEVHGF QQPLIFP-MEGPFRQFVAYIDPDNKFSLIDRLSQL	NTLOOLOHTASYSFIQSAINSG 209
119 - FASKENRRLSPLRSWLC IHAQSSIDIFNELEKHNY DKPLLFQ-GETPLRKFAAY IDFEKFSIEDRLSQI	NTLOQUONTASYGELKKRLERN 209
119 - FASKLNRKLSPLRSMMC (HASISLEKRCEWRDAGM - KDPLLFS-SETPLRKFVAT IDECKFAVEDKLSQI-	NTLOOMSNIASYGELKARLESH 209
119 - FASKLNRKLSPLKSWLC IMANISLERFQEWRDAGM - KDPLIFS-SEIPLKRFVATIDEQKFILEDKLSQI	
119 - FASQ TNRR I SPLRAWL CAHASSSL TKFQHL E VAGF HEP I I FQ - AE TPLRK FVAY I DPENKFA I EDKL SQ I	
119 - FASKLNRRLSPLRSWLC THAN ISLERFQEWRDAGM	N TLQOMSN VASTGELKSKLESH 209 N TLQOMSN IASYGELKARLESH 209
119 - FASKINRRES ERSWICTHANTSIEKEOFWIDAGM KDPIEES, SETPIRREVAY IDSEKEA IEDKI SOL	
119 - FASKINRRI SPIRSWICTHANTSI FKFOEWHDAGM - KDPIFFS-SETPIRREVAY IDSEKKFA I FDKI SOL	
119 - FASKINERI SPLESWICTHANTSIERFOEWEDAGMKDPLIES-SETPLEREVAY IDEEOKEALEDKI SOL	N TLOOMSNIASYGELKABLESH 209
119 - FASKLNRRLSPLRSWLCTHANTSLERFOEWRDAGM KDPLIFS - SETPLRRFVAYIDEEOKFALEDKLSOI	NTLOOMSNIASYGFLKARLESH
119 - FASKLNRRLSPLRSWMCTHANTSLEKFOEWRDAGMKDPLIFS-SETPLSRFVAYIDEENKFAIEDKLSOI	N TLOOMSNVASYGFLKTRLETH 209
119 - FASKLNRRLSPLRSWLCTHANTSLEKFQEWRDAGMNDPLLFS-SESPLRRFVAYIDKDQKFAIEDKLSQI	NTLQQMSNIASYGFLKARLESH209
119 - FASKLNRRLSPLRSWLCTHANTSLERFQEWRDAGMKDPLIFS-SETPLRRFVAYIDEEQKFALEDKLSQI	NTLQQMSNIASYGFLKARLESH209
110 SENAL SDEIF FALKC	SAIQHAEYLRSNPLLQPLIKQG 168
118 SENALSAL SDL IP I AEKC NND I ISTCIQ	SATQHAEYLRSNPLLQPLIKQG 168 SAVQHAEFLRSNPLLQPLIKQG 168
118 SENALSAL SDL IP I AEKC NND I HS TC I Q 118 SENALSSIL SDL IP I AEKC NND I HS TC I Q	SATQHAEYLRSNPLLQPLIKQG
119 - FASKLNRRLSPLRSWLCTHANTSLEKFQEWRDAGM - KDPLIFS - SETPLSRFVAYI DEEQKFALEDKLSQI 119 - FASKLNRRLSPLRSWLCTHANTSLEKFQEWRDAGM - KDPLIFS - SETPLSRFVAYI DEENKFAI EDKLSQI 119 - FASKLNRRLSPLRSWLCTHANTSLEKFQEWRDAGM - NDPLLFS - SESPLRRFVAYI DEEQKFALEDKLSQI 119 - FASKLNRRLSPLRSWLCTHANTSLEKFQEWRDAGM - KDPLIFS - SETPLSRFVAYI DEEQKFALEDKLSQI 118 - SENALSSILSDLIPIAEKC - NNDIKSTCIQ 118 - SENALSSILSDLIPIAEKC - NNDIKSTCIQ 119 - FASQMNRRISPLRAWLCAHASSSLAKFQHLEVAGF - HEPIIFQ - AETPLRKFVAYI DPEDKFAI EDKLSQI 119 - FASQMNRRISPLRAWLCAHASSSLAKFQHLEVAGF - HEPIIFQ - AETPLRKFVAYI DPEDKFAI EDKLSQI	SA I QHAEY L RSN PL L QPL I KQG
118 SENALSAILSDLIPIAEKC NNDIHSTCIQ 118 SENALSAILSDLIPIAEKC NNDIHSTCIQ 119 FASQMNRRISPLRAWLCAHASSSLAKFQHLEVAGF HEPIIFQ-AETPLRKFVAYIDPENKFALEDKFAIEDKLSQI 119 - ESNLEQRRISPLKSWLCTHGKTSLNKFLDIKG-DF EKPMLFT-GETPQRKFVAYIDPENRFCIEDKLSQV	SA I QHAEYL KSN PL QPL I KQG 168 SA VQHAEFL RSN PL QPL I KQG 168 SA VQHAECL RSN PL QPL I KQG 160 N TLOQ LQN VASYGEL KKRLE RH 209 N TLOQ LQN I ASYGML KKRLE KH 209
118 SENALSAILSDLIPIAEKC NNDIHSTCIQ 118 SENALSAILSDLIPIAEKC NNDIHSTCIQ 119 FASQMNRRISPLRAWLCAHASSSLAKFQHLEVAGF HEPIIFQ-AETPLRKFVAYIDPEDKFAIEDKLSQI 119 FSNLEQRRISPLKSWLCHGKSSLKKFLQLIKG-DF EKPMLFT-GETPQRKFVAYIDPEDKFAIEDKLSQI 119 FSNLEQRRISPLKSWLCHGKSSLKKFLQAGG VGPIKFQ-AETPEKIFDAYIDVENQFKPVDLSQV 122 QKHEGTPLQIWLKRHGARTLVKYKELLQAGG VGPIKFQ-AETPEKIFDAYIDVENQFKPVDLSQV	SA I QHA EY L RSN PL L QPL I KQG 168 SA VQH AE FL RSN PL L QPL I KQG 168 SA VQHAEC L RSN PL L QPL I KQG 168 N TLQQ L QN VAS YGFL K KR LE RH 209 N TLQQ L QN I AS YGFL K KR LE RH 208 N TLQQ L QN I AS YGFL K KK LE I G 208 N TLQQ L QN I AS YGFL K KR LE RH 208
118 SENALSAILSDLIPIAEKC NNDIHSTCIQ 118 SENALSAILSDLIPIAEKC NNDIHSTCIQ 118 SENALSSILSDLIPIAEKC NNDIHSTCIQ 119 FASQMNRRISPLRAWUCAHASSSLAKFQHLEVAGF HEPIIFQ-AETPLRKFVAYIDPEDKFAIEDKLSQI 119 FSNLEQRRISPLKSWUCTHGKTSLNKFLDIKG-DF EKPMLFT-GETPQRKFVAYIDPENRFCIEDKLSQV 122 QKHEGTPLQIWUKRHGARTUVKYKELLQAGG VGPIKFQ-AETPEKIFDAYIDVENQFKVDKLSQV 110 I-GLINNWLHIRDIYLKH QVYLQKHPQDKIVNIMCEI	SA I QHAEY L RSN PL L QPL I KQG 168 SA VQHAEF L RSN PL L QPL I KQG 168 S AVQHAEC L RSN PL L QPL I KQG 168 N TLQQ L QN VAS YGF L K KR L E RH 209 N TLQQ L QN I AS YGF L K KR L E RH 208 N TLQQ L QN I AS SYGF L K KR L E I G 208 N TLQQ L QN I AS SYGF L K KR L E I G 208 N TLQQ L QN I AS SYGF L K KR L E I G 208 N V L Q V YN L GN ST I I QG AWD RG 168
118 SENALSAILSDLIPIAEKC NNDIHSTCIQ 118 SENALSAILSDLIPIAEKC NNDIHSTCIQ 119 FASQMNRRISPLRAWLCHASSSLAKFQHLEVAGF HEPIIFQ-AETPLRKFVAYIDPENKFAICU 119 - FASQNRRISPLKSWLCTHGKTSLNKFLDIKG-DF EKPMLFT-GETPQRKFVAYIDPENRFCIEDKLSQI 110 - ESNLEQRRISPLKSWLCHGKTSLNKFLDIKG-DF EKPMLFT-GETPQRKFVAYIDPENRFCIEDKLSQV 122 - QKHEGTPLQIWLKRHGARTLVKYKELLQAGG VGPIKFQ-AETPEKIFDAYIDVENQFKPVDKLSQV 110 - L-GLINNWLHIRDIYKH QYLQKHPQDKIVNIMCEI 181	SAIQHAEYLKSNPLOPLIKQG 168 SAVQHAEFLRSNPLOPLIKQG 168 SAVQHAEFLRSNPLOPLIKQG 168 NTLOQLONIASYGELKKRLERH 209 NTLOQLONIASYGELKKRLERH 208 NTLOQLONIASYFELKKRLERH 208 NTLOQLONIASYFELKKRLERG 208 NVIEQVYNLGNSTIJQGAWRG 168 NVIEQVYNLGNSTIJQGAWRG 255 VLAOMEHVVETHLIORVWSRONEDAAARRENRPSQ 255
118 SENALSAL SDL IP I AEKC IND IHSTC IQ 118 SENALSAL SDL IP I AEKC IND IHSTC IQ 119 FASQMNRR ISPLKSWLC AHASSSL AKFQHLEVAGF HEP I IFQ - AE TP LRKF VAY IDPENKFA I EDKLSQ I 119 FSNLEQRR ISPLKSWLC THGKTSLNKFLD I KG - DF EKPMLF T - GETPQRKF VAY IDPENRFC I EDKLSQ V 122 - QKHEGTPLQ IWL KRHGARTL VKYKELLQAGG VGP I KFQ - AE TP EK I FDAY ID VENQF KP VDKLSQ V 110 - L - GL INNWL LH I RDLYL KH QVY LQKHPQDK I VN IMCE I 181 - V - GLADH WI LH VSAVKKRHW RRML TELP TRNHLDALCEL 181 - V - GLADH WI LH VSAVKKRHW RRML TELP TRNHLDALCEL	SA I QHAEYL KSN PLLOPLIKQG 168 SAVQHAEFL SN PLLOPLIKQG 168 N TLOQLON VASYGFLKKRLERH 209 N TLOQLON I ASYGMLKKRLEKH 208 N TLOQLON I ASYMLKKRLEKH 208 N VIEO VYNLGNSTI I QGAWD RG 168 NV I EO VYNLGNSTI I QGAWD RG 168 N VLAQMEH VVE THLIQR VWSRON AED AAAKREN RP SQ 255 NVLAQMEH VVE THLIQR VWSRON AED AAAKREN RP SQ 255
118 SENALSSILSDLIPIAEKC NNDIHSTCIQ 118 SENALSSILSDLIPIAEKC NNDIHSTCIQ 119 FASQMNRISPLRAWLCAHASSSLAKFQHLEVAGF HEPIIFQ-AETPLRKFVAYIDPEDKFAIEDKLSQI 119 FSDLGRRISPLKSWLCTHGKTSLNKFLDIKG-DF EKPMLFT-GETPQRKFVAYIDPENRFCIEDKLSQV 122 QKHEGTPLQIWLKRHGARTLVKYKELLQAGG VGPIKFQ-AETPEKIFDAYIDVENQFKPVDKLSQV 110 L-GLINNWLHIRDLYLKH QVYLQKHPQDKIVNIMCEI 181 V-GLADHWILHVSAVKKRHW RRMLTELPTRNHLDALCEL	SA I QHAEY L KSN PL L QPL I KQG
118 SENALSAILSDLIPIAEKC NNDIHSTCIQ 118 SENALSAILSDLIPIAEKC NNDIHSTCIQ 119 FASQMNRRISPLRAWLCHAASSSLAKFQHLEVAGF HEPIIFQ-AETPLRKFVAYIDPENRFCIEDKFAIEDKLSQI 119 FASQNRRISPLRAWLCHASSSLAKFQHLEVAGF HEPIIFQ-AETPLRKFVAYIDPENRFCIEDKLSQI 119 FSNLEQRRISPLKSWLCHGKTSLNKFLDIKG-DF EKPMLFT-GETPQRKFVAYIDPENRFCIEDKLSQV 120 QKHEGTPLQIWLKRHGARTLVKYKELLQAGG VGPIKG-AETPEKIFDAYIDVENQFKPVDKLSQV 110 LGINNWLHIRDLYKH QYLQKHPQDKIVNIMCEI 181 V-GLADHWILHVSAVKKRHW RRMLTELPTRNHLDALCEL 181 V-GLADHWILHVSAVKKRHW RRMLTELPTRNHLDALCEL 181 V-GLADHWILHVSAVKKRHW RRMLTELPTRNHLDALCEL 181 V-GLADHWILHVSAVKRHW ROMONDENCHADUOLOGUL	SAIQHAEYLKSNPLOPLIKQG 168 SAVQHAEFLRSNPLOPLIKQG 168 SAVQHAEFLRSNPLOPLIKQG 168 NTLOQLQNIASYGFLKKRLERH 209 NTLOQLQNIASYGFLKKRLERH 208 NVIEQYNLGNSTIJQGAWDRG 168 NVIEQYNLGNSTIJQGAWDRG 168 NVLAOMEHVVETHLIQRVWSRONEEDAAAKRENRPSQ 255 NVLAOMEHVVETHLIQRVWSRNAEDAAAKRENRPSQ 255 NVLAOMEHVVETHLIQRVWSRNAEDAAAKRENRPSQ 255 NVLAOMEHVVETHLIQRVWSRNAEDAAAKRENRPSQ 255 NVLAOMEHVVETHLIQRVWSRNAEDAAKRENRPSQ 255 NVLAOMEHVVETHLIQRVWSRNAEDAAKRENRPSQ 255 NVLAOMEHVVETHLIQRWSRNAEDAAAKRENRPSQ 255 NVLAOMEHVVETHMIQRWWSRNAEDAAAKRENRPSQ 255 NVLAOMEHVVETHMIQRWWSRNAEDAAAKRENRPSQ 255 NVLAOMENVETHMINGNAMENNAEDAAAKRENRPSQ 255 NVLAOMENVETHMINGNAKANA 208
118 SENALSAILSDLIPIAEKC NNDIHSTCIQ 118 SENALSAILSDLIPIAEKC NNDIHSTCIQ 119 FASQMNRRISPLRAWLCAHASSSLAKFQHLEVAGF HEPIIFQ-AETPLRKFVAYIDPEDKFAIEDKKSQI 119 FSNLEQRRISPLKSWLCTHGKTSLNKFLDIKG-DF EKPMLFT-GETPQRKFVAYIDPENRFCIEDKLSQV 122 QKHEGTPLQIWLKRHGARTLVKYKELLQAGG VGPIKFQ-AETPEKIFDAYIDVENQFKPVDKLSQV 110 -L-GLINNWLHIRDLYKH QVYLQKHPQDKIVNIMCEI 181 -V-GLADHWILHVSAVKKRHW RRMLTELPTRNHLDALCEL 181 -V-GLADHWILHVSAVKKRHW RCMLTELPTRNHLDALCEL 181 -V-GLADHWILHVSAVKRHW RCMLTELPTRNHLDALCEL 181 -V-GLADHWILHVSAVKRHW RCMLTELPTRNHLDALCEL 181 -V-GLADHWILHVSAVKRHW RCMLTELPTRNHLDALCEL 181 -V-GLADHWILHVSAVKRHW RCMLTELPTRNHLDALCEL<	SAIQHAEYLKSNPLLOPLIKQG 168 SAVQHAEFLRSNPLLOPLIKQG 168 SAVQHAEFLRSNPLLOPLIKQG 168 NTLOQLONIASYGFLKKKLERH 209 NTLQQLONIASYGFLKKKLERH 208 NTLQQLONIASYGFLKKKLERH 208 NVIEQVNLSSHPFLKKKLEIG 208 NVIEQVNLGNSTIIQGAWDRG 168 NVLAOMEHVVETHLIQRVWSRONAEDAAAKRENRPSQ 255 NVLAOMEHVVETHLIQRVWSRONAEDAAAKRENRPSQ 255 NVLAOMEHVVETHLIQRVWSRONAEDAAAKRENRPSQ 255 NVLAOMEHVVETHLIQRVWSRON TEDAAAKRENRPSQ 255 NVLAOMEN IVETHLIQRVWSRON TEDAAAKRENRPSQ 255 NVLAOMEN IVETHLIQRVWSRON TEDAAAKRENRPSQ 208 NTLOOIONVASYGELKRE 208
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118 SENALSAILSDLIPIAEKC NNDIHSTCIQ 118 SENALSAILSDLIPIAEKC NNDIHSTCIQ 119 FASQMNRRISPLRAWLCHAASSSLAKFQHLEVAGF HEPIIFQ-AETPLRKFVAYIDPENRFCIEDKLSQI 119 FASQNNRRISPLRAWLCHAASSSLAKFQHLEVAGF HEPIIFQ-AETPLRKFVAYIDPENRFCIEDKLSQI 119 FSNLEQRRISPLKSWLCTHGKTSLNKFLDIKG-DF EKPMLFT-GETPQRKFVAYIDPENRFCIEDKLSQV 120 -QKHEGTPLQIWLKRHGARTLVKYKELLQAGG VGPIKG-AETPEKIFDAYIDVENQFKPVDKLSQV 110 -LGLINNWLHIRDLYKH QYLQKHPQDKIVNIMCEI 181 -V-GLADHWILHVSAVKKRHW RRMLTELPTRNHLDALCEL 181 -V-GLADHWILHVSAVKKRHW RUMLSELPTNHLDALCEL 181 -V-GLADHWILHVSAVKKRHW RUMLSELPTNHLDALCEL 181 -V-GLADHWILHVSAVKKRHW RU	SAIQHAEYLKSNPLOPLIKQG 168 SAVQHAEFLRSNPLOPLIKQG 168 SAVQHAEFLRSNPLOPLIKQG 168 NTLOQLQNIASYGFLKKRLERH 209 NTLOQLQNIASYGFLKKRLERH 208 NVIEQYNLGNSTIJQGAWRG 168 NVIAQMEHVVETHLIQRVWSRONEEDAAAKRENRPSQ 255 NVLAQMEHVVETHLIQRVWSRONEDAAAKRENRPSQ 255 NVLAQMEHVVETHLIQRVWSRONEDAAAKRENRPSQ 255 NVLAQMENVETHLIQRVWSRONEDAAAKRENRPSQ 255 NVLAQMENVETHLIQRVWSRONEDAAAKRENRPSQ 255 NVLAQMENVETHLIQRVWSRONEDAAAKRENRPSQ 255 NVLAQMENVETHLIQRVWSRONTEDAAAKRENRPSQ 255 NVLAQMENVETHLIQRVWSRONTEDAAAKRENRPSQ 255 NVLQOLMNISKSPFINSNEN 208 NTLVQOLQNINKSPFINSNEN 208 NTLQQLONINKNINKNPINSNEN 208 NTLQQLONINKNFFINSNEN 208 NVLQQLHNINKSFFFISNPLSKG 202 NVRAQMNINKNFNINLOKNFISNEN
118 SENALSAL SDL IP I AEKC NND IHSTC IQ 118 SENALSAL SDL IP I AEKC NND IHSTC IQ 119 FASQMNR ISPL RAWL CAHASSSL AKFQHLEVAGF HEP IIFQ - AETPLRKF VAY IDPENKFAI EDKLSQ I 119 FSNLEQRR ISPL KSWL CHGKTSL NKFLD I KG - DF EKPMLFT - GETPQRKF VAY IDPENKFAI EDKLSQ I 122 - QKHEGTPLQ IWL KRHGARTL VKYKELLQAGG VGP I KQ - AETPERIFDAY ID VENQFKP VDKLSQ V 122 - QKHEGTPLQ IWL KRHGARTL VKYKELLQAGG VGP I KQ - AETPERIFDAY ID VENQFKP VDKLSQ V 120 - L GL INNWL HI RDLYKH QYLQKHPQDK I VN IMCE I 181 - V - GLADHWI LH VSAVKKRHW RRML TELP TRNHLDALCEL 181 - V - GLADHWI LH VSAVKKRHW RRML TELP TRNHL DALCEL 181 - V - GLADHWI LH VSAVKKRHW RRML TELP TRNHLDALCEL 181 - V - GLADHWI LH VSAVKRHW RRML TELP TRNHLDALCEL 181 - V - GLADHWI LH VSAVKRHW RRML TELP TRNHLDALCEL 181 - V - GLADHWI LH VSAVKRHW RRML TELP TRNHLDALCEL 181 - V - GLADHWI LH VSAVKRHW RRML TELP TRNHLDALCEL 181 - V - GLADHWI LH VSAVKRHW RRML TELP TRNHLDALCEL 181 - V - GLADHWI LH VSAVKRHW RRML TELP TRNHLDALCEL 181 - V - GLADHWI LH VSAVKRHW </td <td>SA I QI A E Y L KS N P L O P L I KQG 168 SA VQI A E F L RS N P L O P L I KQG 168 SA VQI A E F L RS N P L O P L I KQG 168 N T L QO L Q N I A S YGM L K KR L E RH 209 N T L QO L Q N I A S YGM L K KR L E RH 208 N T L QO L Q N I A S YGM L K KR L E RH 208 N T L QO L Q N I A S YGM L K KR L E RH 208 N T L QO L Q N I A S YGM L K KR L E RH 208 N T L QO L Q N I A S YGM L K KR L E RH 208 N T L QO L Q N I A S YGM L K KR L E RH 208 N T L Q A ME H V VE TH L I Q R VWS RQN AE D AA A KR EN RP SQ 255 N V L AQ MEH V VE TH L I Q R VWS RQN AE D AA A KR EN RP SQ 255 N V L AQ MEH V VE TH L I Q R VWS RQN TED AA A KR EN RP SQ 255 N V L AQ MEH V VE TH L I Q R VWS RQN TED AA A KR EN RP SQ 255 N T L QO L V N S YGF K K R R I DD K 208 N T L QO L V N S YGF L K R R L E KH 209 N T L QO L V N S YGF L K R R L E KH 208 N T L QO L V N S YGF L K R R L E KH 209 N V L QO L H N L K S F P I S N P L S KG 202 N V R Q V N N I WK N P I I Q K SWQ KG 185 N V R Q V N V WK N P I V Q K SWQ G G 185</td>	SA I QI A E Y L KS N P L O P L I KQG 168 SA VQI A E F L RS N P L O P L I KQG 168 SA VQI A E F L RS N P L O P L I KQG 168 N T L QO L Q N I A S YGM L K KR L E RH 209 N T L QO L Q N I A S YGM L K KR L E RH 208 N T L QO L Q N I A S YGM L K KR L E RH 208 N T L QO L Q N I A S YGM L K KR L E RH 208 N T L QO L Q N I A S YGM L K KR L E RH 208 N T L QO L Q N I A S YGM L K KR L E RH 208 N T L QO L Q N I A S YGM L K KR L E RH 208 N T L Q A ME H V VE TH L I Q R VWS RQN AE D AA A KR EN RP SQ 255 N V L AQ MEH V VE TH L I Q R VWS RQN AE D AA A KR EN RP SQ 255 N V L AQ MEH V VE TH L I Q R VWS RQN TED AA A KR EN RP SQ 255 N V L AQ MEH V VE TH L I Q R VWS RQN TED AA A KR EN RP SQ 255 N T L QO L V N S YGF K K R R I DD K 208 N T L QO L V N S YGF L K R R L E KH 209 N T L QO L V N S YGF L K R R L E KH 208 N T L QO L V N S YGF L K R R L E KH 209 N V L QO L H N L K S F P I S N P L S KG 202 N V R Q V N N I WK N P I I Q K SWQ KG 185 N V R Q V N V WK N P I V Q K SWQ G G 185
118 SENALS31.SDL IP I AEKC NND IHSTCIQ 118 SENALS31.SDL IP I AEKC NND IHSTCIQ 119 FASQMNRISPLRAWLCAHASSLAKFQHLEVAGF HEPIIFQ-AETPLRKFVAYIDPEDKFAIEDKLSQI 119 FSNLEQRRISPLKSWLCTHGKTSLNKFLDIKG-DF EKPMLFT-GETPQRKFVAYIDPENRFCIEDKLSQV 122 OKHEGTPLQIWLKRHGARTLVKYKELLQAGG VGPIKFQ-AETPERIFDAYIDVENQFKPVDKLSQV 110 -L-GLINNWLLHIRDLYLKH QVYLQKHPQDKIVNIMCEI 181 -V-GLADHWILHVSAVKKRHW RRMLTELPTRNHLDALCEL 181 -V-GLADHWILHVSAVKKRHW RRMLTELPTRNHLDALCEL 181 -V-GLADHWILHVSAVKKRHW RRMLTELPTRNHLDALCEL 181 -V-GLADHWILHVSAVKKRHW RRMLTELPTRNHLDALCEL 181 -V-GLADHWILHVSAVKKRHW RRMLSLPTRNHLDALCEL	SA I QI A E Y L KSN P L OP L I KQG 168 SA VQI A E C L RSN P L I OP L I KQG 168 S A VQI A E C L RSN P L I OP L I KQG 168 N T L QO L QN V A SY GF L K KR L E RH 209 N T L QO L QN I A SYGM K K KL E KH 208 N T L QO L QN I A SYGM K K KL E KH 208 N T L QO L QN I A SYGM K K KL E KH 208 N V L E Q VY N L GN S T I I QG AWD RG 168 N V L AQ MEH V VE TH L I Q R VWS RQ N AED AAA KR EN RP SQ 255 N V L AQ MEH V VE TH L I Q R VWS RQN AED AAA KR EN RP SQ 255 N V L AQ MEH V VE TH L I Q R VWS RQN TED AAA KR EN RP SQ 255 N V L AQ MEH V VE TH L I Q R VWS RQN TED AAA KR EN RP SQ 255 N V L AQ MEH V VE TH L I Q R VWS RQN TED AAA KR EN RP SQ 255 N V L AQ ME N V SY OF M KN R I DD K 208 N T L QO L QN V A SY GF L K RR L E KH 209 N V L QO L H N L KS F P F I SN PL S KG 202 N V L QO L H N L KS F P F I SN PL S KG 202 N V R Q V NN I WKN P I I Q K SWQ G G 185 N V R Q V M N W KN P I I Q K SWQ KG 185
118 SENALSAILSDLIPIAEKC NNDIHSTCIQ 118 SENALSAILSDLIPIAEKC NNDIHSTCIQ 119 FASQMNRRISPLRAWLCHAASSSLAKFQHLEVAGF HEPIIFQ-AETPLRKFVAYIDPENKFAIEDKLSQI 119 FSNLEQRRISPLKSWLCTHGKTSLNKFLDIKG-DF EKPMLFT-GETPQRKFVAYIDPENKFAIEDKLSQI 110 - CGLINNWLHIRDLYKHLQAGG VGPIKFQ-AETPEKIFDAYIDVENQFKPVDKLSQV 122 - QKHEGTPLQIWLKRHGARTLVKYKELLQAGG VGPIKFQ-AETPEKIFDAYIDVENQFKPVDKLSQV 110 - L GLINNWLHIRDLYKH QVYLQKHPQDKIVNIMCEI 181 - V GLADHWILHVSAVKKRHW RRMLTELPTRNHLDALCEL 181 - V GLADHWILHVSAVKKRHW RLEXEFTRNHLDALCEL 181 - V GLADHWILHVSAVKKRHW RLEXEFTRNHLDALCEL 181 - V GLADHWILHVSAVKRHW RLEXEFTRNHLDALCEL 181 - V GLADHWILHVSAVKRHW RLEXEFTRNHLDALCEL 181 - V GLADHWILKYSKRHKRHK EDSLIF	SA 10 HAE Y L KSN PL L OPL I KQG
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118 SENALS31 SDL IP I AEKC IND IFSTC IQ 118 SENALS31 SDL IP I AEKC IND IFSTC IQ 119 FASQMNRR ISPL RAWL CHGKTSLNKFUD I KG-DF EKPNIFT-GETPORKFVAY IDPENKFAI EDKLSQI 119 FASQNNRR ISPL RAWL CHGKTSLNKFUD I KG-DF EKPNIFT-GETPORKFVAY IDPENKFAI EDKLSQI 122	SA IQHAEYL KSN PLLOPLIKQG 168 SAVQHAEFL SN PLLOPLIKQG 168 SAVQHAEFL SN PLLOPLIKQG 168 N TLQQLQN IASYGFLKKRLERH 209 N TLQQLQN IASYGFLKKKLEKH 208 N TLQQLQN IASYGFLKKKLEKH 208 N TLQQLQN IASYGFLKKKLERH 208 N TLQQLQN IASHPFLKKKLEIG 208 N V IEO VYNLGNSTIIQGAWDRG 168 N VLAQMEH VVETHLIQRVWSRQN AEDAAAKRENRPSQ 255 N VLAQMEH VVETHLIQRVWSRQN AEDAAAKRENRPSQ 255 N VLAQMEH VVETHLIQRVWSRQN TEDAAAKRENRPSQ 255 N VLQOLQN VASYGFLKRRLEKH 208 N TLVQMEN IYSYDFMKNRIDDK 208 N TLQOLQN VASYGFLKRRLEKH 209 N VLQQLHN LKSFFFISNPLSKG 202 N VLQQLHN UKNPFIQKSWQKG 185 N VRQVMN IWKNPILQKSWQKG 185 N VRQVMN IWKNPILQKSWQKG 185 N VRQVMN IWKNPILQKSWQKG 185 N VRQVMN IWKNPILQKSWQKG 185 N VRQ VN IWNNPILQKSWQKG
118 SENALSAILSDLIPIAEKC NNDIHSTCIQ 118 SENALSAILSDLIPIAEKC NNDIHSTCIQ 119 FASQMNRRISPLRAWLCHAASSSLAKFQHLEVAGF HEPIIFQ-AETPLRKFVAYIDPENKFAIEDKLSQI 119 FSNLEQRRISPLKSWLCTHGKTSLNKFLDIKG-DF EKPMLFT-GETPQRKFVAYIDPENKFAIEDKLSQI 110 - GLAINNWLHIRDIYKH QYIQKHPQDKIVNIMCEI 181 - V GLADHWILHVSAVKKRHW RMLTELPTRNHLDALCEL 181 - V GLADHWILHVSAVKKRHW RRMLTELPTRNHLDALCEL 181 - V GLADHWILHVSAVKRHW RRMLTELPTRNHLDALCEL 181 - V GLADHWILHVSAVKRHW RRMLTELPTRNHLDALCEL	SA 10 HAE Y L KSN PL L OPL I KQG 168 SA VQH AE F L RSN PL L OPL I KQG 168 SA VQH AE F L RSN PL L OPL I KQG 169 N TLOQ L QN VAS YGFL K KR L E RH 209 N TLOQ L QN I AS YGFL K KR L E RH 208 N TLOQ L QN I AS YGFL K KR L E RH 208 N TLOQ L QN I AS YGFL K KR L E RH 208 N V L AQ YN L GN ST I I QG AWD RG 168 N V L AQ MEH V VE TH L I QR VWS RQN E DAAAK REN RP SQ 255 255 N V L AQ MEH V VE TH L I QR VWS RQN AE DAAAK REN RP SQ 255 251 N V L AQ MEH V VE TH L I QR VWS RQN TE DAAAK REN RP SQ 255 252 N V L AQ MEH V VE TH L I QR VWS RQN TE DAAAK REN RP SQ 255 208 N V L AQ MEN V X SY DF MKN R I DD K 208 N V L QO L N V SY DF L NR N R I DD K 208 N T L QO L QN V AS YGF L K RR L E KH 209 N T L QO L N V KSY FF I S NP L SKG 202 N Y RAQ VMN I WKN P I V Q K SWQ KG 185 N V RAQ VMN I WKN P I V Q K SWQ GG 185 N V RAQ VMN I WKN P I V Q K SWQ E G 185 N V RAQ VMN I WKN P I V Q K SWQ E G 185 N V RAQ VMN I WKN P I V Q K SWQ E G 208 N V RAQ VMN I WKN P I N Q K AWQ E G 208 <t< td=""></t<>
118 SENALSAILSDLIPIAEKC INDIHSTCIQ 118 SENALSAILSDLIPIAEKC INDIHSTCIQ 119 FASQMNRRISPLRAWLCAHASSSLAKFQHLEVAGF HEPIIFQ-AETPLRKFVAY IDPENKFAIEDKLSQV 119 FSNLEQRRISPLKSWLCTHGKTSLNKFLDIKG-DF EKPMLFT-GETPQRKFVAY IDPENKFAIEDKLSQV 122 -QKHEGTPLQIWLKRHGARTLVKYKELLQAGG VGPLKQ-AETPERIFDAYIDVENQFKPVDKLSQV 122 -QKHEGTPLQIWLKRHGARTLVKYKELLQAGG VGPLKQ-AETPERIFDAYIDVENQFKPVDKLSQV 122 -QKHEGTPLQIWLKRHGARTLVKYKELLQAGG VGPLKQ-AETPERIFDAYIDVENQFKPVDKLSQV 120 -LGLINNWLLHIRDIXKH QYLQKHPQDKIVNIMCEI 181 -V-GLADHWILHVSAVKKRHW RRMLTELPTRNHLDALCEL 181 -V-GLADHWILHVSAVKKRHW RRMLTELPTRNHLNALCEL 181 -V-GLADHWILHVSAVKKRHW RRMLTELPTRNHLDALCEL 181 -V-GLADHWILHVSAVKKRHW RRMLTELPTRNHLDALCEL 181 -V-GLADHWILHVSAVKRHW RRMLTELPTRNHLDALCEL 181 -V-GLADHWILHVSAVKRHW RRMLTELPTRNHLDALCEL 181 -V-GLADHWILHVSAVKRHW RRMLTELPTRNHLALCEL 181 -V-GLADHWILHVSAVKRHW RRMLTELPTRNHLALCEL 181 -V-GLADHWILHVSAVKRHW RRMLTELPTRNHLALCEL 181 -V-GLADH	SA 10 HAE Y L KSN P L OP L I KQG 168 SA VQH AE F L RSN P L OP L I KQG 168 SA VQH AE F L RSN P L OP L I KQG 168 N TLOQ L QN VAS YGF L K KR L E RH 209 N TLQ Q L QN I AS YGM K KK L E KH 208 N TLQ Q L QN I AS YGM K KK L E KH 208 N TLQ Q L QN I AS YGM K KK L E KH 208 N V L AO MEH V VE TH L I QR VWS RQN AED AAAK REN RP SQ 255 N V L AO MEH V VE TH L I QR VWS RQN AED AAAK REN RP SQ 255 N V L AO MEH V VE TH L I QR VWS RQN AED AAAK REN RP SQ 255 N V L AO MEH V VE TH L I QR VWS RQN TED AAAK REN RP SQ 255 N V L AO MEH V VE TH L I QR VWS RQN TED AAAK REN RP SQ 255 N VL AO MEH V VE TH L I QR VWS RQN TED AAAK REN RP SQ 255 N VL QO L H N K SF PF I SN PL SKG 208 N V L QO L HN L KS FP F I SN PL SKG 202 N V RA VMN I WKN P I I QK SWQ GG 185 N V RA VMN I WKN P I I QK SWQ GG 185 N V RA VMN I WKN P I I QK SWQ GG 185 N V RA VMN I WKN P I I QK SWQ GG 185 N V RA VM NI WKN P I I QK SWQ GG 225 N V RA VM NI WKN P I I QK SWQ GG 285 N V RA VM NI WKN P I I QK SWQ GG 285
118 SENALSAILSDLIPIAEKC INDIHSTCIQ 118 SENALSAILSDLIPIAEKC INDIHSTCIQ 119 FASQMNRRISPLRAWLCHAASSSILKFQHLEVAGF HEPIIFQ-AETPLRKFVAYIDPENRFCIEDKLSQI 119 FASQNNRRISPLKSWLCTHGKTSLNKFLDIKG-DF EKPMLFT-GETPQRKFVAYIDPENRFCIEDKLSQI 122 -QKHEGTPLQIWLKRHGARTLVKYKELLQAGG VGPIKFQ-AETPEKIFDAYIDVENQFKPVDKLSQV 121 -GLNNWLHIRDLYKH QVYIQKHPQDKIVNIMCEI 181 V.GLADHWILHVSAVKRHW RRMLTELPTRNHLDALCEL 181 V.GLADHWILHVSAVKRHW RRMLTELPTRNHLALCEL 1	SA 10 HAE Y L KSN PL L OPL I KQG 168 SA VQHAE F L RSN PL L OPL I KQG 168 SA VQHAE F L RSN PL L OPL I KQG 168 N TLOQ L ON I AS YGF L K KR L E RH 209 N TLQ OL ON I AS YGF L K KR L E RH 208 N TLQ OL ON I AS YGF L K KR L E RH 208 N TLQ OL ON I AS YGF L K KR L E RH 208 N V L GO VN L GN ST I I QG AWD RG 168 N V L AO MEH V E TH L I QR VWS RON AED AAAK REN RP SQ 255 N L AO MEH V VE TH L I QR VWS RON AED AAAK REN RP SQ 255 N V L AO MEH V VE TH L I QR VWS RON AED AAAK REN RP SQ 255 N V L AO MEH V VE TH L I QR VWS RON TED AAAK REN RP SQ 255 N V L AO MEH V VE TH L I QR VWS RON TED AAAK REN RP SQ 255 N V L AO ME N V S YOF MKN R I DD K 208 N T L VO L QN VA SYGF L K RR L E KH 209 N V L QO L HN L KS F P F I SN PL SKG 202 N V R Q V MN I WKN P I I Q K SWQ GG 185 N V R Q V N I WKN P I I Q K SWQ GG 185 N V R Q V N I WNN P I I Q K SWQ GG 185 N V R Q V N I WNN P I I Q K SWQ GG 185 N V R Q U N I WNN P I I Q K SWQ GG 208 N V R Q U N I WNN P I I Q K SWQ GG 208 <t< td=""></t<>
118 SENALSAILSDLIPIAEKC NNDIHSTCIQ 118 SENALSAILSDLIPIAEKC NNDIHSTCIQ 119 FASQMNRRISPLRAWLCHAASSSLAKFQHLEVAGF HEPIIFQ-AETPLRKFVAYIDPENKFAIEDKLSQI 119 FSNLEQRRISPLKSWLCTHGKTSLNKFLDIKG-DF EKPMLFT-GETPQRKFVAYIDPENKFCIEDKLSQV 122 -QKHEGTPLQIWLKRHGARTLVKYKELLQAGG VGPIKQ-AETPEKIFDAYIDVENQFKPVDKLSQV 121 -GLAINNWLHIRDIYKH QYLQKHPQDKIVNIMCEI 181 -V.GLADHWILHVSAVKKRHW RRMLTELPTRNHLDALCEL 181 -V.GLADHWILHVSAVKKRHW RRMLTELPTRNHLDALCEL 181 -V.GLADHWILHVSAVKKRHW RRMLTELPTRNHLDALCEL 181 -V.GLADHWILHVSAVKKRHW RRMLTELPTRNHLDALCEL 181 -V.GLADHWILHVSAVKRHW RRMLTELPTRNHLDALCEL 181 -V.GLADHWILHVSAVKRHW RRMLTELPTRNHLDALCEL 181 -V.GLADHWILHVSAVKRHW RRMLTELPTRNHLALCEL 181 -V.GLADHWILHVSAVKRHW RRMLTELPTRNHLDALCEL 181 -V.GLADHWILHVSAVKRHW RRMLTELPTRNHLALCEL 181 -V.GLADHWILHVSAVKRHW RRMLTELPTRNHLALCEL 181 -V.GLADHWILHVSAVKRHW RRMLTELPTRNHLALCEL 181 -V.GLADHWILHVSAVKRHW RRMLTELPTRNHLALCEL </td <td>SA 10 HAE Y L KSN PL L OP L I KQG 168 SA VQH AE F L RSN PL L OP L I KQG 168 SA VQH AE F L RSN PL L OP L I KQG 168 N TL QQ LQN I AS YGFL K KR L E RH 209 N TL QQ LQN I AS YGFL K KR L E RH 208 N TL QQ LQN I AS YFFL K KK LE IG 208 N V L QY N LGN ST I I QG AWD RG 168 N V L AQ MEH V VE TH L I Q R VWS RQN E D AAAK RE NR P SQ 255 255 N V L AQ MEH V VE TH L I Q R VWS RQN AE D AAAK RE NR P SQ 255 251 N V L AQ MEH V VE TH L I Q R VWS RQN AE D AAAK RE NR P SQ 255 208 N V L AQ MEH V VE TH L I Q R VWS RQN TE D AAAK RE NR P SQ 255 208 N V L AQ MEH V VE TH L I Q R VWS RQN TE D AAAK RE NR P SQ 255 208 N V L AQ ME I V Y TH I Q R SW WS RQN TE D AAAK RE NR P SQ 255 208 N T LQ Q L N VA SY GF L K RR L E KH 209 N T LQ Q L N N KN F I I Q K SWQ GG 185 N R Q VM N I WKN P I VQ K SWQ GG 185 N V R Q VL N WKN P I VQ K SWQ GG 185 N V R Q VL N WNKN P I I Q K SWQ GG 185 N V R Q VL N WNK NP I VQ K SWQ GG 185 N V R Q VL N WNK NP I VQ K SWQ GG 185 N V R Q VL N WNK NP I VQ K SWQ GG 208 N V L QO L N N SY GF L</td>	SA 10 HAE Y L KSN PL L OP L I KQG 168 SA VQH AE F L RSN PL L OP L I KQG 168 SA VQH AE F L RSN PL L OP L I KQG 168 N TL QQ LQN I AS YGFL K KR L E RH 209 N TL QQ LQN I AS YGFL K KR L E RH 208 N TL QQ LQN I AS YFFL K KK LE IG 208 N V L QY N LGN ST I I QG AWD RG 168 N V L AQ MEH V VE TH L I Q R VWS RQN E D AAAK RE NR P SQ 255 255 N V L AQ MEH V VE TH L I Q R VWS RQN AE D AAAK RE NR P SQ 255 251 N V L AQ MEH V VE TH L I Q R VWS RQN AE D AAAK RE NR P SQ 255 208 N V L AQ MEH V VE TH L I Q R VWS RQN TE D AAAK RE NR P SQ 255 208 N V L AQ MEH V VE TH L I Q R VWS RQN TE D AAAK RE NR P SQ 255 208 N V L AQ ME I V Y TH I Q R SW WS RQN TE D AAAK RE NR P SQ 255 208 N T LQ Q L N VA SY GF L K RR L E KH 209 N T LQ Q L N N KN F I I Q K SWQ GG 185 N R Q VM N I WKN P I VQ K SWQ GG 185 N V R Q VL N WKN P I VQ K SWQ GG 185 N V R Q VL N WNKN P I I Q K SWQ GG 185 N V R Q VL N WNK NP I VQ K SWQ GG 185 N V R Q VL N WNK NP I VQ K SWQ GG 185 N V R Q VL N WNK NP I VQ K SWQ GG 208 N V L QO L N N SY GF L
118 SENALSAL SDL IP I AEKC NND IHSTCIQ 118 SENALSAL SDL IP I AEKC NND IHSTCIQ 119 FASQMNRRISPLRAWL CHASSSL AKFQHLEVAGF HEP IIFQ-AETPLRKFVAY IDPENKFAIEDKLSQ 119 FSNLEQRRISPLAWL CHASSSL AKFQHLEVAGF HEP IIFQ-AETPLRKFVAY IDPENKFAIEDKLSQ 122 QKHEGTPLQIWL KRHGARTLVKYKELLQAGG VGP IKQ-AETPEKIFDAY IDVENQFKPVDKLSQV 122 QKHEGTPLQIWL KRHGARTLVKYKELLQAGG VGP IKQ-AETPEKIFDAY IDVENQFKPVDKLSQV 122 QKHEGTPLQIWL KRHGARTLVKYKELLQAGG VGP IKQ-AETPEKIFDAY IDVENQFKPVDKLSQV 120 -L GL INNWL HI RDIYLKH QVYLOKHPQDKIVN IMCEI 181 -V GLADHWILHVSAVKKRHW RRMLTELP TRNHLDALCEL 181 -V GLADHWILHVSAVKRHW RRMLTELP TRNHLDALCEL 181 <td>SA 10 HAE Y L KSN PL L OPL I KQG 168 SA VQH AE F L RS NPL L OPL I KQG 168 SA VQH AE F L RS NPL L OPL I KQG 168 N TLOQ L QN I AS YGF L K KR L E RH 209 N TLQQ L QN I AS YGF L K KR L E RH 208 N TLQQ L QN I AS YGF L K KR L E RH 208 N TLQQ L QN I AS YGF L K KR L E RH 208 N TLQQ L QN I AS YGF L K KR L E RH 208 N TLQ A M SH PF L K KK L E I G 208 N L A MEH V VE THL I QR VWS RQN E DAAAAK RE NR PS Q 255 N L AO MEH V VE THL I QR VWS RQN AE DAAAK RE NR PS Q 255 N VL AO MEH V VE THL I QR VWS RQN TED AAAK RE NR PS Q 255 N L AO MEH V VE THL I QR VWS RQN TED AAAK RE NR PS Q 255 N VL AO ME I VE TH I Q R SW WS RQN TED AAAK RE NR PS Q 255 N TLQ Q L W V S YD F M KN R I DD K 208 N TLQ Q L W V S YS DF K K RR L E KH 209 N VL QO L H N L KS F PF I S NP LS KG 202 N V RA Q VMN I WKN P I I Q K SWQ GG 185 N V RA Q VMN I WKN P I I Q K SWQ GG 185 N V RA Q VMN I WKN P I I Q K SWQ GG 185 N V RA Q VMN I WKN P I I Q K SWQ GG 225 N T AQ VMN I WKN P I I Q K SWQ GG 225</td>	SA 10 HAE Y L KSN PL L OPL I KQG 168 SA VQH AE F L RS NPL L OPL I KQG 168 SA VQH AE F L RS NPL L OPL I KQG 168 N TLOQ L QN I AS YGF L K KR L E RH 209 N TLQQ L QN I AS YGF L K KR L E RH 208 N TLQQ L QN I AS YGF L K KR L E RH 208 N TLQQ L QN I AS YGF L K KR L E RH 208 N TLQQ L QN I AS YGF L K KR L E RH 208 N TLQ A M SH PF L K KK L E I G 208 N L A MEH V VE THL I QR VWS RQN E DAAAAK RE NR PS Q 255 N L AO MEH V VE THL I QR VWS RQN AE DAAAK RE NR PS Q 255 N VL AO MEH V VE THL I QR VWS RQN TED AAAK RE NR PS Q 255 N L AO MEH V VE THL I QR VWS RQN TED AAAK RE NR PS Q 255 N VL AO ME I VE TH I Q R SW WS RQN TED AAAK RE NR PS Q 255 N TLQ Q L W V S YD F M KN R I DD K 208 N TLQ Q L W V S YS DF K K RR L E KH 209 N VL QO L H N L KS F PF I S NP LS KG 202 N V RA Q VMN I WKN P I I Q K SWQ GG 185 N V RA Q VMN I WKN P I I Q K SWQ GG 185 N V RA Q VMN I WKN P I I Q K SWQ GG 185 N V RA Q VMN I WKN P I I Q K SWQ GG 225 N T AQ VMN I WKN P I I Q K SWQ GG 225
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118 SENAL SAL SDL IP LAEKC NND IHSTC IQ 118 SENAL SSIL SDL IP LAEKC NND IHSTC IQ 119 FASQMNRR IS PL RAWLCAHASSEL AKFQHLEVAGF HEP IIF Q-AE TPLRK VAYI DPENRFC IEDKL SQI 119 FASQNNRR IS PL RAWLCAHASSEL AKFQHLEVAGF HEP IIF Q-AE TPLRK VAYI DPENRFC IEDKL SQI 122 -QKHEG TPL QI WLKRHGARTL VKY KELLQAGG VGP IK Q-AE TPE KI FDAYI DVENQF KPVDKL SQV 121 -GLADHWILH RDLYLKH QYLQKHPQDK IVNI MCEI 181 -QKLADHWILHVSAVKKRHW RRML TELP TRNHLDAL CEL 181 -V-GLADHWILHVSAVKKRHW RRML TELP TRNHLDAL CEL 181 <td>SA IQHAEYL KSN PL U QPL I KQG 168 SA VQHAEFL RSN PL U QPL I KQG 168 SA VQHAEFL RSN PL U QPL I KQG 168 N TLOQ LQN I AS YGEL K KR LE RH 209 N TLOQ LQN I AS YGEL K KR LE RH 208 N TLOQ LQN I AS YGEL K KR LE RH 208 N VIEQ VYN LGN ST I I QG AWD RG 166 NV LA QMEH VVE THL I QR VWS RQN AED AAAKREN RP SQ 255 NV LA QMEH VVE THL I QR VWS RQN AED AAAKREN RP SQ 255 NV LA QMEH I VE THL I QR VWS RQN AED AAAKREN RP SQ 255 NV LA QMEH I VE THL I QR VWS RQN AED AAAKREN RP SQ 255 NV LA QMEH I VE THL I QR VWS RQN AED AAAKREN RP SQ 255 N LOO LQN VA SYGFL K RR LE KH 209 N TLVQ OL WN I SS YGFL K RR LE KH 209 N VLO U LN VSYGFL K RN LE KA 202 N VR QU NN I WKN PI I QK SWQ GG 185 N VR QU NN I WKN PI I QK SWQ GG 185 N VR QU NN I WKN PI I QK SWQ GG 185 N VR QU NN I WKN PI I QK SWQ GG 185 N VL QO I I S YGFL K DR LE SG 208 N LQO MN I WKN PI I QK SWQ GG 219 N VL QO U N I SY YFL K DN LAQN 225 N VL QO U N I SY YFL K DN LAQN 225 N VL QO U N S YFL K DN LAGN 226 <</td>	SA IQHAEYL KSN PL U QPL I KQG 168 SA VQHAEFL RSN PL U QPL I KQG 168 SA VQHAEFL RSN PL U QPL I KQG 168 N TLOQ LQN I AS YGEL K KR LE RH 209 N TLOQ LQN I AS YGEL K KR LE RH 208 N TLOQ LQN I AS YGEL K KR LE RH 208 N VIEQ VYN LGN ST I I QG AWD RG 166 NV LA QMEH VVE THL I QR VWS RQN AED AAAKREN RP SQ 255 NV LA QMEH VVE THL I QR VWS RQN AED AAAKREN RP SQ 255 NV LA QMEH I VE THL I QR VWS RQN AED AAAKREN RP SQ 255 NV LA QMEH I VE THL I QR VWS RQN AED AAAKREN RP SQ 255 NV LA QMEH I VE THL I QR VWS RQN AED AAAKREN RP SQ 255 N LOO LQN VA SYGFL K RR LE KH 209 N TLVQ OL WN I SS YGFL K RR LE KH 209 N VLO U LN VSYGFL K RN LE KA 202 N VR QU NN I WKN PI I QK SWQ GG 185 N VR QU NN I WKN PI I QK SWQ GG 185 N VR QU NN I WKN PI I QK SWQ GG 185 N VR QU NN I WKN PI I QK SWQ GG 185 N VL QO I I S YGFL K DR LE SG 208 N LQO MN I WKN PI I QK SWQ GG 219 N VL QO U N I SY YFL K DN LAQN 225 N VL QO U N I SY YFL K DN LAQN 225 N VL QO U N S YFL K DN LAGN 226 <
118 SENALSSLISDLIPIAEKC NND IHSTCIQ 118 SENALSSILSDLIPIAEKC NND IHSTCIQ 119 FASQMNRR ISPLRAWLCAHASSSLAKFQHLEVAGF HEPIIFQ-AETPLRKFVAY IDPEDKFALEDKLSQI 119 FASQMNRR ISPLRAWLCAHASSSLAKFQHLEVAGF HEPIIFQ-AETPLRKFVAY IDPEDKFALEDKLSQI 122 -QKHEGTPLQIWLKRGARTUVKYKELLQAGG VGPIKFQ-AETPLRKFVAY IDPEDKFALEDKLSQI 110 LGLNNWLLHIRDLYLKH QVYLQKHPQDKIVNIMCEI 181 VGLADHWILHVSAVKKRHW RRMLTELPTRNHLDALCEL 181 VGLADHWILHVSAVKKRHW RRMLTELPTRNHLDALCEL 181 VGLADHWILHVSAVKKRHW RRMLSELPTRNHLDALCEL 181 VGLADHWILHVSAVKKRHW RRMLTELPTRNHLDALCEL 181 VGLADHWILHVSAVKKRHW RRMLSELPTRNHLDALCEL 181 VGLADHWILHVSAVKKRHW RRMLSELPTRNHLDALCEL 181 VGLADHWILHVSAVKKRHW RRMLSELPTRNHLDALCEL 181 VGLADHWILHVSAVKRHW RRMLSELPTRNHLDALCEL 181 VGLADHWILHVSAVKRHW RRMLSELPTRNHLDALCEL 181 VGLADHWILHVSAVKRHW RRMLSELPTRNHLDALCEL 181 VGLADHWILHVSAVKRHW RRMLSELPTRNKKSELVAIDESCOVCLEL 181 VGLADHWILHVSAVKRHW RRMLSELPTRNKKSELPTRNEKSELSQI <td>SA 10 HAE Y L KSN P L OP L I KQG</td>	SA 10 HAE Y L KSN P L OP L I KQG
118 SENA SALSDLIPIAEKC NND IHSTCIQ 118 SENALSSILSDLIPIAEKC NND IHSTCIQ 119 FASQMNRR ISPLRAWLCAHASSELAKFQHLEVAGF HEPIIFQ-AETPLRKFVAY IDPEDKFALEDKLSQI 119 FASQMNRR ISPLRAWLCAHASSELAKFQHLEVAGF HEPIIFQ-AETPLRKFVAY IDPEDKFALEDKLSQI 122 -QKHEGTPLQIWLKRHGARTLVKYKELLQAGG VGPIKFQ-AETPLRKFVAY IDPEDKFALEDKLSQI 110 LGLNNWLHIRDLYLKH QVYLQKHPQDKIVNIMCEI 181 VGLADHWILHVSAVKKRHW RRMLTELPTRNHLDALCEL 181 VGLADHWILHVSAVKKRHW RRMLSELPTRNHLDALCEL 181 VGLADHWILHVSAVKKRHW RRMLSELPTRNHLDALCEL 181 VGLADHWILHVSAVKKRHW RRMLSELPTRNHLDALCEL 181 VGLADHWILHVSAVKRHW RRMLSELPTRNHLDALCEL 181 VGLADHWILHVSAVKRHW RRMLTELPTRNHLDALCEL 121 GCSEFDVMQSFLKAWUCANGROWSFKRFCEMKKMGK EDSLIFM-KNTKHEFEARD 181 VGLADHWILHVSAVKRHW RRMLTELPTRNHLDALCEL </td <td>SA 10 HAE Y L KSN PL L OP L I KQG 168 SA VQH AE F L RS NP L OP L I KQG 168 SA VQH AE F L RS NP L OP L I KQG 168 N TLOQ L QN I AS YGF L K KR L E RH 209 N TLQQ L QN I AS YGF L K KR L E RH 208 N TLQQ L QN I AS YGF L K KR L E RH 208 N TLQQ L QN I AS YGF L K KR L E RH 208 N TLQQ L QN I AS YGF L K KR L E RH 208 N V L AQ MEH V VE TH L I QR VWS RQN E DAAAK REN RP SQ 255 N V L AQ MEH V VE TH L I QR VWS RQN AE DAAAK REN RP SQ 255 N V L AQ MEH V VE TH L I QR VWS RQN TED AAAK REN RP SQ 255 N V L AQ MEH V VE TH L I QR VWS RQN TED AAAK REN RP SQ 255 N V L QO L H V SY DF M KN R I DD K 208 N TLQQ L QN VAS YGF L K RR L E KH 209 N V L QO L HN L KS F PF I SN PL S KG 202 N RAQ VMN I WKN P I VQ K SWQ GG 185 N V RAQ VMN I WKN P I VQ K SWQ GG 185 N V RAQ VMN I WKN P I VQ K SWQ GG 185 N V RAQ VMN I WKN P I NQ K SWQ GG 185 N V RQ U L N I WS Y F I K EG L VDG 225 N L QO L ON I AS YGF L K KR L E RH 226 N V QO U N I AS YGF L K RL E RH 226 N V QO U N I</td>	SA 10 HAE Y L KSN PL L OP L I KQG 168 SA VQH AE F L RS NP L OP L I KQG 168 SA VQH AE F L RS NP L OP L I KQG 168 N TLOQ L QN I AS YGF L K KR L E RH 209 N TLQQ L QN I AS YGF L K KR L E RH 208 N TLQQ L QN I AS YGF L K KR L E RH 208 N TLQQ L QN I AS YGF L K KR L E RH 208 N TLQQ L QN I AS YGF L K KR L E RH 208 N V L AQ MEH V VE TH L I QR VWS RQN E DAAAK REN RP SQ 255 N V L AQ MEH V VE TH L I QR VWS RQN AE DAAAK REN RP SQ 255 N V L AQ MEH V VE TH L I QR VWS RQN TED AAAK REN RP SQ 255 N V L AQ MEH V VE TH L I QR VWS RQN TED AAAK REN RP SQ 255 N V L QO L H V SY DF M KN R I DD K 208 N TLQQ L QN VAS YGF L K RR L E KH 209 N V L QO L HN L KS F PF I SN PL S KG 202 N RAQ VMN I WKN P I VQ K SWQ GG 185 N V RAQ VMN I WKN P I VQ K SWQ GG 185 N V RAQ VMN I WKN P I VQ K SWQ GG 185 N V RAQ VMN I WKN P I NQ K SWQ GG 185 N V RQ U L N I WS Y F I K EG L VDG 225 N L QO L ON I AS YGF L K KR L E RH 226 N V QO U N I AS YGF L K RL E RH 226 N V QO U N I
118 SENALSAILSDLIPIAEKC NND HSTCIQ 118 SENALSAILSDLIPIAEKC NND HSTCIQ 119 FASQMNRRISPLRAWICAHASSSLAKFQHLEVAGF HEPIIFQ-AETPLRKV VAY IDPEDKFAIEDKLSQU 119 FASQMNRRISPLKAWICTHGKTSLNKFLDIKG-DF EKPMLFT-GETPQKK VAY IDPEDKFAIEDKLSQU 122 - OKHEGTPLNWLLHIRDLYLKH QYYLQKHPQDKIVNIMCEI 181 - V GLADHWILHVSAVKKRHW RRMLTELPTRNHLDALCEL 181 - V GLADHWILHVSAVKKRHW RRMLSELPTRNHLDALCEL 181 - V GLADHWILHVSAVKKRHW RRMLSELPTRNHLDALCEL 181 - V GLADHWILHVSAVKKRHW RRMLSELPTRNHLDALCEL 181 - V GLADHVILHVSAVKRHW RRMLSELPTRNHLDALCEL 181 - V GLADHVILHVSAVKRHW RRMLSELPTRNHLDALCEL 181 - V GLADHVILHVSAVKKRHW RRMLSELPTRNHLDALCEL 182 - V MOGNSYSKRFCEKKRQQLETFE- ADALGGERWEYN YN DEDKKFEQUEL	SA 10 HAE YL KSN PL L OPL I KQG 168 SA VQHAE FL RSN PL L OPL I KQG 168 SA VQHAE FL RSN PL L OPL I KQG 168 SA VQHAE FL RSN PL L OPL I KQG 168 N TLOQ L QN I AS YGEL K KR LE RH 209 N TLOQ L QN I AS YGEL K KR LE RH 208 N TLOQ L QN I AS YGEL K KR LE RH 208 N V L Q VN L GN ST I J QG AWD RG 166 NV L A OMEH VVE THL I Q RVWS RQN AED AAAKREN RP SQ 255 NV L AO MEH VVE THL I Q RVWS RQN AED AAAKREN RP SQ 255 NV L AO MEH VVE THL I Q RVWS RQN AED AAAKREN RP SQ 255 N L AO MEH VVE THL I Q RVWS RQN AED AAAKREN RP SQ 255 N L AO MEH VVE THL I Q RVWS RQN AED AAAKREN RP SQ 255 N L Q L QN VA SYGF L K RR LE KH 209 N TL VQ ME I SY DF MKN R I DD K 208 N TL Q Q L N VKS YGF L K RR LE KH 209 N VR Q V N I WKN P I VQ K SWQ G 185 N VR Q V N I WKN P I VQ K SWQ G 185 N VR Q VN I WKN P I VQ K SWQ EG 185 N VR Q VN I WN NP I VQ K SWQ EG 228 N L Q Q MN I WKN P I I Q K AWQ KG 225 N L Q Q I I S YGF L K KR LE RH 226 N V AQ VN I WN NP I VQ K SWQ EG 219 N L Q Q L EH L Q SY DF I G K RME TD
118 SENALSALLSDLIPIAEKC NNDIHSTCIQ 119 FASOMNRRISPLKSWLCTHGKTSLNKFLDIKG-DFEKPMLFT-GETPQRKFVAYIDPENKFALEKLSQI 119 FASOMNRRISPLKSWLCTHGKTSLNKFLDIKG-DFEKPMLFT-GETPQRKFVAYIDPENKFALEKLSQI 122 OKHEGTPLOI WLKHGARTLVKYKELLQAGGVGPIKFQ-AETPLKKFVAYIDPENKFALEKLSQI 110 -ESNLEQRRISPLKSWLCTHGKTSLNKFLDIKG-DFEKPMLFT-GETPQRKFVAYIDPENKFALEKLSQI 110 -LGLINNWLHIRDLYKH 22 OKHEGTPLOI WLKHGARTLVKYKELLQAGGVGPIKFQ-AETPLKKFVAYIDPENKFALELSUSUSUSU 111 -GLINNWLHIRDLYKH 22 OKHEGTPLOI WLKHGARTLVKYKELLQAGGVGPIKFQ-AETPLKKFVAYIDPENKFALED 111 -GLADHWILHVSAVKKRHW- 112 -GLADHWILHVSAVKKRHW- 113 -VGLADHWILHVSAVKKRHW- 114 -VGLADHWILHVSAVKKRHW- 115 -VGLADHWILHVSAVKKRHW- 116 -VGLADHWILHVSAVKKRHW- 117 -GCSEFDVMOSPLKAWLQRNGMSFKRFCEMKKMGK EDSLIFMKNTKHEFERARD - SQLDEADQ.SQI 121 -VGLADHWILHVSAVKKHW- 122 -VGLADHWILHVSAVKKHW- 123 -VGLADHWILHVSAVKKHW- 124 -VGLADHWILKVYEKHQ 125 -VGGLLDLWINGKKVYEKHQ 126 -VGGLLDLWINGKKVYEKHQ 125 -V	SA 10 HAE YL KSN PL L OPL I KQG 168 SA VQH AE FL RS NPL L OPL I KQG 168 SA VQH AE FL RS NPL L OPL I KQG 168 N TLOQ LQN I AS YGFL K KR L E KH 209 N TLOQ LQN I AS YGFL K KR L E KH 208 N TLOQ LQN I AS YGFL K KR L E KH 208 N VI EQ YVN LGN ST I I QG AWD RG 168 N V A ME Y VE THL I Q R VWS RQN E DAAAK RE N RP SQ 255 255 N V A AM EH V VE THL I Q R VWS RQN AE DAAAK RE N RP SQ 255 251 N V A AM EH V VE THL I Q R VWS RQN AE DAAAK RE N RP SQ 255 252 N V A AM EH V VE TH I Q R VWS RQN TE DAAAK RE N RP SQ 255 208 N TLOQ LQ N VA SY OF K K R I E KH 209 N TLOQ LQ N VA SY OF L K RR L E KH 209 N TLOQ LQ N VA SY OF L K RR L E KH 209 N TLOQ LQ N VA SY OF L K RR L E KH 209 N TLOQ LQ N VA SY OF L K RR L E KH 209 N TLOQ LQ N VA SY OF L K R R L E KH 209 N RAQ VMN I WKN P I VQ K SWQ G 185 N VR AQ VMN I WKN P I VQ K SWQ GE 185 N VR AQ VMN I WKN P I VQ K SWQ GE 185 N VA QU L N I WN P I VQ K SWQ GE 208 N V AQ UN I WN NP I VQ K SWQ GE 208 N VQ Q L N I SYG
118 SENALSALSDLIPIAEKC NND ISTCIQ 119 FASOMNRISSLSDLIPIAEKC NND ISTCIQ 119 FASOMNRISPLKSWLCTHGKTSLNKFLDIKG-DFEKPMLFT-GETPQRKFVAVIDPENKFALEDKLSQI 119 FASOMNRISPLKSWLCTHGKTSLNKFLDIKG-DFEKPMLFT-GETPQRKFVAVIDPENKFLEDKLSQI 122 OKHEGTPLOWLKHGARTLVKYKELLQAGGVGPIKFQ-AETPEKFVAVIDPENKFKLSQV 121 -GLINNWLHIRDLYLKH 181 -VGLADHWILHVSAVKKRHW- 181 -VGLADHWILHVSAVKRHW- 181 -VGLADHWILHVSAVKRHW- 181 -VGLADHWILHVSAVKRHW- 181 -VGLADHWILHVSAVKRHW- 184 -VGLADHWILHVSAVKRHW- 185 -VGLADHWILHVSAVKRHW- 186 -GSUPTATA 187 -GVGNVSPLKAWLQRNGMVSFKRFCEMKKMGKEDSLIFMKNTKHEFEARID -SQLDEADO SQI 188 -VGLDUNNCKINTGASSLTKFEVDKINGKEDSLIFMEARIDENKINCKAKA </td <td>SA 10 HAE YL KSN PL L OPL I KQG 168 SA VQH AE FL RS NPL L OPL I KQG 168 SA VQH AE FL RS NPL L OPL I KQG 168 N TLQO LQN I AS YGFL K KR LE RH 209 N TLQO LQN I AS YGFL K KR LE RH 208 N TLQO LQN I AS YGFL K KR LE RH 208 N VI EQ YN LGN ST I I QG AWDRG 168 N VL AO MEH VVE THL I QR VWS RQN EE DAAAK REN RP SQ 255 N VL AO MEH VVE THL I QR VWS RQN AE DAAAK REN RP SQ 255 N VL AO MEH VVE THL I QR VWS RQN AE DAAAK REN RP SQ 255 N VL AO MEH VVE THL I QR VWS RQN TED AAAK REN RP SQ 255 N VL QO LH V SY DF MKN R I DD K 208 N TLQQ LQN VAS YGF L K RR LE RH 209 N TLQQ LH N LKS FP FI SN PL SKG 202 N RAQ VMN I WKN PI I QK SWQKG 185 N VRAQ VMN I WKN PI I QK SWQKG 185 N VRAQ VMN I WKN PI I QK SWQKG 185 N VRAQ VMN I WKN PI I QK SWQKG 185 N VLQQ LHN L KSY GF L K KR LE RH 226 N VLQQ LON I AS YGF L K KR LE RH 226 N VLQQ LON I SY GF L K RR LE RH 225 N VQQ LON I WSY PF I Q KAWQ KG 185 N VQQ LON I SY GF L K RR LE RH 226 <</td>	SA 10 HAE YL KSN PL L OPL I KQG 168 SA VQH AE FL RS NPL L OPL I KQG 168 SA VQH AE FL RS NPL L OPL I KQG 168 N TLQO LQN I AS YGFL K KR LE RH 209 N TLQO LQN I AS YGFL K KR LE RH 208 N TLQO LQN I AS YGFL K KR LE RH 208 N VI EQ YN LGN ST I I QG AWDRG 168 N VL AO MEH VVE THL I QR VWS RQN EE DAAAK REN RP SQ 255 N VL AO MEH VVE THL I QR VWS RQN AE DAAAK REN RP SQ 255 N VL AO MEH VVE THL I QR VWS RQN AE DAAAK REN RP SQ 255 N VL AO MEH VVE THL I QR VWS RQN TED AAAK REN RP SQ 255 N VL QO LH V SY DF MKN R I DD K 208 N TLQQ LQN VAS YGF L K RR LE RH 209 N TLQQ LH N LKS FP FI SN PL SKG 202 N RAQ VMN I WKN PI I QK SWQKG 185 N VRAQ VMN I WKN PI I QK SWQKG 185 N VRAQ VMN I WKN PI I QK SWQKG 185 N VRAQ VMN I WKN PI I QK SWQKG 185 N VLQQ LHN L KSY GF L K KR LE RH 226 N VLQQ LON I AS YGF L K KR LE RH 226 N VLQQ LON I SY GF L K RR LE RH 225 N VQQ LON I WSY PF I Q KAWQ KG 185 N VQQ LON I SY GF L K RR LE RH 226 <
118 SENAL SALLSDLIPIAEKC NND HSTCIQ 119 FASQMNRRISPLKSWLCTHGKTSLNKFLDIKG-DF HEPIIFQ-AETPLRKFVAY IDPEDRFCIEDKLSQ 119 FASQMNRRISPLKSWLCTHGKTSLNKFLDIKG-DF EKPMLFT-GETPQKFVAY IDPEDRFCIEDKLSQ 110	SA IQHAEYL KSN PL U QPL I KQG 168 SA VQHAEFL RSN PL U QPL I KQG 168 SA VQHAEFL RSN PL U QPL I KQG 168 SA VQHAEFL SN PL U QPL I KQG 168 N TLOQ LQN I AS YGFL K KR LE RH 209 N TLOQ LQN I AS YGFL K KR LE RH 208 N TLOQ LQN I AS YGFL K KR LE RH 208 N V LQ U N LGN ST I J QG AWD RG 166 NV LA OMEH VVE THL I Q RVWS RQN AED AAAKREN RP SQ 255 NV LA OMEH VVE THL I Q RVWS RQN AED AAAKREN RP SQ 255 NV LA OMEH VVE THL I Q RVWS RQN AED AAAKREN RP SQ 255 N LA QMEH I VE THL I Q RVWS RQN AED AAAKREN RP SQ 255 N LQ U Q LQN VA SYGFL K RR LE KH 209 N TL VQ ME I SY DF MKN R I DD K 208 N TL QQ LQN VA SYGFL K RR LE KH 209 N VR Q V MN I WKN P I VQ K SWQCG 185 N VR Q V NN I WKN P I VQ K SWQCG 185 N VR Q V NN I WKN P I VQ K SWQ EG 185 N VR Q V NN I WKN P I VQ K SWQ EG 228 N LQ Q U N I SY GFL K DR LE SG 208 N LQ Q U N I SY GFL K KR LE RH 226 N VQ Q U N I SY GFT K K RL ERH 226 N VQ Q U EH LQ SY DF I G K RME TD 228 N LQ Q LGN J A SYGFL K K RL ERH 228<
119 - ESNLEQRRISPLKSWICTHGKTSLNKELDIKG-DFEKPMLFT-GETPORK VAY DPENRECIEDKLSQV- 122	SA 10 HAE YL KSN PL L OPL I KQG 168 SA VQHAE FL RSN PL L OPL I KQG 168 SA VQHAE FL RSN PL L OPL I KQG 168 SA VQHAE FL RSN PL L OPL I KQG 168 N TLOQ L QN I AS YGEL K KR LE RH 209 N TLOQ L QN I AS YGEL K KR LE RH 208 N TLOQ L QN I AS YGEL K KR LE RH 208 N V L Q VN L GN ST I J QG AWD RG 166 NV L A OMEH VVE THL I Q RVWS RQN AED AAAKREN RP SQ 255 NV L AO MEH VVE THL I Q RVWS RQN AED AAAKREN RP SQ 255 NV L AO MEH VVE THL I Q RVWS RQN AED AAAKREN RP SQ 255 N L AO MEH VVE THL I Q RVWS RQN AED AAAKREN RP SQ 255 N TL VQ ME N I VS YD FMKN RI DD K 209 N TL VQ LQ N VA S YGF L K RR LE KH 209 N TL QO LQ N VA S YGF L K RR LE KH 200 N TL QO LUN VKN P I VQ K SWQ GG N RA Q VMN I WKN P I I Q K SWQ GG N RA Q VMN I WKN P I VQ K SWQ EG N V RA Q VMN I WKN P I VQ K SWQ EG N V L QO L I S YGF L K KR LE RH N V L QO L I S YGF L K KR LE RH N V L QO L I S YGF L K KR LE RH N V L QO L I S YGF L K KR LE RH N V QO V EN I AS YGF L K KR LE RH N V QO V EN I S TI I Q A WD RG

163 EIW34693 Pelosinus fermentans-BCA F4WAG3_Acromyrmex_echinatior-BCA 210 J9K706 Acyrthosiphon pisum-BCA1 210 C4WVD8 Acvrthosiphon pisum-BCA2 1912Y3 Acyrthosiphon pisum-BCA3 130 D4NWE5 Adineta vaga-BCA2 209 Q17N64_Aedes_aegypti-BCA 210 FC551456 Ancylostoma caninum-BCA 214 E3X5Q8 Anopheles darlingi-BCA 262 210 Q5TU56 Anopheles gambiae-BCA H9KS29_Apis_mellifera-BCA 210 F1LE18 Ascaris suum-BCA 214 G0MSW4 Caenorhabditis brenneri-BCA1 210 G0MRG1 Caenorhabditis brenneri-BCA2 214 A8XKV0_Caenorhabditis_briggsae-BCA1 210 A8WN21 Caenorhabditis briggsae-BCA2 214 Q22460 Caenorhabditis elegans-BCA1 210 Q2YS41 Caenorhabditis elegans-BCA2 214 E3LDN3_Caenorhabditis_remanei-BCA1 226 E3MK96_Caenorhabditis_remanei-BCA2 214 C1C2M7_Caligus_clemensi-BCA 209 E2ANQ9 Camponotus floridanus-BCA 210 210 B0WKV7_Culex_quinquefasciatus-BCA G6D7Z4_Danaus_plexippus-BCA 209 E9GLB5 Daphnia pulex-BCA 210 [3]TM9 Dendroctonus ponderosae-BCA 210 B3LZ10 Drosophila ananassae-BCA 210 B3P1V8_Drosophila_erecta-BCA 210 B4JHY1_Drosophila_grimshawi-BCA 210 Q9VHJ5 Drosophila melanogaster-BCA 210 B4KDC1 Drosophila mojavensis-BCA 210 B4GFA1_Drosophila_persimilis-BCA 210 Q296E4 Drosophila pseudoobscura-BCA 210 B4HKY7_Drosophila_sechellia-BCA 210 B4QXC5 Drosophila simulans-BCA 210 B4LZE7_Drosophila_virilis-BCA 210 B4NBB9_Drosophila_willistoni-BCA 210 B4PTY0 Drosophila yakuba-BCA 210 B0E7M0 Entamoeba dispar-BCA 169 C4LXK3 Entamoeba histolytica-BCA 169 K2GQM0_Entamoeba_nuttalli-BCA 169 E2B2Q1_Harpegnathos_saltator-BCA 210 HMEL015257_Heliconius_melpomene-BCA 209 EY481200 Hirudo medicinalis-BCA 209 GOQPN9 Ichthyophthirius multifiliis-BCA 169 E9B8S3 Leishmania donovani-BCA 256 A4HSV2_Leishmania_infantum-BCA 256 Q4QJ17 Leishmania major-BCA 256 E9AKU0_Leishmania_mexicana-BCA 256 D3PI48_Lepeophtheirus_salmonis-BCA1 209 K7IWK8_Nasonia_vitripennis-BCA 210 A7S717 Nematostella vectensis-BCA 203 A0BD61 Paramecium tetraurelia-BCA1 186 A0E8J0_Paramecium_tetraurelia-BCA2 186 186 A0CEX6_Paramecium_tetraurelia-BCA3 A0BDB1_Paramecium_tetraurelia-BCA4 186 A0C922_Paramecium_tetraurelia-BCA5 186 187043763 Saccoglossus kowalevskii-BCA 209 G4V6B2_Schistosoma_mansoni-BCA 226 E9IP13_Solenopsis_invicta-BCA 227 SMAR006741 Strigamia maritima-BCA 220 H3I177_Strongylocentrotus_purpuratus-BCA 229 Q22U21_Tetrahymena_thermophila-BCA1 187 Q22U16_Tetrahymena_thermophila-BCA2 177 I7MDL7_Tetrahymena_thermophila-BCA3 194 I7LWM1 Tetrahymena thermophila-BCA4 208 17M0M0 Tetrahymena thermophila-BCA5 200 I7MD92_Tetrahymena_thermophila-BCA6 172 I7M748_Tetrahymena_thermophila-BCA7 209 Q23AV1_Tetrahymena_thermophila-BCA8 152 D6WK56 Tribolium castaneum-BCA 210 E5SH53_Trichinella_spiralis-BCA 210 A2ENQ8_Trichomonas_vaginalis-BCA1 159 A2DLG4 Trichomonas vaginalis-BCA2 159 B3S5Y1 Trichoplax adhaerens-BCA 207 117195962 Xenoturbella bocki-BCA 213

63					
	KDVP	I <mark>H</mark> G L M F N P H	TGELEVVVNGY	IEINETTEQLLLKEINKY-YS	186
10	DLH	I <mark>H</mark> A L WF D I Y	T	IEINETTEQLLLKEINKY-YS	255
10	D L H I	I <mark>H</mark> ALWFDIY	T <mark>G</mark> D VH Y <mark>F S R</mark> Q S KQ F	·····VEINEKNVDGLVEEVSKY-YC·····	255
30	D L H I	I H A L WF D I Y	T <mark>G</mark> D I Y Y F S R Q S K K F	· VE IN EKN VDKL VEEVSKY - YC	175
09	E L Q \	/HALWTDIY	K <mark>G</mark> E V Y M F S F K E K C F	IKIDENTYKKLSFECTPN-K	253
10	D L H	I H A L WF D I Y	T <mark>G</mark> D I Y Y F S RN S K R F	·····IPIDETSIEQLLDEVRRY-YS	255
14	TVDI	HAMWFDIF	AGEMYLFSKPRRKF	ILIDEGTVDKLEEEVNQH-KA	259
62	DLH	I H A L WF D I Y	T <mark>G</mark> D I Y Y F S R N S K R F	ITIDESTIEQLLTEVRRY-YS	307
10	DLH	I H A L WF D I Y	TGD I Y F F S R N S K R F	IAIDESSIDRLLDEVRRY-YS	255
10	D L H	IHALWFDI-			220
14	QADL	HAFWFQIE	TAEMHIFSHKQHKF	·····VVINDNTVDELVDEVEHH-TA	259
10	RLH	I H G M W F D I Y	K <mark>G</mark> EDYL <mark>F</mark> SKDKKRF	· VV I D E K TV TD L L A E LN TR - Y P L P E D Q D G P V A F A Q S N	270
14	TVDL	HAMWFDIY	T <mark>G</mark> E M H M F S K P N K R F	· · VLVDESNVEELIEEVEKH-QA	259
10	N <u>L H</u> L	HGAWFNIY	D <mark>G</mark> E V F L <mark>F S</mark> K D R K R F	VVIDEKTVPSLSAELERR-CPLPEDKAGDVVIQNLH	270
14	TVDL	HAMWFDIY	TG E M H M F S K P N N R F	VLIEESNVEELIDEVEKH-QT	259
10	R <u>LH</u>	HGMWFDIY	KGEDYLFSKDKKRF	·····VVIDEKTVTDLLAELNAR-YPVPEDQDGPVAFAKSN·····	270
14	TVDI	HAMWFDIY	TGEMHMFSKPNKQF		259
26	R <u>LH</u>	I HGMWF DVY	TGDDYLFSKDKKRF	VVIDEKTVDKHLSELNAR-CPLPEDQDGPVAFAKAK	286
14	TVDI	HAMWFDIY	TGEMHMFSKPNNRF	·····VLVDESNVEELIDEVEKH-QT-····	259
09	QSVA	AHGLWLSLS	SGEAHFFSKKDKAF	VNVTEDNVEELVCR	248
10	DLH	HALWEDIY	TGDIYYFSRANKRF	VEINEITEPFLLKEIKRY YS	255
10	DLH	HALWEDIY	TODIYY F SRNSKRF	IPVDEITIEKLKEVNQF YS	255
09	DLH	HALWEDIY	IGD I Y YF SRRAKRF	LIIDEASTEVILAEIRKY-YS	254
10	RVHL	ALWEDIY	IGD I Y VF SRKQKRF		255
10	QLH	ALWEDIY	TOPINTESRGAKRE		255
10	DLH	ALWEDIY	TODITIFSKGAKRE		255 255
10	DLH		TODITTE SRGAKRE		255
10	NLH		TOD I YYE CDCAKDE		255
10	DLH		TODIT F SRGAKRF		255
10			TODITTESRGAKRE		255
10			TODIVYESPOAKOF		255
10			TODIYYESPOARDE		255
10			TODIVYESPOARDE		255
10			TODIVYESPOARE		255
10			TODIYYESBOAKCE		255
10			TODIYYESBOAKBE		255
69		VSMIYNIE			188
69		VSMIYNIE	TGKCEVVOLLLL		188
69	OCN	VSMIYNIE	TGKCEVVQ		188
10	DI H	HALWEDIY	TODIYYESBANKRE		200
09	DLH				
09		HALWEDIY	TGDIYYESBRAKBE	IIIDESSYEVILAE IRRY-YS	255 254
69	KVRI	HALWFDIY	T <mark>G</mark> D I Y Y F S R R A K R F TGD F H M F C R D S N R F	IIIDESSYEVILAEIRRY-YS	255 254 255
	KVRL OVVN	IHALWFDIY HALWIDVY IHGWIYGVN	T <mark>G</mark> D I Y Y F S R R A K R F TGD F H M F C R D S N R F D G R L R D L A I T C S N L	I I I DESSYEV I LAE I RRY - YS ML VNEESYEN LADGESN - I DY	255 254 255 210
56 N K F	KVRL QVVN PENEVE	IHALWFDIY HALWIDVY IHGWIYGVN IHGWVYGLE	TGD I YYFSRRAKRF TGDFHMFC RDSN RF DGRL RDL A I TCSN L DGL I RPLL TLN RRS	IIIDESSYEVILAEIRRY-YS	255 254 255 210 306
56 N K F 56 N K F	KVRL QVVN PENEVE PENEVE	I H A L WF D I Y H A L W I D V Y I H G W I Y G V N I H G W V Y G L E I H G W V Y G L E	TGDIYYFSRRAKRF TGDFHMFCRDSNRF DGRLRDLAITCSNL DGLIRPLLTLNRRS DGLIRPLLTLNRRS	IIIDESSYEVILAEIRRY-YS	255 254 255 210 306 306
56 N K F 56 N K F 56 N K F	KVRL QVVN PENEVE PENEVE PENEVE	I H A L WF D I Y H A L W I D VY I H GWI Y G VN I H GWVYGL E I H GWVYGL E I H GWVYGL E	TGDIYYFSRRAKRF TGDFHMFCRDSNRF DGRLRDLAITCSNL DGLIRPLLTLNRRS DGLIRPLLTLNRRS DGLIRPLLTNRRS	I I D E S S Y E V I L A E I R R Y - Y S	255 254 255 210 306 306 306
56 N K F 56 N K F 56 N K F 56 N K F	KVRL QVVN PENEVE PENEVE PENEVE PENEVE	I H AL WF D I Y H AL WI D VY H GWI YG VN H GWVYGL E H GWVYGL E H GWVYGL E H GWVYGL E	TGD I YYF S RRAK RF TGD F H MF C RD S N R F DG R L R D L A I T C S N L DG L I R P L L T L N R R S DG L I R P L L T L N R R S DG L I R P L L T L N R R S DG L I R P L L T L N R R S	I I D E S S Y E V I L A E I R R Y - Y S ML VN E E S Y E N L L AD G E S N - I D Y	255 254 255 210 306 306 306 306
56 N K F 56 N K F 56 N K F 56 N K F 56 N K F	KVRL QVVN PENEVE PENEVE PENEVE PENEVE TAFN	I H AL WF D I Y H AL WI D VY I HGWI YGVN I HGWVYGL E I HGWVYGL E I HGWVYGL E I HGWVYGL E I HGWVYGL E	TGD I YYF S RRAK RF TGD F HMFC RD S N RF DG RL RD L A I TC S N L DG L I RP LL TLN RRS DG L I RP LL TLN RRS DG L I RP LL TLN RRS TGD VHYFL KN E KVF	I I J DE SS Y E V L LA E I RRY - Y S ML VN E E SY E N L L A D G E SN - I D Y KDL TT KHQ KY L D F L K NA E K E L HN A A D A L F WR Y	255 254 255 210 306 306 306 306 251
56 N K F 56 N K F 56 N K F 56 N K F 09 10	KVRL QVVN PENEVE PENEVE PENEVE PENEVE TAF NLH	I HALWFD I Y HALWIDVY I HGWIYGVN I HGWVYGLE I HGWVYGLE I HGWVYGLE I HGWYGLE /HGLWFSLT /HALWFD I Y	TGD I YY F SRRAKRF TGD FHMFC RDSN RF DGRL RDLA I TCSNL DGL I RPLL TLNRRS DGL I RPLL TLNRRS DGL I RPLL TLNRRS TGD VHY FLKNE KVF TGD VHY FSRANKRF	IIDESSYEVILAEIRRY-YS- MLVNESYENLADGESN-IDY- - KDLTTKHQKYLDFLK - NAEKELHNAADALFWRY- - NAEKELHNAADALFWRY- - OQL - NAEKELHNAADALFWRY- - OQL - NAEKELHNAADALFWRY- - NAEKELHNAADALFWRY- - OQL - NAEKELHNAADALFWRY- - OQL - NVEKELHNAADALFWRY- - OQL - NVEKELHNAVDALFWRY- - OQL - NVEKELHNAVDALFWRY- - OQL - NVEKELHNAVDALFWRY- - OQL - OVEKELHNAVDALFWRY- - OQL - OVEKELHNAVDALFWRY- - OVEKELHNAVDALFWRY- - OVEKELHNAVDALFWRY-	255 254 255 210 306 306 306 251 255
56 N K F 56 N K F 56 N K F 56 N K F 09 10 03	KVRI QVVN PENEVE PENEVE PENEVE PENEVE TAFN ALNI	I HALWFDIY HAUWIDVY HGWIYGVN HGWVYGLE HGWVYGLE HGWVYGLE HGWVYGLE YHGLWFSLT YHALWFDIY YGLWFDIK	TGD I YY F S R R A K R F TG D F HM F C R D S N R F D G R L R D L A I T C S N L D G L I R P L L T L N R R S D G L I R P L L T L N R R S D G L I R P L L T L N R R S T G D H Y F L K N E K V F T G D I YY F S R A N K R F E G E M Y M F S R K O K K F	I I D E S S Y E V I L A E I R R Y - Y S - 	255 254 255 210 306 306 306 251 255 244
56 N K F 56 N K F 56 N K F 56 N K F 09 10 03 86	KVRI QVVN PENEVE PENEVE PENEVE TAFN NLHN ALNI NPIMN	I HALWFDIY HAUWIDVY HGWIYGVN HGWVYGLE HGWVYGLE HGWVYGLE HGWVYGLE YHGUWFSLT YHALWFDIY YGLWFDIK YGWLFRVE	TGD YY F S R RAK FF TGD F HM F C RD S N R F D G R L RD L A I T C S N L D G L I R P L L T L N R R S D G L I R P L L T L N R R S D G L I R P L L T L N R R S D G L I R P L L T L N R R S T G D Y H Y F S R N K R F G S E M Y M F S R K K K F TG Y I E L L I D S Q T P	I I I DESSYEV L LAE I RRY - YS MLVNEESYEN L LAGGESN - I DY KDLTTKHQKYL DF L K 	255 254 255 210 306 306 306 251 255 244 289
56 N K F 56 N K F 56 N K F 56 N K F 09 10 03 86 86	KVRI QVVN PENEVE PENEVE PENEVE TAFN NLHN NLHN NPIMN HPVMN	I HALWFDIY HALWIDVY HGWIYGVN HGWVYGLE I HGWVYGLE I HGWVYGLE LHGWVYGLE VHGLWFSLT VHALWFDIY YGLWFDIK YGUWFDIK VGWLFRVE	TGD YY F SRRAKRF TGD FHMF CRD SNRF DG RL RDLA I TC SNL DG LI RPLL TLNRRS DG LI RPLL TLNRRS DG LI RPLL TLNRRS DG LI RPLL TLNRRS TGD VY F LKNEKVF TGD I YY F SRANKRF E GEMYMF SRKOKKF TGY I EELL I DSO TP TG F I EELE I EES I P	 I I D E SS Y E V I LA E I RRY - Y S ML VN E S Y E N I LADGE SN - I DY	255 254 255 210 306 306 306 251 255 244 289 297
56 N K F 56 N K F 56 N K F 09 10 03 86 86	KVRI QVVN PENEVE PENEVE PENEVE TAFN NLHN NLHN NPIMN HPVMN NPIMN	I HALWFDIY HALWIDVY HGWIYGLE HGWVYGLE HGWVYGLE HGWVYGLE HGWVGLE HGWVFDIY HALWFDIY LYGLWFDIX VHQLFRVE VHGWLFRVE	TGD I YY F S R R A K R F TGD F HM F C R D S N R F D G R L R D L A I T C S N L D G L I R P L L T L N R R S D G L I R P L L T L N R R S D G L I R P L L T L N R R S D G L I R P L T L N R R S TG D V H Y F L K N E K V F TG D I Y F R A N K R F E G E M Y M F S R K V K F TG Y I E E L L I D S Q T P TG Y I E E L L I D S Q T P TG Y I E E L L I D S Q T P	L E IN ETTEOL LL KE INKY YS YE IN EKNYDGK YE EVSKY YC IK ID EN YKKK SF ECTPN K I D D TS IEOL LD VR NY S I L D G TYDK L EE EVN NY KA YT D D ST IEOL LT VN RY S VI D E TEOL LD VR NY S VI D E THE VN RY S VI D E THE VL EV RH YS VI D E TYDL LA EL N TR YD L P E D D D G P VA F A G SN VV D E TYDL LA EL N TR YD L P E D D G G P VA F A G SN VV D E TYDL LA EL N TR YD L P E D D G G P VA F A G SN VV D E TYDL LA EL N TR YD L P E D D G G D VA F A G SN VV D E TYD L A EL N TR YD L P E D D G G D VA F A G SN VV D E TYD L A EL N TR YD L P E D D G G D VA F A G SN VV D E TYD L LA EL N TR YD L P E D D G G D VA F A G SN VV D E TYD L LA EL N AR YD Y E D D G G D VA F A G SN VV D E TYD L LA EL N AR YD Y E D D D G G Y A F A G SN VV D E TYD L LA EL N AR YD Y E D D D G G Y A F A K SN VV D E TYD L LA EL N AR YD Y E D D D G G Y A F A K SN VV D E TYD L LA EL N AR YD Y E D D D G G Y A F A K SN VV D E STYFL L LE LN AR YD Y E D D D G G Y A F A K SN VV D E STYFL L E L N AR YD Y E D D D G G Y A F A K SN VV D E SYYEL I D E Y E KH O T VY D E SYYEL I D E YE KH O T VY D E SYYEL I D E YE KH O T VY D E SYYEL I D E YE KH O T VY D E SYYEL I D E YE KH O T VY D E SYYEL I D E YE KH O T VY D E SYYEL I D E YE KH O T VY D E SYYEL I D E YE KH O T VY D E SYYEL I D E YE KH O T VY D E SYYEL I D E YE KH O T VY D E SYYEL I D E YE KH O T VY D E SYYEL I D E YE KH O T VY D E SYYEL I D E YE KH O T VY D E SYYEL I D E YE KH O T VY D E SYYEL I D E YE KH O T VY D E SYYEL I D E YE KH O T VY D E SYYEL I D E YE KH O T VY D E SYEL I D E YE KH F Y S VA YD E SYEL I SE YN F Y S VA YD E SYEL I SE YN F Y S VA YD E SYEL I SE YN F Y S VA YD E SYEL I SE YN F Y S VA YD E SYEL I SE YN F Y S VA YD E SYEL I SE YN F Y S VA YD E SYEL I SE YN F Y S VA YD E SYEL I SE YN F Y S VA YD E SYEL I SE YN F Y S VA YD E SYEL I SE YN F Y S VA YD E SYEL I SE YN F Y S VA YD E SYEL I SE YN F Y S VA YD E SYEL I SE YN F Y S VA YD E SYEL I SE YN F Y S VA YD E SYEL I SE YN F Y S VA YD E SYEL I SE YN F Y S VY YD YN YN YN YN YN S S S YN F Y S VY YN YN YN YN YN	255 254 255 210 306 306 306 251 255 244 289 297 289
56 N K F 56 N K F 56 N K F 56 N K F 09 10 03 86 86 86 86	KVRI QVVN PENEVE PENEVE PENEVE PENEVE TAFN NLHN NLHN NPIMN NPIMN NPIMN	H ALWFD IY H ALWIDVY H GWIYGVN H GWVYGLE H GWVYGLE H GWVYGLE H GWVYGLE H GWVYGLE H GWFGL F GWFSLT Y GLWFD IX Y GLWFD IX Y GLWFD IX Y GWLFRVE H GWLFRVE Y GWLFRVE	TGD YY F S R RAK FF TGD F HMF C RD S N R F DG R L RD L A I TC S N L DG L I R P L L TL N R R S DG L I R P L L TL N R R S DG L I R P L L TL N R R S DG L I R P L T L N R R S TG D Y H F L K N E K Y F TGD I Y Y F S R N K R F G E M Y M F S R K O K K F TG Y I E E L L I D S O T P TG F I E E L S L E D S I P TG F I E E L S L E D S I P	 IIIDESSYEVILAEIRRY - YS- MLVNEESYENLADGESN - IDY- - KDLTTKHQKYLDF K - NAEKELHNAADALFWRY - GQL - NAEKELHNAADALFWRY - GQL - NAEKELHNAADALFWRY - GQL - NAEKELHNAADALFWRY - GQL - NVENELHNAADALFWRY - GQL - NVENELHNAADALFWRY - GQL - VVINKDTVNNLCSEE- - VVINKDTVNNLCSEVD - VVINKDTVNNLCSEVD - EEMSKVFALKFKLDSERI - LS - KKASRQSSPQNSTRKRFQLMQKKITQNLKKLKENGGRLEQDIELQLLGELIQNSQQS- - EEMSKVFALKFKLDSERI - LS - KQTTPLGSPKNNARKKFQSMQKQIIQHIKKQKENAGGFQKTNDLQQIREYQNCQEL - EEMSKIFKIKFKPPKVQS - PSQHEDE - ENSASPSIRKRFQRMQSRIETGIRHFTIHMQNVDEEEIE - HKLVENIEQDLSV- 	255 254 255 210 306 306 306 251 255 244 289 297 289 291
56 N K F 56 N K F 56 N K F 56 N K F 09 10 86 86 86 86 86	KVRI QVVN PENEVE PENEVE PENEVE TAFI NPIMI NPIMI NPIMI NPIMI NPIMI	HALWEDIY HALWIDVY HGWYGLE HGWYGLE HGWYGLE HGWYGLE HGWYGLE HGWFGL HALWEDIY YGLWFDIX HALWEDIY YGWFDIX HGWLFRVE HGWLFRVE	TGD YY F SRRAKRF TGD FHMF CRDSNRF DGRL RDLA I TC SNL DGL I RPLL TLNRRS DGL I RPLL TLNRRS DGL I RPLL TLNRRS DGL I RPLL TLNRRS TGD YY F SRAKRF EGEMYMF SRKOKKF TGY I EELL I DSO TP TGY I EELL I DSO TP TGY I EELL I DO TP TGY I EELL I DO TP TGY I EELL I DO TP	 I I D E SSYEV I LAE I RRY - Y S ML VN E SY EN L ADGESN - I DY KDL TTKHQKY LDF K NAEKELHNAADAL FWRY GQL NAEKELHNAVDAL FWRY GQL NAEKELHNAVDAL FWRY GQL - NAEKELHNAVDAL FWRY GQL - NVE KELHNAVDAL FWRY GQL VV I N KD TVNN LCSE VD VV I N KD TVNN LCSE VD 	255 254 255 210 306 306 306 251 255 244 289 297 289 291 289 291
56 N K F 56 N K F 56 N K F 56 N K F 09 03 86 86 86 86 86	KVRI QVVN PENEVE PENEVE PENEVE PENEVE NEN NPIM HPVM HPVM NPIM NPVM	HALWFDIY HGWIYGLE HGWYGLE HGWYGLE HGWYGLE HGWYGLE HGWFSLT HALWFDIY YGLWFDIK YGWLFRVE HGWLFRVE HGWLFRVE HGWLFRVE HGWLFRVE	TGD I YY F S R R A K R F TGD F HM F C R D S N R F D G R L R D L A I T C S N L D G L I R P L L T L N R R S D G L I R P L L T L N R R S D G L I R P L T L N R R S TG D Y H Y F L K N E K V F TG D I Y F S R A N K R F E G E M Y M F S R K O K K F TG Y I E E L L D S O T P TG Y I E E L L I D S O T P TG Y I E E L L I D S O T P TG Y I E E L L I D S O T P TG Y I E E L L I D S O T P TG Y I E E L L I D S O T P	 IIIDESSYEVILAEIRRY-YS- MUVNESYENILADGESN-IDY- KDLTTKHQKYLDFLK NAEKELHNAADALFWRY- GQL NAEKELHNAADALFWRY- GQL NAEKELHNAADALFWRY- GQL NAEKELHNAADALFWRY- GQL NVEKELHNAVDALFWRY- GQL INVSEDN IDN LVQRSEE VUNKDTVNNLCSEVD VUINKDTVNNLCSEVD KKASRQSSPQNSTRKRFQLMQKKITQNLKKLKENGGRLEQDIELQLLGELIQNSQQS- VUINKDTVNNLCSEVD EEMSKVFALKFKLDSERI - LS - KKASRQSSPQNSTRKRFQLMQKKITQNLKKLKENGGRLEQDIELQLLGELIQNSQQS- TNLSKVFQLNFKPTQTHK- PKQQKDDNEEERSRSPSIKKFQCMQSRLETEIKRLTITLDPNQEVEKDVIDQVSEVLOKDLGIQN EEMSKVFALKFKLDSERI - LS - KVATPLGSPKNNARKKFQSMQKQIIQHIKKQKENAGGFQKTNDLQQIREYVQNCQEL EEMSKIFKIKFKPPKVQS - PSQHEDE EGNAISPMRARRRPQRMQSRIETGIRHFTIHMQNVDEEEIE - HKLVENIEQDLSV- EEMCKVYALKFKLESEKQ - LS - KHVSPTGSPKNNAKKFQNMQRKLIEHINQLKENKIE-DFDLETKEIGGFIESSKDL 	255 254 255 210 306 306 306 251 255 244 289 297 289 297 289 291 288 217
56 N K F 56 N K F 56 N K F 56 N K F 09 03 86 86 86 86 86 86 86 26	KVRI QVVN PENEVE PENEVE PENEVE TAFN NLHN NPIMN NPIMN NPIMN NPVMN NPVMN NVRI VLR	HALWFDIY HGWIYGLE HGWYGLE HGWYGLE HGWYGLE HGWFGL HGWFGL HGWFGL HGWFGL HGWFGL HGWFF HGWFF HGWFF HGWFF HGWFF HGWLFRVE HGWLFRVE HGWLFRVE	TGD YY F S R RAK RF TGD F HMF C RD S N RF DG RL RD LA I TC S NL DG LI RP LL TLN RR S DG LI RP LL TLN RR S DG LI RP LL TLN RR S TGD YH FY L KN E K VF TGD I YY F S RANK RF EG EMYMF S RKOK KF TGY I EEL LI DSO TP TGF I EELE I EES I P TGF I EELE LI DSO TP TGF I EEL LI DO HTP TGF I EELL LDO HTP TG YI EELL LI DO HTP	 IIIDESYEVILAEIRRY YS- MLVNEESYENILADGESN IDY- KDLTTKHQKYLDFK NAEKELHNAADALFWRY	255 254 255 210 306 306 251 255 244 289 297 289 291 288 291 288 217 241 241
56 N K F 56 N K F 56 N K F 09 10 86 80		HALWFDIY HALWIDVY HGWYGLE HGWYGLE HGWYGLE HGWYGLE HGWYGLE HGWFGL HALWFDIY YGLWFDIX HGLWFDIY YGWFT KUF HGWLFRVE HGWLFRVE HGWLFRVE HALWFDIY HALWFDIY	TGD I YY F SRRAKRF TGD FHMF CRDSNRF DGRLRDLA I TC SNL DGL IRPLL TLNRRS DGL IRPLL TLNRRS DGL IRPLL TLNRRS DGL IRPLL TLNRRS TGD YY F SRANKRF EGEMYMF SRKOKKF TGY IEELL IDSOTP TGY IEELL IDSOTP TGF IEELL IDSOTP TGF IEELL IDSOTP TGF IEELL IDOHTP SERF- TGD I YY F SRANKRF	 I I D E SSYEVI LAE I RRY - Y S ML VN E SY EN L ADGESN - I DY KDL TTKHQKY LDF K NAEKELHNAADAL FWRY	255 254 255 210 306 306 306 251 255 244 289 297 289 291 288 217 241 272 272
56 N K F 56 N K F 56 N K F 56 N K F 09 10 03 86 86 86 86 86 86 26 27 20	KVRL QVVN PENEVE PENEVE PENEVE PENEVE TAFV NPIMV NPIMV NPIMV NPIMV NPIMV NPVMV NPVMV NPVMV NVK	HALWFDIY HGWIYGLE HGWYGLE HGWYGLE HGWYGLE HGWFGL HGWFGL HGWFGL HGWFF HGWFF HGWF HGWF HGWF HGWF HGWL FRVE HGWL FRVE HGWL FRVE HGWL FRVE HGWL FRVE HAMWF HA HA H HA H F H F H HA H H H H H H H	TGD YY F S R RAK FF TGD F HMF C RD SN RF DG RL RD LA I TC SNL DG LI RP LL TLN RRS DG LI RP LL TLN RRS DG LI RP LL TLN RRS TGD YH F S RAN K FF TGD YH YF S RAN K FF TGY I EELL I DS QT P TGF I EELE I EES I P TGF I EELL I DS QT P	 IIIDESSYEVILAEIRRY YS- MLVNEESYENILADGESN IDY- KDLTTKHQKYLDFK NAEKELHNAADALFWRY	255 254 255 210 306 306 306 251 255 244 289 297 289 297 289 291 288 217 241 272 241 272
56 N K F 56 N K F 56 N K F 09 03 03 86 86 86 86 20 27 20 20 20 20		HALWFDIY HGWIYGLE HGWYGLE HGWYGLE HGWYGLE HGWYGLE HGWFGL HGWFGL HGWFGL HGWFGL HGWFF HGWLFRVE HGWLFRVE HGWLFRVE HGWLFRVE HGWLFRVE HGWLFRVE HGWFFY HALWFDIY HAFWFDIY HAFFYDF	TGD YY F S R A K R F TGD F HMF C R D S N R F D G R L R D L A I T C S N L D G L I R P L L T L N R R S D G L I R P L L T L N R R S D G L I R P L T L N R R S D G L I R P L T L N R R S TG D H Y F L N E K Y C TG D H Y F S R A N K R F G E M Y M F S R K O K K F TG Y I E E L I D S O T P TG F I E E L E I E E S I P TG Y I E E L I D S O T P TG F I E E L E S L D S T TG Y I E E L L D S T P TG Y I E E L L D S T P TG Y I E E L L D S T P TG Y I E E L L D S T P TG Y I E E L L D S T P TG Y I E E L L D S T P TG Y I E E L R S R S R S R S R S R S R S R S R S R	 IIIDESYEVILAEIRRY-YS- MLVNEESYENILADGESN-IDY- KDLTTKHQKYLDFK NAEKELHNAADALFWRY	255 254 255 210 306 306 251 255 244 289 297 289 297 289 291 288 217 241 272 261 275
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