

gi | 15226146 | ref | NP\_178812.1 | MEGWDEGAVVYSDQAPFPPEAG-----DAATISPHAVLTKFKEFIRNF-----BIEQNCFFPYREALLD---NPKRLVHVLEDLLESLFSDLP... 108  
gi | 115449233 | ref | NP\_001048396.1 | MEGWDEGAVVYSDQAPFPFGGPG---GDPADLIRHSALRKFKEFLRGG---TGPTGDFPYRESLIV---NRDHTVVAIEDLDADFDAELSDKIRKSPADYLP... 112  
gi | 6323304 | ref | NP\_013376.1 | -MSFDRPEIIVSAPVLOGE-----SNDDDNIIKISKPNFLEF-----RLDSQFIVRDLQRNLLVKNVSLTVMHEHLIGVNE... 113  
gi | 50306995 | ref | XP\_453475.1 | -MSFDKPEIHTTRVLAGE-----ELSSNENSIKISKPNFLEF-----RLDSQFIVRDLQRNLLVKNVSLTVMHEHLIGVNE... 108  
gi | 45201372 | ref | NP\_986942.1 | -MSFDTRVYITVSLVPE-----EAGAHERSVVRVSRDFVLEF-----RLDARFVYRDLQRNLLVRRVYALRVN... 105  
gi | 39948003 | ref | XP\_363062.1 | --MDRQSAFVSHAFS---SNY-----EGGSDSNVIOEQQLLFILDF-----RLENKFIYRDLQRNLLGAYVCDVNI... 104  
gi | 32412368 | ref | XP\_326664.1 | --MDYQSVFSARLYAGAASSY---VEEEDSNQHIRAQLEAFILDF-----RLDNFIYRDLQRNLLGAYVCDVNI... 107  
gi | 24645774 | ref | NP\_524308.2 | MEGFDDAGVFFSDNFGG-DNQO---D-AQINLQVAKKXKFEFIR---TPNEENFVKYRDLTKRNYLNGRVF... 109  
gi | 58385070 | ref | XP\_313694.2 | MDGFDVGVFFSDNFDG-DQQO---NSNQINLQVKKQVREFIR---TFCEANFVKYRDLTKRNYLNGRVF... 110  
gi | 23510448 | ref | NP\_006730.2 | MEGFDDPGIFVYSDSFGG-DAQA---DEGQARKSOLQRRFKEFLRQYRV---GDRDTGFFKRYRDELKRRHNLG... 114  
gi | 114686124 | ref | XP\_001156025.1 | MEGFDDPGIFVYSDSFGG-DAQA---DEGQARKSOLQRRFKEFLRQYRV---GDRDTGFFKRYRDELKRRHNLG... 114  
gi | 115497040 | ref | NP\_001068758.1 | MEGFDDPGIFVYSDSFGG-DNAA---DEGQARKSOLQRRFKEFLRQYRV---GDRDTGFFKRYRDELKRRHNLG... 114  
gi | 112293273 | ref | NP\_032592.2 | MEGFDDPGIFVYSDSFGG-DPGA---DEGQARKSOLQRRFKEFLRQYRV---GDRDTGFFKRYRDELKRRHNLG... 114  
gi | 109507773 | ref | XP\_226316.4 | MEGFDDPGIFVYSDSFGG-DPGA---DEGQARKSOLQRRFKEFLRQYRV---GDRDTGFFKRYRDELKRRHNLG... 114  
gi | 73969862 | ref | XP\_853134.1 | -----MLQG-----I---SVSPFNQLLGG---RBSRGGRLVWVEEIFITSYPL---SVSPFNQLLGG--- 37  
gi | 57525409 | ref | NP\_001006243.1 | MEGFDDPGIYVYSDSFGV-DTSA---DEGQVRKKSOLQRRFKEFLRQYRV---GDRDTGFFKRYRDELKRRHNLG... 114  
gi | 46358340 | ref | NP\_848523.2 | MEGFDDPGIYVYSDSFGGGSVPG---DEGVVKKRQIKKRFREFLRQYRV---GDRDTGFFKRYRDELKRRHNLG... 115  
gi | 17554306 | ref | NP\_497858.1 | MSNLDNPGIYVYQERFFANDGVP---DTGRELIAEYRLLITDFRN-FIR---DFSTGGFIMVYRDLKRRYV... 114  
gi | 124805740 | ref | XP\_001350525.1 | MITIQEGRAFENPVRNPNRPEPNIIRIENLPSLNEVYVYQDFLSRYSSNTLKEGNLKRITLFEVKNNNETL... 142  
1.....10.....20.....30.....40.....50.....60.....70.....80.....90.....100.....110.....120.....130.....140.....150



gi | 15226146 | ref | NP\_178812.1 | -EGGVMEEP-----LTRDVCV-LLTREDPVSMRLLLGAQYVSKLVKISGISIAASRVKAKAVYVFLVCKNCKKIRE---VPCRPLGG---AIVPRSCDNI... 228  
gi | 115449233 | ref | NP\_001048396.1 | -ETGEMEEP-----ATGDVCI-FLSKENCLSMRSIGADYMSKLVKTAGIITAAASRVKAKAVHVLILCKNCRSVK---VPCRPLGG---AIVPRSCDNI... 232  
gi | 6323304 | ref | NP\_013376.1 | DKDPENTSMDDLSLLNSLPTFQL---LLNSNANQIPRLRDLSEHVSKIVRLSGIISVLSVSSRAVYLSIMCRNCRHVTITINNFNSITGV... 260  
gi | 50306995 | ref | XP\_453475.1 | DIDPETA-----LSNFPLCQL---LLNSNANQIPRLRDLSEHVSKIVRLSGIISVLSVSSRAVYLSIMCRNCRHVTITINNFNSITGV... 237  
gi | 45201372 | ref | NP\_986942.1 | --AEDAG-----ALPAVQV-LLQSAAAEALRQLDSQSVSRVLRVLSGIVVSVLTSRAHVALMCRNCRHTALDLNLFQSLAGSNVALP... 231  
gi | 39948003 | ref | XP\_363062.1 | ---KQR-----IDLPEHQL-LLHNEEDVYIRKLDAMTISRIVRVPVGVIVIGASVMSSKANSLIICRNCGHITDIPVS---GGFTG---VTLPRR... 222  
gi | 32412368 | ref | XP\_326664.1 | ---EPK-----IDLPDHQL-LLHNAEDVYIRNLDLTIISRLVRRVPGIVIGASVMSSKANSLIICRNCGHVQHVHVS---GGFTG---VTLPRR... 225  
gi | 24645774 | ref | NP\_524308.2 | ---PEHEE---HMHDICV-LLSNNANPINRQLKDCVSKLVKTAGIIVAAASGISAKAKAVHVLILCKNCRSVK---VPCRPLGG---AIVPRSCDNI... 226  
gi | 58385070 | ref | XP\_313694.2 | ---PEGEE---VVDHICV-LLVGANPINRDLKDCVSKLVKTAGIIVAAASGISAKAKAVHVLILCKNCRSVK---VPCRPLGG---AIVPRSCDNI... 227  
gi | 23510448 | ref | NP\_006730.2 | ---PSGEE---VLQDIQV-MLKSDASPSIRSLKDDMMSHLVKIPGIIISASAVRAKATRIISICRSCRNLT---NIAMRPGLEG---YALPRKCN... 231  
gi | 114686124 | ref | XP\_001156025.1 | ---PSGEE---VLQDIQV-MLKSDASPSIRSLKDDMMSHLVKIPGIIISASAVRAKATRIISICRSCRNLT---NIAMRPGLEG---YALPRKCN... 231  
gi | 115497040 | ref | NP\_001068758.1 | ---PAGDE---VLQDIQV-MLKSDASPSIRSLKDDMMSHLVKIPGIIISASAVRAKATRIISICRSCRNLT---NIAMRPGLEG---YALPRKCN... 231  
gi | 112293273 | ref | NP\_032592.2 | ---PAGDE---VLQDIQV-MLKSDASPSIRSLKDDMMSHLVKIPGIIISASAVRAKATRIISICRSCRNLT---NIAMRPGLEG---YALPRKCN... 231  
gi | 109507773 | ref | XP\_226316.4 | ---PAGDE---VLQDIQV-MLKSDASPSIRSLKDDMMSHLVKIPGIIISASAVRAKATRIISICRSCRNLT---NIAMRPGLEG---YALPRKCN... 231  
gi | 73969862 | ref | XP\_853134.1 | -----SVSQDDMMSHLVKIPGIIISASAVRAKATRIISICRSCRNLT---NIAMRPGLEG---YALPRKCN... 131  
gi | 57525409 | ref | NP\_001006243.1 | ---PAGEE---ALQDQVQ-MLRSDANAANIRSLKDDMMSHLVKIPGIIISASAVRAKATRIISICRSCRNLT---NIAMRPGLEG---YALPRKCN... 231  
gi | 46358340 | ref | NP\_848523.2 | ---PVGEE---LVQDIQV-MLKSDAHPARISRLKSEQVSRVLRVLPGLIISAVRAKATRIISICRSCRNLT---NIAMRPGLEG---YALPRKCN... 232  
gi | 17554306 | ref | NP\_497858.1 | ---PKGEE---KLDHICV-LLTLDIYPTSLRQVKAQVSVVYVSGIIVAAQVRSKATKVLVLCRCQKHTIP---DVSIKPLGEG---FALPRTCAAP... 232  
gi | 124805740 | ref | XP\_001350525.1 | ---DEDE---HLNYIQINLLNPIRIRTPIRIKLAATQERFVVKVLIQVQSKPKQHKMRKILLCRYDCHKMSIDVPLWRDKPQ---LPPYCRYSS... 272  
.....160.....170.....180.....190.....200.....210.....220.....230.....240.....250.....260.....270.....280.....290.....300



gi | 15226146 | ref | NP\_178812.1 | NPEDVPIGELPRNMLLSVDRHLVQTVIPGTRILVMGIYSIFQASSSNS-----HGKAVAIRQPIYIRVVGLLEDTNEAS---RGPANF... 369  
gi | 115449233 | ref | NP\_001048396.1 | NPEDVPIGELPRNMLLSVDRHLVQTVIPGTRILVMGIYSIFQASSAN-----QKGAIVGKQPIYIRVVGLQSRDANS---NGPSNF... 370  
gi | 6323304 | ref | NP\_013376.1 | IPELVVPGEMPRNMLTMTCDRYLANKVIPGTRIVVIGIYSINXKNGAGSGRSGGNGGSGVAIRPYIKILGIDVETSIWNSVMTF... 410  
gi | 50306995 | ref | XP\_453475.1 | LPESVPIGELPRNMLTMTCDRYLANKVIPGTRIVVIGIYSINXKNGAGSGRSGGNGGSGVAIRPYIKILGIDVETSIWNSVMTF... 381  
gi | 45201372 | ref | NP\_986942.1 | VPESVPIGEMPRNMLLTCDDRYLANKVIPGTRIVVIGIYAIYQSKG-----GGGARAVAIRNPYVVKLVGIEAQAGSP---AGVLSM... 371  
gi | 39948003 | ref | XP\_363062.1 | APDDVPVGEIPELPRHVLISADRYLANKVIPGTRIVVIGIYAIYQSKG-----SKSSTSGAVAIRNPYVVKLVGIEAQAGSP---AGVLSM... 363  
gi | 32412368 | ref | XP\_326664.1 | APDQVPVGEIPELPRHVLISADRYLANKVIPGTRIVVIGIYAIYQSKG-----NKKSTSGAVAIRNPYVVKLVGIEAQAGSP---AGVLSM... 366  
gi | 24645774 | ref | NP\_524308.2 | LPDFVPGGEIPELPRHVLISADRYLANKVIPGTRIVVIGIYAIYQSKG-----GREK-AVGVRAIPYVVKLVGIEAQAGSP---AGVLSM... 372  
gi | 58385070 | ref | XP\_313694.2 | LPDFIPQGEIPELPRHVLISADRYLANKVIPGTRIVVIGIYAIYQSKG-----GRDK-AIIGVRAIPYVVKLVGIEAQAGSP---AGVLSM... 373  
gi | 23510448 | ref | NP\_006730.2 | LPDAVPHGEMPRHMLQYCDRYLCKVVPVGNRVITMGIYSIKKFGLTASR---GRDR-VGVGIRSYIRVLGIVDIDGSG-RSFAGAVTP... 375  
gi | 114686124 | ref | XP\_001156025.1 | LPDAVPHGEMPRHMLQYCDRYLCKVVPVGNRVITMGIYSIKKFGLTASR---GRDR-VGVGIRSYIRVLGIVDIDGSG-RSFAGAVTP... 375  
gi | 115497040 | ref | NP\_001068758.1 | LPDAVPHGEMPRHMLQYCDRYLCKVVPVGNRVITMGIYSIKKFGLTASR---GRDR-VGVGIRSYIRVLGIVDIDGSG-RSFAGAVTP... 375  
gi | 112293273 | ref | NP\_032592.2 | LPDAVPHGEMPRHMLQYCDRYLCKVVPVGNRVITMGIYSIKKFGLTASR---GRDR-VGVGIRSYIRVLGIVDIDGSG-RSFAGAVTP... 375  
gi | 109507773 | ref | NP\_226316.4 | LPDAVPHGEMPRHMLQYCDRYLCKVVPVGNRVITMGIYSIKKFGLTASR---GRDR-VGVGIRSYIRVLGIVDIDGSG-RSFAGAVTP... 375  
gi | 73969862 | ref | XP\_853134.1 | SPDAVPHGEMPRHMLQYCDRYLCKVVPVGNRVITMGIYSIKKSAQKKNK---SRDN-VGVGIRSYIRVLGIVDIDGSG-HSFAGAVTP... 375  
gi | 57525409 | ref | NP\_001006243.1 | APDAVPHGEMPRHMLQYCDRYLCKVVPVGNRVITMGIYSIKKSAQKAK---GRDKTQVGVGIRSYIRVLGIVDIDGSG-RSFAGAVTP... 377  
gi | 46358340 | ref | NP\_848523.2 | NPEDVPHGEMPRHMLQYCDRYLCKVVPVGNRVITMGIYSIKKLIQ---KK---GGDK-SLQGIPIYIRVLGIVDIDGSG-SGPP---RNTT... 374  
gi | 17554306 | ref | NP\_497858.1 | LPDAVPHGEMPRHMLQYCDRYLCKVVPVGNRVITMGIYSIKKLIQ---KK---GGDK-SLQGIPIYIRVLGIVDIDGSG-SGPP---RNTT... 374  
gi | 124805740 | ref | XP\_001350525.1 | LPDAVPHGEMPRHMLQYCDRYLCKVVPVGNRVITMGIYSIKKLIQ---KK---GGDK-SLQGIPIYIRVLGIVDIDGSG-SGPP---RNTT... 409  
.....310.....320.....330.....340.....350.....360.....370.....380.....390.....400.....410.....420.....430.....440.....450



gi | 15226146 | ref | NP\_178812.1 | ...VLLLLGDPSTAKS... 519  
gi | 115449233 | ref | NP\_001048396.1 | ...HVVLLGDPSTAKS... 520  
gi | 6323304 | ref | NP\_013376.1 | ...NVLLLLGDPSTAKS... 560  
gi | 50306995 | ref | XP\_453475.1 | ...NVLLLLGDPSTAKS... 531  
gi | 45201372 | ref | NP\_986942.1 | ...NVLLLLGDPSTAKS... 521  
gi | 39948003 | ref | XP\_363062.1 | ...NVLLLLGDPSTAKS... 513  
gi | 32412368 | ref | XP\_326664.1 | ...NVLLMLGDPSTAKS... 516  
gi | 24645774 | ref | NP\_524308.2 | ...NVLLLLGDPSTAKS... 526  
gi | 58385070 | ref | XP\_313694.2 | ...NILLLLGDPSTAKS... 522  
gi | 23510448 | ref | NP\_006730.2 | ...NLLMLGDPSTAKS... 524  
gi | 114686124 | ref | XP\_001156025.1 | ...NLLMLGDPSTAKS... 524  
gi | 115497040 | ref | NP\_001068758.1 | ...NLLMLGDPSTAKS... 524  
gi | 112293273 | ref | NP\_032592.2 | ...NLLMLGDPSTAKS... 524  
gi | 109507773 | ref | XP\_226316.4 | ...NLLMLGDPSTAKS... 524  
gi | 73969862 | ref | XP\_853134.1 | ...NLLMLGDPSTAKS... 424  
gi | 5725409 | ref | NP\_001006243.1 | ...NLLMLGDPSTAKS... 524  
gi | 46358340 | ref | NP\_848523.2 | ...NLLMLGDPSTAKS... 526  
gi | 17554306 | ref | NP\_497858.1 | ...NLLMLGDPSTAKS... 523  
gi | 124805740 | ref | XP\_001350525.1 | ...NMLMLGDPSTAKS... 558



gi | 15226146 | ref | NP\_178812.1 | ...KYSODEK... 641  
gi | 115449233 | ref | NP\_001048396.1 | ...MYDODKR... 643  
gi | 6323304 | ref | NP\_013376.1 | ...NEERDIS... 686  
gi | 50306995 | ref | XP\_453475.1 | ...NEARDIQ... 658  
gi | 45201372 | ref | NP\_986942.1 | ...NEARDMS... 647  
gi | 39948003 | ref | XP\_363062.1 | ...EPGKQRI... 635  
gi | 32412368 | ref | XP\_326664.1 | ...ERGRDER... 638  
gi | 24645774 | ref | NP\_524308.2 | ...DESRDIT... 645  
gi | 58385070 | ref | XP\_313694.2 | ...DOQRDIT... 645  
gi | 23510448 | ref | NP\_006730.2 | ...EGEIDLA... 646  
gi | 114686124 | ref | XP\_001156025.1 | ...NEERDVML... 646  
gi | 115497040 | ref | NP\_001068758.1 | ...NEERDVML... 646  
gi | 112293273 | ref | NP\_032592.2 | ...NEERDMML... 646  
gi | 109507773 | ref | XP\_226316.4 | ...NEERDMML... 646  
gi | 73969862 | ref | XP\_853134.1 | ...NEERDVML... 546  
gi | 5725409 | ref | NP\_001006243.1 | ...NEERDMML... 646  
gi | 46358340 | ref | NP\_848523.2 | ...DOQRDIT... 648  
gi | 17554306 | ref | NP\_497858.1 | ...DVLKDAT... 670  
gi | 124805740 | ref | XP\_001350525.1 | ...DVEKDT... 675



gi | 15226146 | ref | NP\_178812.1 | ...STMDAAR... 727  
gi | 115449233 | ref | NP\_001048396.1 | ...STVDAAR... 729  
gi | 6323304 | ref | NP\_013376.1 | ...STMDAAS... 775  
gi | 50306995 | ref | XP\_453475.1 | ...STMDAAS... 746  
gi | 45201372 | ref | NP\_986942.1 | ...STMDAAS... 734  
gi | 39948003 | ref | XP\_363062.1 | ...STLDAVN... 720  
gi | 32412368 | ref | XP\_326664.1 | ...STLDAVN... 724  
gi | 24645774 | ref | NP\_524308.2 | ...STLDAAM... 733  
gi | 58385070 | ref | XP\_313694.2 | ...STMTAAS... 733  
gi | 23510448 | ref | NP\_006730.2 | ...STLDAAL... 734  
gi | 114686124 | ref | XP\_001156025.1 | ...STLDAAL... 734  
gi | 115497040 | ref | NP\_001068758.1 | ...STLDAAL... 734  
gi | 112293273 | ref | NP\_032592.2 | ...STLDAAL... 734  
gi | 109507773 | ref | XP\_226316.4 | ...STLDAAL... 734  
gi | 73969862 | ref | XP\_853134.1 | ...STLDAAL... 634  
gi | 5725409 | ref | NP\_001006243.1 | ...STLDAAM... 734  
gi | 46358340 | ref | NP\_848523.2 | ...STLDAAL... 736  
gi | 17554306 | ref | NP\_497858.1 | ...STIEEAA... 759  
gi | 124805740 | ref | XP\_001350525.1 | ...STAEAT... 758

