

gi|145608762|ref|XP\_369877.2|...MTPSATNG---DAAAASRFHASS---...KSAIAAEAEVAAHNYHPFVVFARAQGVNVVDPEGKHLLDLSAYSAVNOGCHPELIKAL 83  
gi|32403334|ref|XP\_322280.1|...MAPLADTASNGSSLLLDHLITGS DKYHAAA...INVAIAAENEVAAHNYHPLPVVFAKAQGVHVVDPEGKHLLDLSAYSAVNOGCHPELVKAL 93  
gi|19113380|ref|NP\_596588.1|...MSAELLLHNTF...TQTEVLLENEVAAHNYHPLPVVFCFSKAKGAKVWVDEGREYLDLFLSAYSAVNOGCHPPIIEAL 74  
gi|50303653|ref|XP\_451768.1|...MVVTAELNL...SAKTIIEYEQEYSAHNYHPLPVVFSRASGAHVWVDEGREYLDLFLSAYSAVNOGCHPPIIQAL 72  
gi|45190728|ref|NP\_984982.1|...MAVEFNLL...SKQIIEYEQEYSAHNYHPLPVVFFHKASGAHVWVDEGREYLDLFLSAYSAVNOGCHPPIEQAL 70  
gi|6323470|ref|NP\_013542.1|...MSEATL...SKQIIEWENKYSAHNYHPLPVVFFHAKGAHVWVDEGREYLDLFLSAYSAVNOGCHPPIIKAL 69  
gi|21357415|ref|NP\_649139.1|...MFAKLSARGIAIRMS--FLAQKASQETIAAAGS...SELVYARENKYGANNYHPLFVALTKGEGVFWVDEGKRYFDLFLSAYSAVNOGCHPPIVAAL 95  
gi|158297845|ref|XP\_318019.4|...MLRQVSKSDLLTKQFDKLLVPLFSTQSPMAFGFRQSSSSARTVVPVMMNHALLTGRNKYGLANINEMAKNGYCHAAALKAQPK...QAVFDREDKFGANNYHPLFVALARGEGVYVWVDEGKRYFDLFLSAYSAVNOGCHPPIVQAL 147  
gi|8393866|ref|NP\_058674.1|...MLSKLAS--LQTI AALRRGVHTSVASATSVAV--KKTTEGPP...PSSBYIFERESKYGAHNYHPLFVALERGGKIYMWVDEGKRYFDLFLSAYSAVNOGCHPPIIDAM 101  
gi|11968102|ref|NP\_071966.1|...MLSKLAS--LQTI AALRRGLRTSVASATSVAV--KKTTEGPP...PSSBYIFERESKYGAHNYHPLFVALERGGKIYMWVDEGKRYFDLFLSAYSAVNOGCHPPIIEM 101  
gi|4557809|ref|NP\_000265.1|...MFSKLAH--LQRF AVL SRGVHSSVASATSVAV--KKTTEGPP...PTSDDIFEREKYGAHNYHPLFVALERGGKIYLDVDEGKRYFDLFLSAYSAVNOGCHPPIVNAL 101  
gi|114633242|ref|XP\_508094.2|...MFSKLAH--LQRF AVL SRGVHSSVASATSVAV--KKTTEGPP...PTSDDIFEREKYGAHNYHPLFVALERGGKIYLDVDEGKRYFDLFLSAYSAVNOGCHPPIVNAL 101  
gi|73998800|ref|XP\_535050.2|...MMFSRLAH--LQTVAVLRRGVHSSVASATSVAV--KKTTEGPP...PSSDYIFEREKYGAHNYHPLFVALERGGKIYVWVDEGKRYFDLFLSAYSAVNOGCHPPIVNAL 102  
gi|77735431|ref|NP\_001029412.1|...MLSKLAR--LQTVAGLGLGVHSSVASATSVAV--KKTTEGPP...PSSDYIFEREKYGAHNYHPLFVALERGGKIYVWVDEGKRYFDLFLSAYSAVNOGCHPPIVDAL 101  
gi|57529515|ref|NP\_001006567.1|...MFSKLRIR--SQSLAALCRGVHTSLNSATSVAV--KKTTEGPP...PSSDYIFEREKYGAHNYHPLFVALERGGKIYVWVDEGKRYFDLFLSAYSAVNOGCHPPIVNAL 101  
gi|189526312|ref|XP\_701334.3|...MNSMKSLLMRGVSRTPLSLTRAVHSGMRTSSSAARAKTOERP...MTEBEVFAREDRYGAHNYHPLFVALERGGKIVMWVDEGKRYFDLFLSAYSAVNOGCHPPIIAL 106  
gi|25144271|ref|NP\_741194.1|...MLSLRR--VVPSPRRSRLL...SQIFDREKKGCHNYKPLFVALSKGEGCVFWVDEGKRYFDLFLSAYSAVNOGCHPFLKVV 82  
gi|86170756|ref|XP\_966078.1|...MDFVKEKLS...SODVMNNELTYGANNYDPIPVLRKGGKVFYDIEDRRYRDVFLSAYSAVNOGCHPFDLLNAM 71  
gi|15237392|ref|NP\_199430.1|...MAATIRRLLYYVSKRFSAGVRRSYGGLPQNSKSPSS...SQRLEMLSEBFSAHNYHPLPVVFSRANGSTIWDPEGKRYIDFLSAYSAVNOGCHPPIKML 101  
gi|115454305|ref|NP\_001050753.1|...MAAALARRGGGLARALARG--RCMCSATAERAAGAALT...EELMLMREERSAHNYHPLPVVFSKGEHSHLDPEGKRYIDFLSAYSAVNOGCHPPIRLAL 100



gi|145608762|ref|XP\_369877.2|...ABQAGRLTLLSRAFYNDVFPVWAAKVRDLFGYDMVLPMTGAEAVEAIAIKIARKWAKYKVGVPQKAVHVSADNFGRIMTAISLST...PESRDNYGPPVPGTAICP--TGRQIRYNNISDLEIVLEA--HGAEAAAFIVPEFIOGEG 229  
gi|32403334|ref|XP\_322280.1|...TQASRLTLLSRAFYNDVFPVWAAKVRDLFGYDMVLPMTGAEAVEAIAIKIARKWAKYKVGVPQKAVHVSADNFGRIMTAISLST...PESRDNYGPPVPGTAICP--TGRQIRYNNISDLEIVLEA--HGAEAAAFIVPEFIOGEG 239  
gi|19113380|ref|NP\_596588.1|...VBOAQRVLLSRAFYNDKFGPFKAKYITLFFGMYVLPMTGAEAVEAIAIKIARKWAKYKVGVPQKAVHVSADNFGRIMTAISLST...PDRANYGPPVLPVPGKIS--GADRVLRNINIEDLKLIDLT--FGPKVAALVPEFIOGEG 220  
gi|50303653|ref|XP\_451768.1|...VDOASKLTLSSRAFYNDKFAAFKAVYTFEFGYDMVLPMTGAEAVEAIAIKIARKWAKYKVGVPQKAVHVSADNFGRIMTAISLST...PDRANYGPPVLPVPGKIS--GADRVLRNINIEDLKLIDLT--FGPKVAALVPEFIOGEG 221  
gi|45190728|ref|NP\_984982.1|...VDOASKLTLSSRAFYNDKFAAFKAVYTFEFGYDMVLPMTGAEAVEAIAIKIARKWAKYKVGVPQKAVHVSADNFGRIMTAISLST...PDRANYGPPVLPVPGKIS--GADRVLRNINIEDLKLIDLT--FGPKVAALVPEFIOGEG 218  
gi|6323470|ref|NP\_013542.1|...TBOAQTLTLLSRAFYNDVFAKFAKVFTEFFGFEIVLPMTGAEAVEAIAIKIARKWAKYKVGVPQKAVHVSADNFGRIMTAISLST...DYEDSKLHFGPPVVA...GHSVHKIRYGHAEVFPVILSPEGKNVAAILPEFIOGEG 215  
gi|21357415|ref|NP\_649139.1|...TBOAQTLTLLSRAFYNDVFAKFAKVFTEFFGFEIVLPMTGAEAVEAIAIKIARKWAKYKVGVPQKAVHVSADNFGRIMTAISLST...DYEDSKLHFGPPVVA...GHSVHKIRYGHAEVFPVILSPEGKNVAAILPEFIOGEG 231  
gi|158297845|ref|XP\_318019.4|...TBOAQVLLTLLSRAFYNSVNLGEYEQFTVNLFGYDKVLPMTGVEAGETACKLARKWGYTKVGIQKYKAKIVFAAGNFWRGRLSAISSST...PSSYAGFGFPMP--GFELIPYNDLPALEKALOD--PHVCAFVPEFIOGEG 237  
gi|8393866|ref|NP\_058674.1|...KSOVDKLLTLLSRAFYNSVNLGEYEQFTVNLFGYDKVLPMTGVEAGETACKLARKWGYTKVGIQKYKAKIVFAAGNFWRGRLSAISSST...PSSYAGFGFPMP--GFELIPYNDLPALEKALOD--PHVCAFVPEFIOGEG 238  
gi|11968102|ref|NP\_071966.1|...KSOVDKLLTLLSRAFYNSVNLGEYEQFTVNLFGYDKVLPMTGVEAGETACKLARKWGYTKVGIQKYKAKIVFAAGNFWRGRLSAISSST...PSSYAGFGFPMP--GFELIPYNDLPALEKALOD--PHVCAFVPEFIOGEG 237  
gi|4557809|ref|NP\_000265.1|...KSOVDKLLTLLSRAFYNSVNLGEYEQFTVNLFGYDKVLPMTGVEAGETACKLARKWGYTKVGIQKYKAKIVFAAGNFWRGRLSAISSST...PSSYAGFGFPMP--GFELIPYNDLPALEKALOD--PHVCAFVPEFIOGEG 237  
gi|114633242|ref|XP\_508094.2|...KSOVDKLLTLLSRAFYNSVNLGEYEQFTVNLFGYDKVLPMTGVEAGETACKLARKWGYTKVGIQKYKAKIVFAAGNFWRGRLSAISSST...PSSYAGFGFPMP--GFELIPYNDLPALEKALOD--PHVCAFVPEFIOGEG 237  
gi|73998800|ref|XP\_535050.2|...KNOADKLLTLLSRAFYNSVNLGEYEQFTVNLFGYDKVLPMTGVEAGETACKLARKWGYTKVGIQKYKAKIVFAAGNFWRGRLSAISSST...PSSYAGFGFPMP--GFELIPYNDLPALEKALOD--PHVCAFVPEFIOGEG 238  
gi|77735431|ref|NP\_001029412.1|...KSOVDKLLTLLSRAFYNSVNLGEYEQFTVNLFGYDKVLPMTGVEAGETACKLARKWGYTKVGIQKYKAKIVFAAGNFWRGRLSAISSST...PSSYAGFGFPMP--GFELIPYNDLPALEKALOD--PHVCAFVPEFIOGEG 237  
gi|57529515|ref|NP\_001006567.1|...KAQSEKLLTLLSRAFYNSVNLGEYEQFTVNLFGYDKVLPMTGVEAGETACKLARKWGYTKVGIQKYKAKIVFAAGNFWRGRLSAISSST...PSSYAGFGFPMP--GFELIPYNDLPALEKALOD--PHVCAFVPEFIOGEG 237  
gi|189526312|ref|XP\_701334.3|...TAQASRLTLLSRAFYNDILGAYEQYITLFGYDKVLPMTGVEAGETACKLARKWGYTKVGIQKYKAKIVFAAGNFWRGRLSAISSST...PSSYAGFGFPMP--GFELIPYNDLPALEKALOD--PHVCAFVPEFIOGEG 242  
gi|25144271|ref|NP\_741194.1|...QBOASTLTLTLLSRAFYNSVNLGEYEQFTVNLFGYDKVLPMTGVEAGETACKLARKWGYTKVGIQKYKAKIVFAAGNFWRGRLSAISSST...PSSYAGFGFPMP--GFELIPYNDLPALEKALOD--PHVCAFVPEFIOGEG 218  
gi|86170756|ref|XP\_966078.1|...INQAKKLLTLLSRAFYNSVNLGEYEQFTVNLFGYDKVLPMTGVEAGETACKLARKWGYTKVGIQKYKAKIVFAAGNFWRGRLSAISSST...PSSYAGFGFPMP--GFELIPYNDLPALEKALOD--PHVCAFVPEFIOGEG 207  
gi|15237392|ref|NP\_199430.1|...QBOVEKLLTLLSRAFYNDKFPVFAERLITMFGYDMVLPMTGAEAVEAIAIKIARKWAKYKVGVPQKAVHVSADNFGRIMTAISLST...NDATRGRFGLLE--GNLKVDFGDADSLKLEIFKE--KDRITAGLFLPEFIOGEG 239  
gi|115454305|ref|NP\_001050753.1|...KBOAERLLTLLSRAFYNDKFPVFAERLITMFGYDMVLPMTGAEAVEAIAIKIARKWAKYKVGVPQKAVHVSADNFGRIMTAISLST...NDATRGRFGLLE--GNLKVDFGDADSLKLEIFKE--KDRITAGLFLPEFIOGEG 238



gi|145608762|ref|XP\_369877.2|...VVVPPDDVLAQVHALCKKHNVLFCIDEITGLARTGKMLCCCNWA--GIKPDIVLLGKALS...GGMYPVSAVLADKEMLVVPEFGTHGTYGGNPLGCAVIRALEVLEEGLVDEKADLQADHLGRIFREGVEAFKSP--IVQVRGKGLLNAVVI 374  
gi|32403334|ref|XP\_322280.1|...VVVPPDDVLAQVHALCKKHNVLFCIDEITGLARTGKMLCCCNWA--GIKPDIVLLGKALS...GGMYPVSAVLADKEMLVVPEFGTHGTYGGNPLGCAVIRALEVLEEGLVDEKADLQADHLGRIFREGVEAFKSP--IVQVRGKGLLNAVVI 384  
gi|19113380|ref|NP\_596588.1|...VMVPPDGYLEAAYLCKRAHNVLFIADEVQTVGARTGKMLCIEHS--NVKPDVILGKALS...GGMYPVSAVLADKEMLVVPEFGTHGTYGGNPLGCAVIRALEVLEEGLVDEKADLQADHLGRIFREGVEAFKSP--IVQVRGKGLLNAVVI 365  
gi|50303653|ref|XP\_451768.1|...IVVPDADFTDLOELCKKHNVLFCIDEITGLARTGKMLCIEHS--NVKPDVILGKALS...GGMYPVSAVLADKEMLVVPEFGTHGTYGGNPLGCAVIRALEVLEEGLVDEKADLQADHLGRIFREGVEAFKSP--IVQVRGKGLLNAVVI 370  
gi|45190728|ref|NP\_984982.1|...IVVPPDGYLEAAYLCKRAHNVLFIADEVQTVGARTGKMLCIEHS--NVKPDVILGKALS...GGMYPVSAVLADKEMLVVPEFGTHGTYGGNPLGCAVIRALEVLEEGLVDEKADLQADHLGRIFREGVEAFKSP--IVQVRGKGLLNAVVI 367  
gi|6323470|ref|NP\_013542.1|...IVVPPDGYLEAAYLCKRAHNVLFIADEVQTVGARTGKMLCIEHS--NVKPDVILGKALS...GGMYPVSAVLADKEMLVVPEFGTHGTYGGNPLGCAVIRALEVLEEGLVDEKADLQADHLGRIFREGVEAFKSP--IVQVRGKGLLNAVVI 365  
gi|21357415|ref|NP\_649139.1|...VIVPDSGYLKKVRELCCKHNVLFCIDEITGLARTGKMLCIEHS--NVKPDVILGKALS...GGMYPVSAVLADKEMLVVPEFGTHGTYGGNPLGCAVIRALEVLEEGLVDEKADLQADHLGRIFREGVEAFKSP--IVQVRGKGLLNAVVI 376  
gi|158297845|ref|XP\_318019.4|...VIVPDSGYLKKVRELCCKHNVLFCIDEITGLARTGKMLCIEHS--NVKPDVILGKALS...GGMYPVSAVLADKEMLVVPEFGTHGTYGGNPLGCAVIRALEVLEEGLVDEKADLQADHLGRIFREGVEAFKSP--IVQVRGKGLLNAVVI 382  
gi|8393866|ref|NP\_058674.1|...VIVPDPGYLTVRELCCKHNVLFCIDEITGLARTGKMLCIEHS--NVKPDVILGKALS...GGMYPVSAVLADKEMLVVPEFGTHGTYGGNPLGCAVIRALEVLEEGLVDEKADLQADHLGRIFREGVEAFKSP--IVQVRGKGLLNAVVI 428  
gi|11968102|ref|NP\_071966.1|...VIVPDPGYLTVRELCCKHNVLFCIDEITGLARTGKMLCIEHS--NVKPDVILGKALS...GGMYPVSAVLADKEMLVVPEFGTHGTYGGNPLGCAVIRALEVLEEGLVDEKADLQADHLGRIFREGVEAFKSP--IVQVRGKGLLNAVVI 382  
gi|4557809|ref|NP\_000265.1|...VIVPDPGYLTVRELCCKHNVLFCIDEITGLARTGKMLCIEHS--NVKPDVILGKALS...GGMYPVSAVLADKEMLVVPEFGTHGTYGGNPLGCAVIRALEVLEEGLVDEKADLQADHLGRIFREGVEAFKSP--IVQVRGKGLLNAVVI 382  
gi|114633242|ref|XP\_508094.2|...VIVPDPGYLTVRELCCKHNVLFCIDEITGLARTGKMLCIEHS--NVKPDVILGKALS...GGMYPVSAVLADKEMLVVPEFGTHGTYGGNPLGCAVIRALEVLEEGLVDEKADLQADHLGRIFREGVEAFKSP--IVQVRGKGLLNAVVI 382  
gi|73998800|ref|XP\_535050.2|...VIVPDPGYLTVRELCCKHNVLFCIDEITGLARTGKMLCIEHS--NVKPDVILGKALS...GGMYPVSAVLADKEMLVVPEFGTHGTYGGNPLGCAVIRALEVLEEGLVDEKADLQADHLGRIFREGVEAFKSP--IVQVRGKGLLNAVVI 383  
gi|77735431|ref|NP\_001029412.1|...VIVPDPGYLTVRELCCKHNVLFCIDEITGLARTGKMLCIEHS--NVKPDVILGKALS...GGMYPVSAVLADKEMLVVPEFGTHGTYGGNPLGCAVIRALEVLEEGLVDEKADLQADHLGRIFREGVEAFKSP--IVQVRGKGLLNAVVI 382  
gi|57529515|ref|NP\_001006567.1|...VIVPDPGYLTVRELCCKHNVLFCIDEITGLARTGKMLCIEHS--NVKPDVILGKALS...GGMYPVSAVLADKEMLVVPEFGTHGTYGGNPLGCAVIRALEVLEEGLVDEKADLQADHLGRIFREGVEAFKSP--IVQVRGKGLLNAVVI 382  
gi|189526312|ref|XP\_701334.3|...VIVPDPGYLTVRELCCKHNVLFCIDEITGLARTGKMLCIEHS--NVKPDVILGKALS...GGMYPVSAVLADKEMLVVPEFGTHGTYGGNPLGCAVIRALEVLEEGLVDEKADLQADHLGRIFREGVEAFKSP--IVQVRGKGLLNAVVI 387  
gi|25144271|ref|NP\_741194.1|...VIVPDPGYLTVRELCCKHNVLFCIDEITGLARTGKMLCIEHS--NVKPDVILGKALS...GGMYPVSAVLADKEMLVVPEFGTHGTYGGNPLGCAVIRALEVLEEGLVDEKADLQADHLGRIFREGVEAFKSP--IVQVRGKGLLNAVVI 363  
gi|86170756|ref|XP\_966078.1|...VIVPDSYVFGVAISCKKYNVLFIADEVQTVGARTGKMLCIEHS--NVKPDVILGKALS...GGMYPVSAVLADKEMLVVPEFGTHGTYGGNPLGCAVIRALEVLEEGLVDEKADLQADHLGRIFREGVEAFKSP--IVQVRGKGLLNAVVI 354  
gi|15237392|ref|NP\_199430.1|...VIVPDPGYLTVRELCCKHNVLFCIDEITGLARTGKMLCIEHS--NVKPDVILGKALS...GGMYPVSAVLADKEMLVVPEFGTHGTYGGNPLGCAVIRALEVLEEGLVDEKADLQADHLGRIFREGVEAFKSP--IVQVRGKGLLNAVVI 387  
gi|115454305|ref|NP\_001050753.1|...VIVPDPGYLTVRELCCKHNVLFCIDEITGLARTGKMLCIEHS--NVKPDVILGKALS...GGMYPVSAVLADKEMLVVPEFGTHGTYGGNPLGCAVIRALEVLEEGLVDEKADLQADHLGRIFREGVEAFKSP--IVQVRGKGLLNAVVI 386



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gi|145608762|ref|XP_369877.2|DESAAGGRTAWDLCLLKSGLLAKPTHGNIIRFAPPLIITEBELKKA---LSIIGEALQLPPTAEKGDGH-----442
gi|32403334|ref|XP_322280.1|DESAAGRTAWDLCLLKSGLVLAKEPTHGNIIRFAPPLVITEBELRGA---TKTFGEALQELPTVTKSEGH-----452
gi|19113380|ref|NP_596588.1|DESKINGRTAWDLCLIMRSRGVLAKPTHGNIIRFSPPLVITEEDLMKG---TEVIKSLNDLPTIDMTPYAEKPIH-----438
gi|50303653|ref|XP_451768.1|NPEKANGRTAWDLCLLMKDQGVLAKEPTHEHIIRLAPPLVISEEDLLKG---VDSIRVSLSKLPNVPKSHH-----437
gi|45190728|ref|NP_984982.1|DPSKANGRTAWDLCLLMKDGVLAKPTHEHIIRLAPPLVISEEDLMHG---VDVIKSLLEKLPVTEKAAH-----434
gi|6323470|ref|NP_013542.1|DPSKANGRTAWDLCLLMKDHGLLAKPTHDHIIRLAPPLVISEEDLQTG---VEIIAKCIDLL-----424
gi|21357415|ref|NP_649139.1|NP---KFDWAEVCLRLKENGLLAKPTHGDIIRFAPPLVINETQMRRES---IDIIRKILISM-----431
gi|158297845|ref|XP_318019.4|NP---NFDWAEVCLRLKENGLLAKPTHGDIIRFAPPLIINQEQLEDC---LHIIKTIRMSFVQK-----486
gi|8393866|ref|NP_058674.1|RET--KCDAWKVCLRLRDNGLLAKPTHGDIIRLAPPLVIKEDIRES---VEIINKTILSF-----439
gi|11968102|ref|NP_071966.1|RET--KCDAWKVCLRLRDNGLLAKPTHGDIIRLAPPLVIKEDIRES---VEIINKTILSF-----439
gi|4557809|ref|NP_000265.1|KET--KDWDAWKVCLRLRDNGLLAKPTHGDIIRFAPPLVIKEDLRRES---TEIINKTILSF-----439
gi|114633242|ref|XP_508094.2|KET--KDWDAWKVCLRLRDNGLLAKPTHGDIIRFAPPLVIKEDLRRES---TEIINKTILSF-----439
gi|73998800|ref|XP_535050.2|RET--KDYDAWKVCLRLRDNGLLAKPTHGDIIRFAPPLVIKEDIQES---VEIINKTILSF-----440
gi|77735431|ref|NP_001029412.1|RET--KCDAWKVCLRLRDNGLLAKPTHGDIIRFAPPLVIKEDIIEA---VEIINKTILSF-----439
gi|57529515|ref|NP_001006567.1|RET--KDYDAWKVCLRLRDNGLLAKPTHGDIIRLAPPLVIKEDIIRC---TEIINKTILSF-----439
gi|189526312|ref|XP_701334.3|KET--KDYDAWQVCLRLRDNGLLAKPTHGDIIRLAPPLIINEQVREC---VEIISRTILSF-----444
gi|25144271|ref|NP_741194.1|NK---KVDWAKVCLKLEKNGLLAKNTHGDIIRFAPPLCINKEQVEQA---ADIIIKTVDFAKQN-----422
gi|86170756|ref|XP_966078.1|KN---DLVNVWDICLRFKENGLITRSVHDKTVRLTPPLCITKEQLDEC---TEIIVKTVKFFDNDL-----414
gi|15237392|ref|NP_199430.1|NSESLSVSAVDICLSLKERGVLAKEPTHTNTIIRLAPPLSISSEDLRDS EALHDVLELDLPNLLKINSKTPVSHITTECDRCGRNLVA475
gi|115454305|ref|NP_001050753.1|SNEALSASAVDICKLKERGVLAKEPTHTNTIIRLAPPLSISPELAEASKAFSDVLEHDLPLQQRQIKKTESAAEKQSCDRCGRDLY473
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