

15234291.p MCLCPS-SPK- ATRRGTGSRNPNTDSPFTQGKAS- EVKSNKKNNKKKIQLRLHQG- GIPYCKRIFDFVYANDFDNRYIICKLKLHGCGFCGTYVYVATD  
 15227920.p MCLCSAAK- SSGHNRSSRNPHHPPLTVVKERPP- RSPCSFMAVTIQKDHTPDRRNATAKKTPTRTPTPGK- ~VREKVISSNNGRH- GETPYCKRVDFFVYANDFDNRYIICKLKLHGCGFCGTYVYVATD  
 30698202.p MCVCPS-AIR- VTGASSSSRSQQTSKS- KAAP- TPDHKASTKTRKG- SIPCGKRTDFPVYSCSDFHDHYIICKLKLHGCGFCGTYVYVATD  
 15239300.p MCVCPS-AIR- VTGASSSSRSQQTSKS- KAAP- TPDHKASTKTRKG- SIPCGKRTDFPVYSCSDFHDHYIICKLKLHGCGFCGTYVYVATD  
 AK060738.q MCACPS-SHT- ATAAADGGGSKRQRQR- KGDJHKGLPDGGGEKEKEKE- AARVFRFVYERDFECRYYVRLCHGCGFCGYTFAAFTD  
 1522781.p MCGCTPNPKST- SSGRPNPFFA- PGNDYQIDDFAHPDGPKSFPTPSAAKASPPFFYTPSPARHRRNKSRDVGGGGESKSLSTFLR- QLRRAFHPSPAKHIAALLRRRKKGKEA- ALSGVTQLTTEV  
 15230288.p MCGCSKPS- SSVKNPYAA- PKDAVLDNDDSTDFAHGPKSVPRSSPAVKASPFFFYTPSPARHRRNKSRD- GGGGESKSVTSTFLR- QLARAKTSPAKHIDVIRRERKEKEA- ALPAARQOK  
 AK067709.q MCLCPS-NS- SNSDQTTPARN- SPLPASESVKPVSSSVNGEDQCVTTTNEGKSPFPFFYSPSPAHYFFSKTP- ARSPATNSTNSTFPR- FFKRPFPPSPAKHIAAVLARRHGSVKP- NSSAIPEGS  
 15229785.p MCLCTSKP-NS- IPEPEAEEA- AAAAGVAVAGAACSPGFAAAAAAAAAAAKPGTPQPKPPFYLPSPLEFASSYKSSP- ANSS- VASTPARGQLKRPPPPSPAKHIAALLARRHGSVKP- EAEGGGVLGDKSPFQSKCFAASKYPLDCEVVRGHFCGYTCSEAKI  
 83554293.q MCLCHGKPSQ- VLEPTVVEEEECATRAVEAAAAAPAKPASPASAAAAAAAAPAKPGTPQPKPPFYLPSPLEFASSYKSP- ANSS- NEAPIPEGG- ETEVGLDKGFPFQSKCFAASKYPLDCEVVRGHFCGYTCSEAKI  
 83602259.q MCLCHGKPSA- VLEPTVVEEEECATRAVEAAAAAPAKPASPASAAAAAAAAPAKPGTPQPKPPFYLPSPLEFASSYKSP- ANSS- VASTPARGQLKRPPPPSPAKHIAALLARRHGSVKP- EIGVALDLKGFPFQSKCFAASKYPLDCEVVRGHFCGYTCSEAKI  
 15226841.p MCLCHGK- VEQQ- SKSLPVSGETNEAPNTNSQPPAKSSG- FPFYFSPSPVP- FPFYFSPSPVP- NEVSIPEGK- ECEIGLKGFPFQSKCFAASHYDIDCEVVRGHFCGYTCSEAKI  
 15229002.p MCLCHGK- IEQQ- SKNLPISEIEETKNSQSKAKSSG- FPFYFSPSPVP- SLFKTSPRL- NEASIP EGGS- ECCEVGLDKKFQFQSKCFAASHYDIDCEVVRGHFCGYTCSEAKI  
 30689449.p MCLCHGK- - VLEPTVVEEEECATRAVEAAAAAPAKPASPASAAAAAAAAPAKPGTPQPKPPFYLPSPLEFASSYKSP- ANSS- VASTPARGQLKRPPPPSPAKHIAALLARRHGSVKP- NEASIP EGGS- ECCEVGLDKKFQFQSKCFAASHYDIDCEVVRGHFCGYTCSEAKI  
 15229129.p MCHYYSRNIS- - TVDDDDDEIPSPATAQLPHRSQNHQTSSSSSIPQSPATSEVN- PYNISPQFSPLPAGVSPAR- TPGRKFWKWPFPSPAKHIAALRERGTAPEH- PRDGPIPEDSEAG- GSIGGIGERLDKNPFPQAFNPECKYPLDCEVVRGHFCGYTCSEAKI  
 14670086.q MOCYCYARNVP- VDGECCCCVVTTTTTTTIS- VSASAAGEEEVEVGRGGGGGGCRS3GRSPAGTPRRRGATPARSSVAGSPWAGSPLEFQIAPSPASATTPRFRFRRPPPSPAKHIAASLARRLGCRSPATAQAAQAKPAAEV- IPEHGGGGGAAAG- EVERELDKSPFVYDREIPEAKYPLDCEVVRGHFCGYTCSEAKI  
 36400013.q MOCYCYKGASCRTADDEGGVTEIQSPPPANGLSTPPRQOQAQAOQVGT- RRRGSKS5GGSSTTPQGHQTPGVAWPSPYPS- CGASPLPAGVSPSPAR- STPRRFVFKRPPPPSPAKHIAKTLAKLHLGGKKP- KEGTIPFEEGVGAGGGGGAAAGDCAETER- LDKTFEPFQSKCFAASKYPLDCEVVRGHFCGYTCSEAKI  
 15226426.p MOCYCYGVNQ- - SKRNQEEEANTTYYVSPDGNQIQLPQKNTYRPAR- WNPSPFTH- GSASPLPSGVSPSPAR- TSTPFRFRRPPPSPAKHIAASLHKKP- KEGFPIPEE- RGTEPEQSLSKPSFVYDREIPEAKYPLDCEVVRGHFCGYTCSEAKI  
 2phk\_A MLCPS-SPK- ATRRGTGSRNPNTDSPFTQGKAS- EVKSNKKNNKKKIQLRLHQG- GIPYCKRIFDFVYANDFDNRYIICKLKLHGCGFCGTYVYVATD  
 1jkwp\_A MLCPS-SPK- ATRRGTGSRNPNTDSPFTQGKAS- EVKSNKKNNKKKIQLRLHQG- GIPYCKRIFDFVYANDFDNRYIICKLKLHGCGFCGTYVYVATD  
 1ia8\_A MLCPS-SPK- ATRRGTGSRNPNTDSPFTQGKAS- EVKSNKKNNKKKIQLRLHQG- GIPYCKRIFDFVYANDFDNRYIICKLKLHGCGFCGTYVYVATD

410 420 430 440 450 460 470 480 490 500 510 520 530 540 550 560 570 580 590 60

15234291.p MKPENFLKSKNEEDSS LKAIDFGLSDFIPIGKV F DIVSAYYVAPEVLKRRS G PESDV SIVIY VILLCCGRPPWDITQDGIFNE VMRKPKDPBSPVPTISNEAKDFVKLLKE RARITAQAQISH TVVREGGEASBVPIDI VLNNMDFVKE SLKCIALRALAKLTINDEDDDLDQ

15227920.p MKPENFLKSKNEEDSP LKAIDFGLSDFIPIGKK F DIVSAYYVAPEVLKRRS G PESDV SIVIY VILLCCGRPPWDITQDGIFNE VLANKDFRKKPFTISNAKDFVKLLKD RARITAQAQISH PVPVREGGDAEIPIDI VLNNMDFVKE SLKCIALRALALPILDEEEADLDQ

30698202.p MKPENFLKSKNEEDSP LKAIDFGLSDFIPIGKK F DIVSAYYVAPEVLKRRS G PESDV SIVIY VILLCCGRPPWDITQDGIFNE VLRRNPDKSRPKPATISDGAKFVKLLKD RARITAQAQISH SHAWPREGGNAIDIPVDI VLNNLDFVRYE SLKCIALRALASLDEAISESLDQ

15239300.p MKPENFLKSKNEEDSP LKAIDFGLSDFIPIGKR F DIVSAYYVAPEVLKRRS G PESDV SIVIY VILLCCGRPPWDITQDGIFNE VLRRNPDKPSRKPATISDGAKFVKLLKD RARITAQAQISH SHAWPREGGNAIDIPVDI VLNNLDFVRYE SLKCIALRALASLDEAISESLDQ

AK06738.q MKPENFLKSKNEEDSP LKAIDFGLSDFIPIGKK F DIVSAYYVAPEVLKRRS G PESDV SIVIY VILLCCGRPPWDITQDGIFNE VLRNKDFRKKPNCISCAKDFVKLLKD RARITAQAQISH PVPVREGGEASEIPVDI VLSNMDFVKE SLKCIALRALASLTLKEEADLDQ

15222781.p LKPENFLKTSKEENSQ LKAIDFGLSDFIPIGDR LNDIVSAYYVAPEVLHRSY TTEADV SIVIY VILLCCGRSPWARTESCIFFRA VLKADPSPDDBPNSWLSFPADFKVRKLKD RRRMSAQALMHPWIRAYNDIPDI IFRQOMAYLSSRLKAALRALSLKIMLDEHLYLKDQ

15232088.p LKPENFLKTSKEENSQ LKAIDFGLSDFIPIGDR LNDIVSAYYVAPEVLHRSY TTEADV SIVIY VILLCCGRSPWARTESCIFFRA VLKADPSPDDBPNSWLSFPADFKVRKLKD RRRMSAQALMHPWIRAYNDIPDI IFRQOMAYLSSRLKAALRALSLKIMLDEHLYLKDQ

AK067709.q LKPENFLKTSKEENSQ LKAIDFGLSDFIPIGDR LNDIVSAYYVAPEVLHRSY STEADV SIVIY VILLCCGRSPWARTESCIFFRA VLKADPSPDDBPNSWLSFPADFKVRKLKD RRRMSAQALMHPWIRAYNDIPDI IFRQOMAYLSSRLKAALRALSLKIMLDEHLYLKDQ

15229785.p LKPENFLKTSKEENSQ LKAIDFGLSDYVPEDR LNDIVSAYYVAPEVLHRSY STEADL SIVIY VILLCCGRSPWARTESCIFFRA VLKADPSPDDBPNSWLSFPADFKVRKLKD RRRMSAQALMHPWIRAYNDIPDI IFRQOMAYLSSRLKAALRALSLKIMLDEHLYLKDQ

83554293.q LKPENFLKTSKEENSQ LKAIDFGLSDYVPEDR LNDIVSAYYVAPEVLHRSY CTEADM SIVIY VILLCCGRSPWARTESCIFFRA VLKADPSPDDBPNSWLSFPADFKVRKLKD RRRMSAQALMHPWIRAYNDIPDI IFRQOMAYLSSRLKAALRALSLKIMLDEHLYLKDQ

83602259.q LKPENFLKTSKEENSQ LKAIDFGLSDYVPEDR LNDIVSAYYVAPEVLHRSY CTEADM SIVIY VILLCCGRSPWARTESCIFFRA VLKADPSPDDBPNSWLSFPADFKVRKLKD RRRMSAQALMHPWIRAYNDIPDI IFRQOMAYLSSRLKAALRALSLKIMLDEHLYLKDQ

15226841.p LKPENFLKTSKEENSQ LKAIDFGLSDYVPEDR LNDIVSAYYVAPEVLHRSY CTEADM SIVIY VILLCCGRSPWARTESCIFFRA VLKADPSPDDBPNSWLSFPADFKVRKLKD RRRMSAQALMHPWIRAYNDIPDI IFRQOMAYLSSRLKAALRALSLKIMLDEHLYLKDQ

15229002.p LKPENFLKTSKEENSQ LKAIDFGLSDYVPEDR LNDIVSAYYVAPEVLHRSY CTEADM SIVIY VILLCCGRSPWARTESCIFFRA VLKADPSPDDBPNSWLSFPADFKVRKLKD RRRMSAQALMHPWIRAYNDIPDI IFRQOMAYLSSRLKAALRALSLKIMLDEHLYLKDQ

30689449.p LKPENFLKTSKEENDAI LKAIDFGLSDFIPIGDOR LNDIVSAYYVAPEVLHRSY STEADM SIVIY VILLCCGRSPWARTESCIFFRA VLKADPSPDDBPNSWLSFPADFKVRKLKD RRRMSAQALMHPWIRAYNDIPDI IFRQOMAYLSSRLKAALRALSLKIMLDEHLYLKDQ

15229129.p LKPENFLKTSKEENDAI LKAIDFGLSDYVPEDR LNDIVSAYYVAPEVLHRSY STEADM SIVIY VILLCCGRSPWARTESCIFFRA VLKADPSPDDBPNSWLSFPADFKVRKLKD RRRMSAQALMHPWIRAYNDIPDI IFRQOMAYLSSRLKAALRALSLKIMLDEHLYLKDQ

14670086.q LKPENFLKTSKEENDAI LKAIDFGLSDYVPEDR LNDIVSAYYVAPEVLHRSY STEADM SIVIY VILLCCGRSPWARTESCIFFRA VLKADPSPDDBPNSWLSFPADFKVRKLKD RRRMSAQALMHPWIRAYNDIPDI IFRQOMAYLSSRLKAALRALSLKIMLDEHLYLKDQ

36400013.q LKPENFLKTSKEENDAI LKAIDFGLSDYVPEDR LNDIVSAYYVAPEVLHRSY SMADI SIVIY VILLCCGRSPWARTESCIFFRA VLKADPSPDDBPNSWLSFPADFKVRKLKD RRRMSAQALMHPWIRAYNDIPDI IFRQOMAYLSSRLKAALRALSLKIMLDEHLYLKDQ

15226426.p LKPENFLKTSKEENDAI LKAIDFGLSDYVPEDR LNDIVSAYYVAPEVLHRSY SLADI SIVIY VILLCCGRSPWARTESCIFFRA VLKADPSPDDBPNSWLSFPADFKVRKLKD RRRMSAQALMHPWIRAYNDIPDI IFRQOMAYLSSRLKAALRALSLKIMLDEHLYLKDQ

2phk\_A LKPENFLKTSKEENDAI LKAIDFGLSDYVPEDR LNDIVSAYYVAPEVLHRSY SLADI SIVIY VILLCCGRSPWARTESCIFFRA VLKADPSPDDBPNSWLSFPADFKVRKLKD RRRMSAQALMHPWIRAYNDIPDI IFRQOMAYLSSRLKAALRALSLKIMLDEHLYLKDQ

1kwp\_A VRPKMLDLSKRNALKLDFCPLAKETTSHSN LTPPCVTPYYVAPEVLGPK YDKSCDM SIVIY VILLCCGRSPWARTESCIFFRA VLKADPSPDDBPNSWLSFPADFKVRKLKD RRRMSAQALMHPWIRAYNDIPDI SRVLPQLTQYKLVYAYIHLARLRAAALKALARLTENEVYREDQ

1jkk\_A LKPENFLKTSKEENDAI LKAIDFGLSDYVPEDR FNPTRSTPEVFAPIVYNE LGLADM SIVIY VILLCCGRSPWARTESCIFFRA VLKADPSPDDBPNSWLSFPADFKVRKLKD RRRMSAQALMHPWIRAYNDIPDI DTQAL SAWASHQPFKE

lia8\_A LKPENFLKTSKEENDAI LKAIDFGLSDYVPEDR FNPTRSTPEVFAPIVYNE LGLADM SIVIY VILLCCGRSPWARTESCIFFRA VLKADPSPDDBPNSWLSFPADFKVRKLKD RRRMSAQALMHPWIRAYNDIPDI DTQAL SAWASHQPFKE

610     620     630     640     650     660     670     680     690     700     710     720     730     740     750     760     770  
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 30698202.p EDA[DVD-KNG[VI]SLEEMR[AL]KDL[PWIK]KDSRVAE[HEI[QANDSNTDGLVDFTEFVVAALIVN[OLEHDESEK[OOSRAAFDMDPDI[DGPF[TPPEELRLM-  
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 15230288.p EAI[EPD-KNG[VI]LTD[DS[IR[ALATNATEAMKESRI[EGI[ALI[GLQYRGMDFEEFCAAISI[VE[HE[SLDC-  
 AK067709.q ESI[APN-KNL[ITL[DS[IR[AL[REATY[AMKESRV[EGI[VS[GLQYRGMDFEEFCAAISI[VE[HE[SLDC-  
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 83554293.q EAI[GPN-KNG[VI]S[LN[IR[AL[KNSTDAMKDSRV[EGI[GL[ISALQYRGMDFEEFCAAISI[VE[HE[SLDC-  
 83602259.q EAI[GPN-KDL[ITL[DS[IR[AL[KNSTDAMKDSRV[EGI[GL[ISALQYRGMDFEEFCAAISI[VE[HE[SLDC-  
 15226841.p FTL[GPS-KNG[VI]SMONY[KAII[KNSSTEATKDSRV[EGI[GL[ISALQYRGMDFEEFCAAISI[VE[HE[SLDC-  
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 30689449.p EMI[DPK-DGGS[LNCFT[AL[RYA[TD[MM[ESRI[EDHT[NT[MO[PLAO[KKLD[FEFF[CAAAV[VYOLE[LEE-  
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 14670086.q YNL[EPSS[TD[GRC[CI[EN[FR[AL[QNSTDAMKESRV[EGI[GL[ISALQYRGMDFEEFCAAISI[VE[HE[SLDC-  
 36400013.q EKI[EPR-DGFVSL[DN[FR[AL[RYA[TD[MM[ESRI[EGI[GL[ISALQYRGMDFEEFCAAISI[VE[HE[SLDC-  
 15226426.p EMI[GPN-KDG[SVSLE[NE[KAII[QNTDAMRESRV[EGI[GL[ISALQYRGMDFEEFCAAISI[VE[HE[SLDC-  
 2phk\_A  
 1kwp\_A  
 1jkk\_A  
 lia8\_A