

Supplementary data 1. RWP-RK protein sequences used for phylogenetics and motif analyses.

>AtNLP1

MEDDGGSDGGEGNGGFSPNSSFGAFADTAMDLD FMD ELLFDGCWLETTDSKSLKQTEQSPSASTA
MNDNSPFLCFGENPSQDNFSNEETERMFPQAEKFLLEEAEVGKSWWIAPSASEGPSSSVKERLLQAIS
GLNEAVQDKDFLVQIWVPIQQEGKSFLT TWAQPHLFNQEYSSLAEYRHVSETYNFPADDEGMKDFVG
LPGRVFLQKFPEWTPDVRFFRRDEYPRIKEAQKCDVRGSLALPVFERGSGTCLGVVEIVTTTQKMNYR
QELEKMCKALEAVDLRSSSNLNTPSSEFLQVYSDFYCAALPEIKDFLATICRSYDFPLALSWAPCARQG
KVGSRHSDENFSECVSTIDSACSVPEQSKSFW EACSEHLLQGEGIVGKA FEATKLFFVPEVATFSKT
NYPLAHHAKISGLHAALAVPLKSKSGLVEFVLEFFFPKACLDTEAQQEMLKSLCVTLQQDFRSSNLFIK
DLELEVLPVRETMLFSENLLCGAETVESL TEIQMQESSWIAHMIKANEEKGKDVLSWEYQKEDPKELS
SGRENSQLDPVPNNVPLEAEQLQQASTPGLRVDIGPSTESASTGGGNMLSSRRPG EKKRAKTEKTIGL
EVL RQYFAGSLKDAAKSIGVCPTTLKRICRQH GIMRWPSRKIKKVGHSLKKLQLVMDSVQGAQGSIQ L
DSFYTSFPELNSP NMSSNGPSLKSNEQP SHLNAQTDNGIMAEENPRSPSSSSCKSSGSSNNNNTG
NILVAEDADAVLKRAHSEAQLHNVNQEETKCLARTQSHKTFKEPLVDN SSPLTGSSNTSLRARGAIK
VKATFGEARIRFTLLPSWGF AELKQEIARRFNIDDISWFDLKYLD DDK E WVLLTCEADLVECIDYRLTQT
HTIKISLNEASQVKLSGSFGNTGLS

>AtNLP2

MEGGRGGGDGNFLPNSNFGVFSDSAMDMD FMD ELLFDGCWLETTDGKSLKQTMGQQVSDSTTM
NDNNNNSYLYGYQYAENLSQDHISNEETGRKFPIPPGFLKIEDLSNQVPFDQSAVMSSAQAEKFLLE
ESEGGRRYWIAPRTSQGPSSSVKERLVQAIEGLNEEVQDKDFLIQIWLPIQQEGKNFLT TSEQPHFFNP
KYSSLKRYRDVSVAYNFLADEDSKESVGLPGRVFLKKLPEWTPDVRFFRSE EYPRIKEAEQCDVRGSLAL
PVFERGSGTCLGVVEIVTTTQKMNYRPELDNICKALESVNLRSSRSLNPPSREFLQVYNEFYAALPEVS
EFLTLCRVYDLPLALTWAPCARQ GKVGSRHSDENFSECVSTVDDACIVPDHQSRHFLEACSEHLL
QGEGIVGKA FNATKLFFVPEVTTFSKTNYPLAHHAKISGLHAALAVPLKNKFNSSVEFVLEFFFPKACL
DTEAQQDMLKSLSATLQQDFRSLNLFIDKELEVVFPVREEVFAENPLINAGTGEDMKPLPLEEISQ
EDSSWISHMIKANEEKGKGVSLSWEYQKEEPKEEFMLTSGWDNNQIGSGHNNFLSEAEQFQKVTNSG
LRIDMDPSFESASFGVGQTLLGSRRPGEKRRTKTEKTIGLEVLRQYFAGSLKDAAKSIGVCPTTLKRICR
QHGITRWPSRKIKKVGHSLKKLQLVIDSVQGVQGSIQ LDSFYTSFPELSSPHMSGTGT SFKNPNAQT
ENGVSAQGTAAAPKSPSSSSSHSGSSTCCSTGANQSTNTGTTSNTVTTLMAENASAILKRARSEV
RLHTMNQDETKSLRSLSHKTFSEHPLFENPPRLPENSSRKLKAGGASKV/KATFG EAKVRFTLLPTWGF
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SIGLGPSL

>AtNLP3

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MEESNNSAVVD FPDNFMDQLLWEECWEE EATQHDQALSSPSGLKERVACAMGHLQEV MGERELLI
QLWVPVETRSGRVLSTEEQPY SINTFSQSQSLALYRDASAGYSFAAEVGSEQLVGLPGRVFLRRMPE
WTPDVRFFRKEEYPRIGYARRYQVRATLALPLFQGTSGNCVAVMEMVTTHRNLEYASQLSTICHALEA
FDLRTSQT SIVPASLKV TSSSSSSSRTEVASILQGICSSHGLPLAVTWGHQDSSSCLSALISASYAADHG
SRCFLAACSEHLLGGEG IAGRAFATKKQCFATDVAIFSKWSYPLSHYAKMFDLHAALAVPILTRGN
RTVQFVLELFFPRDCLDIQTHSLTASQLKRFQSSPHLMVDDNQIAEEVRDAATPPLTQEDPKGKQV
SFSFSSASSLENRKRKTKAEKDITLTLRQH FAGSLKDAAKNIGVCPTTLKRICRQNGISRWPSRKIKKV
GHSLRKLQVVMDSVEGVQGS LHLASFYSSFPQLQSSSSSSFPFINPTQTVHVPPKSPSSSSGSQSSSGS
STCCSSEEQQLGGFQKPALSHPQLLLSSMHEDQRPVRVTSSLPPLPSATTPRKAKDGMKVKAMFGD

SMLRMSLLPHSRLTDLRREIAKRFGMDDVLRSNFSLKYLDDDQEWVLLTCDADLEECIQVYKSSSLKET
IRILVHHPLSRPSFGS

>AtNLP4

MEDSFLQSENVVMDADFM DGLLLDGCWLETTD GSEFLNIAPSTSSVSPFDPTSMWWSPTQDTSALC
TSGVVSQMYGQDCVERSS LDEFQWNKRWWIGPGGGGSSVTERLVQAVEHIKDYTTARGSLIQLWV
PVNRGGKRVLT TKEQPFSDPLCQRLANYREISVNYHFSAEQDDSKALAGLPGRVFLGKLPWTPDV
RFFKSEEPVPRVHHAQDCDVRGTLAIPVFEQGS KICLGVIEWMTTEMVKLRPELESICRALQAVDLRSTE
LPIPPSLKGCDSL SYKAALPEIRNLLRCACETHKLPLAQTWVSCQQQNKSGCRHNDENYIHCVSTIDDA
CYVGDPTVREFHEACSEHLLKGQGVAGQAFLTNGPCFSSDVSNYKKSEYPLSHHANMYGLHGAVA
IRLRCIHTGSAD FVLEFFLPKDCDDLEEQRKMLNALSTIMAHVPRSLRTVTDKELEEESEVIEREEIVTPKI
ENASELHGNSPWNASLEEIQRSNNTSNPQNLGLVFDGGDKPNDGFG LKRGFDYTMDSNVNESSTF
SSGGFSMMAEKKRTKADKTITLDVLRQYFAGSLKDAAKNIGVCPTTLKRICRQHGIQRWPSRKIKKVG
HSLQKIQRVIDSVQGVSGPLPIGSFYANFPNLVSQSQEPSQQA KTTPPPPPVQLAKSPVSSYSHSSN
SSQCCSSETQLNSGATDPPSTDVGGALKKTSSEIELQSSSLDETILTSSLENIPQGTNLLSSQDDDFLR
IKVSYGEEKIRLRMRNSRRLRDLLWEIGKRF SIEDMSRYDLKYLDEDNEWVLLTCDDEDVEECVDVCR TT
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>AtNLP5

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VPVDRGGKRVLT TKEQPFSDPMCQRLAHYREISENYQFSTEQEDSDSSSRDLVGLPGRVFLGKVPE
WTPDVRFFKNEEPVPRVHAQDCDVRGTLAIPVFEQGSQICLGVIEWMTTQMVKLSPDLESICRALQ
AVDLRSTEIPIPPSLKGPDFS YQAALPEIRNLLRCACETHKLPLAQTWV SCLKQSKTGCRHNDENYIHC
VSTIDDACYVGDPTVREFHEACSEHLLKGQGVVGEAFLTNGPCFSSDVSSYKKSEYPLSHHATMFGL
HGTVAIRLCIHTGSVD FVLEFFLPKNCRDIEEQRKMLNALSTIMAHVPRSLRTVTQKELEEEGDSMVS
EVIEKGVTL PKIENTTEVHQ SISTPQNVGLVFDGGTTEMGELGSEYGKGVSVNENNTFSSASGFNRVTE
KKRTKA EKNITLDVLRQYFAGSLKDAAKSIGVCPTTLKRICRQHGIQRWPSRKIKKVGHSLQKIQRVIDS
VEGVSGHHLP IGSFYASFPNLAASPEASSLQQQSKITTFLSYSHSPPAKSPGSSCSHSSSCSSETQVIKE
DPTDKTRLVSR SFKETQTTHLSPSSQEDDFLRVKVSYEE EKIRFKMRNSHRLKDLLWEIAKRF SIEDV
SRYDLKYLDEDNEWVLLRCDDDVEECVDVCRSFPGQTIKLLLQLSSSYLPERSSVSGCLS

>AtNLP6

MELDDL DLSGSWPLDQITFASNFKSPVIFSSSEQPFSPLWSFSETSGDVGGELYSAAVAPTRFTDYSV
LLASSESETTTKENNQVPSPSWGIMPLENPD SYCAIKAKMTQALRYFKESTGQQHVLAQVWAPVKN
RGRYVLTTS GQPFVLGPNSNGLNQYRMVSLTYMFSLDGERDGELGLPGRVFRKKLPEWTPNVQYYSS
KEFSRLGHALHYNVQGTALP VFEP SRQLCVGVVELIMTSPKINYAPEVEKVKCALEAVNLKTSEILNHE
TTQICNEGRQNALAEILEITVVCETYKLPLAQTWVPCRHRSVLAFGGGFKKSCSSFDGSCMGKVCMS
TSDLAVYVVD AHWVGFRDACAEHHLQKGQGVAGRAFQSGNLCFCRDVTRFCKTDYPLVHYARMF
KLTSCFAVCLKSTYTG DDEYVLEFFLP PAITDKSEQDCLLGSLLQTMKQHYSSLKVSETELCENNMSLE
VVEASEDGMVYSKLEPIRIHHPAQISKDYELNAPEQK VSLNSDFMENNEVDDGVERFQTL DPIPEAK
TVKKSERKRGKTEKTISLEVLQQYFAGSLKDAAKSLGVCPTTMKRICRQHGISRWPSRKINKVNRSLTRL
KHVIDSVQGADGSLNLTSLSPRPWPHQIPPIDIQLAKNCPPTSTSPLSNLQDVKIENRDAEDSAGSSTS
RASCKVNPICETRFR LPTHNQEPSRQVALDDSDSSSKNMTNFWAHLTCQDTASPTILQHKLVS IKATY
REDIIRFKISPESV SITELKQQVAKRLKLETA AFELKYLDDDREWVSVSCDADLSECLD TSAAKANTL
RLSVHDVTFNFGSSCESSEETMMCL

>AtNLP7

MCEPDDNSARNGVTTQPSRSRELLMDVDDLDLDGSWPLDQIPYLSSSNRMISPIFVSSSSEQPC SPL
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VPPENTDNYCVIKERMTQALRYFKESTEQHVLAQVWAPVRKNGRDLLTTLGQPFVLNPNNGNLNQ
YRMISLTYMFSVDSESDVELGLPGRVFRQKLPEWTPNVQYYSSKEFSRLDHALHYNVRGTLALPVFNP
SGQSCIGVVELIMTSEKIHYAPEVDKVCKALEAVNLKSSEILDHQTQICNESRQNALAEILEVLTVVCE
THNLPLAQTWVPCQHGSVLANGGGLKKNCTSF DGSCMGQICMSTTDMACYVVD AHVWGFRDAC
LEHHLQKGQGVAGRAFLNGGSCFCRDITKFKCTQYPLVHYALMFKLTCFAISLQSSYTGD DSYILEFF
LPSSITDDQEQLLLGSILVTMKEHFQSLRVASGVDFGEDDDKLSFEIIQALPDKKVH SKIESIRVPFSGF
KSNATETMLIPQPVVQSSDPVNEKINVATVNGVVKEKKKTEKKRGKTEKTISLDVLQQYFTGSLK DAAK
SLGVCPTTMKRICRQHGISRWPSRKIKKVNRSITKLKR VIESVQGT DGGLDLSMAVSSIPWTHGQ TSA
QPLNSPNGSKPELPNTNNSPNHWSSDHSPNEPNGSPELPPSNGHKRSRTVDESAGTPTSHGSCDG
NQLDEPKVPNQDPLFTVGGSPGLLFPYSRDHVSAASFAMPNRLLGSIDHFRGMLIEDAGSSKDLR
NLCPTAAFDDKFQDTNWMNNDNNSNNNLYAPPKEEAIANVACEPSGSEMRTVTIKASYKDDIIRFRI
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LGSSCESTGEL

>AtNLP8

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SGKRRKVVNQKIGFPNVLNCTIPRSLSHSLDEKMLKALS LFMESSGSGEGILAQVWTPIKTGDQYLLST
CDQAYLLDPRFSQYREVSRRFTFAAEANQCSFPGLPGRVFISGVPEWTSNVMYYKTDEYLRMKHAID
NEVRGSIAIPILEASGTSCCAVMELVTSKEKPNFDMEMDSVCRALQAVNLRTAAIPRPQYLSSSQ RDA
LAEIQDVLRTVCHAHKLPLALAWIPCRKDQSIRVSGQKSGENCILCIEETACYVNDMEMEGFVHACLE
HCLREKEGIVGKAFISNQPFSSDVKAYDISEYPIVQHARKYGLNAAVAIKLRSTYTGEDDYILELFLPVS
MKGSLEQQLLLDLSLGMTQRICRTLRTVSEVGSTKKEG TKPGRSSDMSNFPQTTSSENFQTISLDSE
FNSTRSMFSGMSSDKENSITVSQGTLEQDVSKARTPEKKKSTTEKNVSLSALQQHFSGSLKDAAKSLG
GETSAYFQAWVYFFCPTTLKRICRQHGIMRWPSRKINKVNRSLRKIQTVLDSVQGV EGGKLFDSATGE
FIAVRPFIQEIDTQKGLSSLDNDAHARRSQEDMPDDTSFKLQEAKSVDNAIKLEEDTTMNQARPGSF
MEVNASGQPWAWMAKESGLNGSEGIKSVCNLSSVEISDGM DPTIRCSGSIVEPNQMSMCSISDSSN
GSGAVLRGSSSTSMEDWNQMRTHNSNSSESSTTLIVKASYREDTVRFKFEP SVGCPQLYKEVGKRF
KLQDGSFQLKYLDDEEEWVMLVTDSDLQECLEILHGMGKHSVKFLVRDLSAPLGSSGGSNGYLGTGL

>AtNLP9

MENPSASRDNKGFCFPDIPVEEMDGWVKNLISEEDMFSSSSTSELMNFESFASWCN SPSAADILFTQ
YGLSTSQSIIPFGGLEGSYACEKRPLDCTSVPRSLSHSLDEKMLKALS LFMESGEGILAQFWTPIKTGD
QYMLSTCDQAYLLDSRLSGYREASRRFTFSAEANQCSYPGLPGRVFISGVPEWTSNVMYYKTA EYLR
MKHALDNEVRGSIAIPVLEASGSSCCAVLELVTCREKPNFDVEMNSVCRALQAVNLQTSTIPRRQYLS
SNQKEALAEIRDVLRAVCYAHRLPLALAWIPCSYSKGANDELVKVYGKNSKECSLLCIEETSCYVNDM
EMEGFVNACLEHYLREGQGIVGKALISNKPFSSSDVKTFDICEYPLVQHARKFGLNAAVATKLRSTFT
GDNDYILEFFLPVSMKGSSEQQLLLDLSLGMTQRLCRTLKTVSDAESIDGTEFGSRSVEMTNLPQATV
SVGSFHTTFLD TDVNSTRSTFSNISSNKR NEMAGSQGT LQQEISGARRLEKKKSSTEKNVSLNVLQQY
FSGSLKDAAKSLGVCPTTLKRICRQHGIMRWPSRKINKVNRSLRKIQTVLDSVQGV EGGKLFDSVTGE
FVAVGPFIQEFGTQKSLSSHDEDALARSQGDMDDEDVSVEPLEVKSHDGGGVKLEEDVETNHQAGPG
SLKKPWTWISKQSGLIYSDDTDIGKRSEEVNKDKEDLCVRRCLSSVALAGDGMNTRIERGNGTVEPN
HSISSMSDSSNSSGAVLLGSSSASLEQNWNQIRTHNNSGESGSSSTLTVKATYREDTVRFKLDPYV V
GCSQLYREVAKRFLQEGAFQLKYLDDEEEWVMLVTDSDLHECFEILNGMRKHTVKFLVRDIPNTAM

GSSAGSNGYLGTGT

>AtRKD1

MKSFCCKLEYDQVFGKENNSFSFLNHSSLYSHQSELANPFFELEDEMLPSATSSNCFTSASSFLALPDLE
PISIVSHEADILSVYGSASWTAETMFVSDFAKKSETTTTCKRRCREECFSSCSVSKTLSKETISLYFYPIT
QAARELNIGLTLKKRCRELGIKRWPHRKLMSLQKLISNVKELEKMEGEENEDKLRNALEKL
EKEKKTIEKLPDLKFEDKTKRLRQACFKANHKRRSGMSTPITSSSSSASASSSSYSSVSGFER

>AtRKD2

MADHTTKEQKSFSFLAHSPSFDHSSLSYPLFDWEEDLLALQENSGSQAFPFTTSLPLPDLEPLSEDVL
NSYSSASWNETEQNRGDGASSEKKRENGTVKETTCKRKINERHREHSVRIISDITTYTTSSAPTLSKET
VSRFYFYPITQAAIALNVGLTLLKRRCRELGIRRWPHRKLMSLNTLISNVKELQKMEGEENAEKLQDAL
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>AtRKD3

MADQRPLMTWLEANNYESFLQEDIFSFLDQSLFVDPHSSFIDPFKDFQTQNWFSLQDSIVNHISTTFA
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MKEKTSQKRIIMKRRYREDGVINNMREMMKQFYFYPITKAAKELNIGVTLLKKRCRELGIWRPHRKL
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FSSSS

>AtRKD4

MSSSKHSSVFNYLSALFLSLFLQQMDQNSLHHLDSPKIENEYEPDSLYDMLDKLPPLDSLDMEDLKP
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NLKKKRQDKLEMSEIKQFFDRPIMKAAKELNVGLTVLKKRCRELGIYRWPHRKLKSLNSLIKLNKNVGM
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>AtRKD5

MVDQGGFTLKKKKKNILKLFYVKILGFCFCDSWSSSDMAHSLTSLAVFQSVIRKEMVRSLSHVYESV
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LEDIPNLANELKFISELKPSKIYEEEQCSSSTEGYNSDLPKPRKLVLKQDLNCLPDSETESEESVNE
KTEHSEFENDKTEQSEDAKTEILKKKKRTPSRHVAELSLEELSKYFDLTIVEASRNKLVGLTVLKKK
CREFGIPRWPHRKLKSLDCLIHDLQREAEKQKEKNEAAAMAVAKKQEKLETEKRNIVKRPFMEIGIET
KKFRQENFKKRHRASRAKKNQESLVTSSST

>AtRWP-RK-1

MAGDDPKSSAPKDDGYEDPYINDPFDGFGPFTDEDLINVMADINPNLMDMSFTEHTPPSVLPTLPSD
VDETHLFHELDLSISNYDSKDEFETLSFVEDGFTIPLDMFEQPNDEHNDNDVPGEIGNDNGKNVVG
DSTRLELSTRVFGGANGLDFEIGGSATMPVPVTTTISDGVHACNCCRLRELVLHKEGEERSKLDIYGGI
GFICHAILLIQLLAPDSMQRQPLIFHLQHLTMEEVKKFIEDYCYQRVANGLSLLQDTNAAFYQAMSAN
SIFNQPPPMLTLPSSTDVPLSLLSPNEDHDVPLSLLSPEEALDIQPVPPHVELREPTTRLPKQREKRQTP
LAAQVISLVSQFNI

>OsNLP1* in 2005 (OsNLP2)

MEQKPSPPPPRSDEEEDGLMGCGMGGTGDIAGGDLDMEEFLLATPGFDLSEFWHPGAASPFSPFL
DIGSSVTTLTPAPAAAGEDDRDEAEMPSRGGGGLEVSPAHRGWTFQTAPQEVAVEPTVKERLRRALE
RIASQSQSQAQRGDGELLVQVWVPTRIGDRQVLTTGQPFWLDRRNQRLANYRTVSMKYQFSADE
SARADLGLPGRVFVGRVPEWTPDVRYFSTEEYPRVQHAQYFDIRGSVALPVFEPRSRACLGVVELVMT
TQKVNYSAEIENICNALKEVDLRSSDVSSDPRSKVVDASYRAIPEIMDVLRVCDTHNLPLAQTPWIPCI

CQAKRGSRHSDSEYKHCVSTVDEACYVRDCSVLGFHQACSEHHLFRGEGVVGRAFGTNEPCFSPDIT
TYSKTQYPLSHHAKLFLGLRAAVAIQLRSVKTGSLDFVLEFFLPMKCINTEEQRAMLNLSNTIQQVCYT
LRVVKPKELVNDGPFEISQPTRPEFYAKSVHEDLDELCSGINVPGRRTSLEASEEVSSWIASLVDAQNK
GGKGEIDVDLPFGFSKQDDEGFSVTAGWHTSPVMAPDGSMSFGFRHEDYDVKENTC**SSDPSNSN**
SDKAVEKRRTKTEKTVSLQDLRKHFAGSLKEAAKNLGVCP TTLKRICRQHGINRWPSRKIKKVGHSLLKK
LQMVIDSVHGPETVQLSSLYENFTKTTWSERELQGDVHFPASEQNFQLEPSVPDRPCEGRFTSHTS
GSNSISPPSCSQSSNSSLGCSSVPKTQQQHGSAPQLAVKEEISMDENQCSTLIKSASHAEAELQMFVEE
RPTMLFRSQSVLLSEHKPIENMSNVQKARSDSLKIKAIYGEERCIFRLQPSWGFQRLKEEIVKRFGISQ
DTHVDLKYLDDESEWVLLTCDADLLECIDVYKSSSNQTVRILVNPSIQPLLNASFGQTGLS

>OsNLP2* in 2005 (**OsNLP6**)

MDMPTPSNRAGCNGNTGGTMGPSDDPYGAAAMNLDYSEIYSPSVADQLFSLNDPAAHRMFA
MWPSMGSSPCAAGTSEDMPLDAYSGLGEAVEEPSQIMSVNPTEAEKTGKSSGELGSDDGAHQGSS
MVPRSVVGSSLADRMLMALSLFRESLGSGALAQVWMPVEQEGHVVLSTCEQPFLDQVLAGYREVS
RHFVFSAKEEPGLQPLGRVFISGVPEWTSSVLYNRPYLRMEHALHHEIRGSLAMPIYDPSKDDSCC
AVFELVTRKEKPDFSAEMDNVCNALQAVNLKATKGSSNQKFYTENQKFAFTEILDVLRACHAHMLPL
ALTWVPTSNIGIDGGYVVGKDGASFQSGKTIIRIHESACYVNDGKMQGFLQACARRHLEKGQGIAGR
ALKSNLPFFSPDIREYSIEDYPLAHHARKFSLHAAVAIRLRSTYTGNDYILEFFLPVSCCKSGEQQMML
NNLSSTMQRICKSLRTVYEAEDNVNAGTAAVFRKNNESCLPTGHTESSHGDQSITGASFEDTSLA
NKPVGMEPELAEQVQPSSIGHAEKKRSTAEKNISLDVLRKYFSGSLKDAKSLGVCPTTLKRICRHHGIS
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NSDLKSEEGCSLPDGSQRQSCQLQISDVKKSNEDEFHIGSGNSDFYGANATAKSNSEVTQGPLCPTG
AFSALHLKGTDCNTPSSSLRPSSESTRNQIVGRNPSIQQEDLDMLDNHEAEDKDHMHPTSGMTD
SSSGSASSHPTFKQNTRSALKDAASPALTVKATYNGD TVRFKFLPSMGWYHLLIEIAKRFKLPTGAYQ
LKYKDDDEDEWVILANDSDLQECVDVLDSIGSRIVKLQVRDLPCIVSSSGSSTCLQLAAHSS

> OsNLP3* in 2005 (**OsNLP1**)

MEVDPSSSLPGAGEGGGGGGGGGGDLWPFDSLTTSLFSSVSASPQPLPASSSSWLTPPSPLWLFD
RQLPLDMGAPAAPATAPPAEAAA VVEEVHRTSRGNSD TTSKRVDQINSKWQFHLSIDDNTDSSCLF
KERLTQALRYFKESTDQHLLVQVWAPVKSGDRYVLTTSQGQPFVLDQQSIGLLQYRAVSMMYMFSD
GENAGELGLPGRVYKQKVPEWTPNVQYYSSTEYPRLNHAISYNVHGTVALPVFDPSPVQNCIAVVELI
MTSKKINYAGEVDKVCKALEAVNLKSTEILDHPNVQICNEGRQSALVEILEILTVC EEHLPLAQTWV
PCKYRSVLAHGGGVKKSLFDGSCMGEVCMSTSDVAFHVIDAHMWGFRDACVEHHLQKGQGV
GKAFIYRRPCFSKDISQFCKLEYPLVHYARMFGLAGCFAICLQSMYTGDDDYILEFFLPNCRNEDDQ
NALLSILARMKKCLRTLKVVGNGDTNEVCLQISNVLIETEDLKTNVHFENSEGCFRESPESNGSQRV
HEVDNDGNKVSIMSERHLLADDNSQNNGASVGRPNGSGASDSLHKSNNKPPERRRGKAEKTISLDVL
QQYFSGSLKNAAKSLGVCPTTMKRICRQHGISRWPSRKINKVNRSLSKLKQVIESVQGSDAAFNLTSIT
GPLPIVGPSSDSQNLEKASPNKVAELSNLAVEGDRDSSLQKPIENDNLAILMSQQGFIDANNNLQLE
ADKASHSRSSSGEGSINSRTSEASCHGSPANQTFVCKPIASTFAEPQLIPEAFTKEPFQEPALPLSRMLIE
DSGSSKDLKNLFTSAVDQPFLARSSNLALMQNSGTVTIKASFKEDIVRFRFPCSGSVTALKDEVAKRLR
MDVGMFDIKYLD DDHEWVKLACNADLEECMEISGSHVIRLLVSDVAAHLGSSCGSSG

>OsNLP4 (**OsNLP4**)

MEEGDPQPSISLARTPSEGAAAAVDLDLLEQLLSADNAWLEVAANTSRSPNFFATPSNCLTDASVAT
TTPANSWWIQPSGASTSVRERFDQALAYIRETQSDADVLVQLWVPVKGNDGQLVLTTSQGQPF
RSLNLIQFREVSTKYQFSADVAGSSPGLPGRVFIGRLPEWSPDVRYFTSYEYPRINHAQYLDVHGT
MLPVSFERGNYSCLGVIELIMTKQKLNFTSELNTICSALQAVNLSTEVSSIPRAKLNSASYKDALPEILEV

LRAACITHKLPLAQTWVTCAQQGKGRSRHSDENYKYCISTIDAACYVNEPRMQSFHEACSEHHLLRG
QGVAGKAFTTNQPCFLPDIGSSTKLEYPLSHHAKIFNLKGAVAIRLRCTRGTGIADFVLEFFLPTDCEVL
EEQKAVLDSLSGMTMRVCQTLRVVTDKEMEDEAMREMNELNSFSPRGKNKVEELSFGDNTRGDREE
ASWTTLVGTSQKGSDLAELHTHGMLSHGGHGSSQAGDQTSKEGSKVKRRTKTEKTVSLQVLRQYFA
GSLKDAAKSLGVCPTTLKRICRQHGINRWPSRKIKKVDHSLRKLQQIIDS VHGAETAFLNTLYKDLTN
TSVSSDNNLSG SVTVPLANQNNLDFEMHQHRLSSNIPSTSLSHSSCSQSSDSSPSCSGGATKHSPQ
VGADQVRSGLCPQHSPVQTLQTEAASINEHFSGQEAPIDLLQDVAEKANGEQHMSQSPSSPKQTA
NVGMRVKVTFGSEKVRFLKPECDFQELKQEISKRLSIADMNSLIVKYLDDDSEWVLMTCADLHECF
HVYKLADIQTIKISVHLAASPTTRITIGHTGFS

>OsNLP5 (OsNLP6)

MDMLMLSSALDGLDSYTDLVAGSSVADSIFSALTCFPPSQERLLHVSTPVGSNSRQDDSDVSITKEGT
TTRRGDCAAGLASGEPVAAGIGSVKPFDPVTLTERMLRALAMLKEASGGAILVQVWMPVRNGEQ
HVLTTSDQPFLLDQKLTGYREVSQFTFSAEEGPGLFPLGRVFMMSGMPEWTSNVMYYHGSEYLRV
DYARRHEVRGSLAMPVFNSSGGSCCAVLEVMTREKDNFCLEMVNVSNALQSVQLSTVNAWRHS
QSYSRDQKLALMEIFDVLQAVCQAHLLPLALAWIPVCSKRDVLVSVEYGANFGKRNEVLCIEESACY
VNDTRMRDFVQVCAEHLEKGGQGVAGNAYLSNNPFFSSDVKDYDMHAYPLVNHARKFGLHAAVA
IRLQSTYTKNDYVLEFFLPVLCKGGGEQQLLLDSISATMRRVCKSLRTVSDAELKEDVTRKPSNENRS
GTRCPSPVNLIIYSGREIDVSNETKNTPLEYQIEGIDEQLSDTKSTNKLIKCSNASDGEKRRSSTEKSVSL
SVLQQYFSGSLKDAAKSIGVCPTTLKRICRQHGISRWPSRKIKKVNRSKKIQNVISSVHGVGVLKYDP
STGCLVSSVSPSIEPVL MNVEHKGS DPLIESELPHLNFEPCDAYRREHAGQDVLHKLQNKQNGEIN
FDMDDGELFRNSHSTRTLGAFCE DMPNGLYVAREMTCVAKTGTRTERLEHKPSSRDSFSAPQEYR
MESETDKSNKNSKQSLPSSSSMTDCSTSSGETFKSIKSQSANESNKT VVKASYKNDTIRFKLLPSMKY
EQLLEEIAKRLKLSIGLFQLKYKDDEGDWWILASDADLQECLEILD TTRLRLKLQVQDVVCPIGSSSGSC
SMLRP

>OsNLP6 (OsNLP7)

MERVVGDFNLLLQRGGAAGERGSEGGGGGSPGTEEA AVAVKQRIARALRLYKEAAGDGGGGWM
VQVWAPARDGARRVLATRGQPFV LASQCHRLFQYRTVSLTRVFPVGGAAAAD EQGLPARAFDATA
PEWTPNVQCYGSGEYARISYALIYDIQGSLALPILDPDDASSPLAVLELVTTAPLLRVSGEVANL CNALR
AVSLRGAGICNRAAECYSLAVNQIVHRDATRAAMA EVSELLITVCEAHKLPLAQTWVRCWSCGGGG
EDTEKAALTTAGAPFH LAAGADARGFRDACVEHHLQRGQGLVGTAARAPGGGRLCADVARCSKDD
YPLAHYAGMYGLAGCLVLRAELSAAAMADAAAATAGDEEDCVVLELFLPPDCTGVAEQKAAVDAVS
ATIKQCSGNLKAIVISNLDDLFLDTMADGDHQLRHEMDDL GDDQRCSDEEDLQ LLENTNIGELNIHN
ADQIRNEDPTSQVGKNKTKRGKAEKSVTLEELQKHFGSLKDAARSLGAGYSVDYLHQNPDVYAQIN
TQPLKVGSPGSMASQGGHFARSARCGNGDGVVTIKASHRGDIIRFRVPCSAGVAAVKAVVAKRLSL
DAGAFDVKYLDDDHEWVLLSCDA DFQECLDVVPALPSMSVTARSGSGAAAPVVRLMVQE VADNI
GSSCASSD

>OsRKD1 in 2005 (OsRWP-RK1)

MCAAPMASTAQPQQQPPQQQEQQPVA AA AVPTPAPPASEAQPPQKPTRVLSYEEISKLFSLPIAEA
ASILGVCTSVLKRICRSHGIVRWPYRKLVS GKS GDDTKNAEREKAKGLLEISKVAKQKALSASGLSTVSP
GAFQGVAKSQQGSSKAGQVSPPGKQNVLGGSAILS YGTQTKGIPTYMDDFKYGFSSGLSLQTMKW
WGTDSTHTETPAKDDNGEAPESANEASKGMTDDELDWGADEAEAEADADSAITTEPSAQLCSLRRK
AVDDGRKLLTGKSCGGLELCRLNKRQKMALAQVFGASLPEQLRSKLG

>OsRKD3 2 in 2005 (OsRKD2)

MEMHECCYYGSGIGDWNPLAAIPPCSSSSSSWSSQLLLSDHDDVLLHSAGDHGGAVAGIGGA

CMTADLVVRDEEMEMAAGYLPVAASAAAAADVDHYMYQQFQLEPDQFVSTLPAVAVAVAATAG
GGSHDDELLRMPFTDIDLDAFADARDVVVGVEPKPSPQHTLDAAIALPAVGGGGAAHHFGTQDDD
VKFDVTKQRNDAALAGDDSLSMVIVESYEMGMRRHAAEQEQEQPKIITSAATTLTPLPLPPPPPPPP
RVTRSRRDGSSAATAGGKTRLDHIGFEDLRRYFYMPITKAAREMNVGLTVLKKRCRELGVARWPHRK
MKSLKSLILNEMGSKGMSAAAMRRELEALENCCALMERNPAVELTERTKKLRQACFKENYKRRRAAA
VDVLDLDHCFSAAGHCHRRHHHQQALPPPPAAAAADHRRRDFFGY

>OsRKD4 in 2005 (OsRKD5)

MDAAAAAVSTLSALAVFASTLDHGAVRSVHGKYVYGRGGRRRWVEREFVLTASCREVPA
PPRILPAEWRGRPAYREGQVVAAGAWRCILAFDSAAAPRTPPPVLSPLNPRLMCVPSLYNDLEKVF
RFQNVKIPKLMQCDSEEKSSWDARDKSSDEVHASESDSDDDLQSGEEKPTVQKQRRANKKHIA
ITLVDAIQYFHLPIREASRTLKIGVSILKRKCRQYNIPRWPHRKIKSLDSLIQDLEYVIDDGDHDDTGDD
VQKEKHQTAEEKQEAIMALTRRKQMLETEKETIQIPAMD LKVETKQFREDVFKRRYRAKKDLAND

>OsRKD5

(OsRKD2)

MRHNRSLAALLRAGRYGAARRLFDALPARSVVTWNSLLAGLARRPDARAAREFFDAMPVRDAVSW
NTLLAAYSASPHPDHLAAARRLFDEMPQRDVVTWNTLLGAYARRGLMDEARRLFDEMPQRNAAS
WNTMTVGFFAAGQVVKALDVFDAKPSASLSTMVSGFTKNGMLHEAEELLTKRLSVTMDMDKAV
DAYNTLIVAYGQAGRFSDAKRLFDMIPKGQYQHNMLKRKGFERNVVSWNSMMICYIKAGDVCSAR
ALFNEMPDKDLVSWNTMISGYTQASDMKESEKLFWEMPDPTVSWNLIIQGMQKGEAEHARGFF
DRMPERTISWNTMISGYEKNNGYISSVKLFSKMLEVGEIPDRHTFSSVLAACASIPMLGLGAQIHQLV
EKSFPDPTAISNALITMYSRCGALNDAAEAFKQMHTKKDLVSWNALIGCYEHHGRATKALQLFKEMRR
AKVMPTHITFVSLLSACVNAGLVSEGRMVFDTMVHEYGIVARIEHYAALVNLIGRHGQLDDALEVINS
MPMAPDRSVWGAFLGACTAKKNEPLAQMAAKELSTINPDSSAPYVLIHNLHAHEGKWGSAAVVRE
EMERQGIYKQPGYSWIDLEGKMHVFISGDTWHPNAQEIFSVLEDWQWHNPMSLEMNQLTQVKLIA
KRNNQIMDKQATATKMHKATNIRHIYSKFVDEQQNTSWWPYCTSLWPDSYLLEEEALFSSLSFSPF
HPQPVYSTVMQSNVLQDELGVIFEDDVLYWDEMEQSENKVEKSEKGLPLLYYGDENGAASKIMRD
DVRSEEKALTFELVSQYFYMPITQAARELNVGLTLLKKKCRELGIPRWPHRKMKSQT LINNVQVLQEA
SKANNEEQLRMLVEMLQEERRLLEQKPYVQLEEKTKRLRQACFKANYKKRRLLALEAGEP

>OsRKD6

(OsRKD2)

MEKWRFYGGHQFQSYSFHEEENLFQDWSLDYLLGDEPFFTHHFSTSVHSNFVQDELYTLFDGDILS
IWGDMKEDAYHRSDKDGGEEKELDHEKAMELQLQRLPSGRQSSEKTLTFELVSQYFCLPIKQAAQE
LNVGLTLLKRRRCRVLGIPRWPHRKVKSLIETIKNVQELGMETGQDEDNTRNAVEMLQQTKKLIEQSPD
AKLDDWTKMLRQACFKENYKRRRLAIEG

>OsRKD7 (无)

MAMSRATCSTRPRISRCSPSRRWFVPVAAAIESHPTPAIHVVEREWPAQVQISRFDPCSPPPPARMLP
GGQQQQPHAPGGDLRSDEIHALKQRRRPPNPQSSSPPEGLLGAANPDRPDDDELDAISSFRDE
AAHGDSGGGVARVQVLPVEQDANLVPSPLRHGQLDCSRCHLVHRHVMHVAVLPYVKFSLKLWEE
AFHRIRRMYSVRSNVYSLSKWTQEWASEFIARNIDTMRNNTNGQLDSGYSNLVESVRTNVNVP
TAVEVNLLQTIMSAPSADHHQNAADQVAAPAAQPFSAAPPVALPPKAAPRKARKDRDYASMLVAV
EEFYVAATSRPVPNSDVEILESSHVSQQQDGGRAIYPSLQARRGKTKQEVPRRNAKDVLEYLSLARKE
TEKEINTLSSFDGIYRNDGTLSYLMTEVRRNRKIWRQLQKNAPSTLSSRLASVKEIDDIKVEKGRLYAQF
ISALKKLCRKKMDDGGSAPSANN

>OsRKD8 (OsRWP-RK2)

MAGDGGNGAADGGGEHLELDFPSPLLDNFDVLELLDLSVLGDVDDDGAPPAPAPVQMSVDGAG
GGRINKPGSSVDDLVDWSTAFGNNCSKIDGEYGGASTSSSAAPALAPPQEDYCSGCQVLEVVHNS

GLEITKLCIHGGVASGEFYHAILDVYRVASAPAPALAHHSIINFRGRGYDWVKQYLTEYALRRAGGGF
AVVQDSLSAFHDALCTTMAPCSSHVGDHRRASSSAAAAAEERTNGNGDHGQLVHNAAVLP
MLESSRCLVAADQAATTNNNGSGDRRLVLDTTAIQPPASGCILHMAFPSKSYQSSRPTTLPSRYQE
CTCNPVAYEMDGVRSSLAPICWPELLGYNVNREKTKQLQLSDIAPYFELPIAKAAKKLDICATALKGIC
RKHGVLRWPYRKVRSIDRQIATLRRSGNGDATRNEIETLIASRRRIVAGLDQ

>OsRKD9 (OsRWP-RK2)

MATGGSSSSSNVPSGGAAGGGAGSGKLPMPVPGSIECLRKRQRQLRVLIHVNDHRKAVVVLHAGED
GKPDHVLVQNVSPEGEASVQSTYRIDVSGETPESQAEMLNDWYTSFRMDTTGVLYDSDQNVYGV
RGHPGGDVPRSLAILPPAPKKNQHGKAPATESNSSLVEEPLLLVQTDQPAAGKRKKFTFPDQKRKVK
TMTKKDLESYFHTQKSAAHIGLSIGTTALKNLCRANDLPRWPYRQIASLDNKFNNNLKKQITGWNLG
KAVQGVTKAFKLRKEEFYQKIMSSMPEQLQSIDEIVNSLPEADDDIDIEDDEDNDDVIEDNDDDNS
DEN

>OsRKD10 (无)

MAGEHRFYDSNGDVSRYMLDDMEFLPLFGAEAATTLPLVLPDVEPLPTAPAPAATAHVEPAPAAD
FGLGNPVLADLGFVDLDFPELNFQSPPPPAMNAGGYTHQVQASPPVMHHQQQQQQLAPLPL
AAHGFAQQPAPATTMAPSGDDGLFLAAPSRDAPCSPVMFNFMDFNVDMGDVDMDDVLMWA
DQDTHGAAAGGDTAPPVVVDEYADFVPFQAGDLDCSNCHLVREMMHANASRTIYFLVHATGVGS
FQHAIVDRRYTATGAEGLHFPGRQLLYFDLTNHTIESASDFIASNVEKLKNDTTGHHFLDTGYNFSGA
VRTDMANSHTAMEMNMLHTIVSAPFENVTTDAASPPAAQFIGAPPAAELPAPVPAPAPPAHEQN
AVVATLLFKVEEFYAAANSRPAAKRADVKILESSQVTQQAGGSSAATATMYPSPMVDRKRKRAQATPS
RMAPHEVIQYLRATAVETDKELETNNFFKVCDEGDKALITFSVEQIRSIKKIGRIINKPVTAMSSRRM
ARFIDEIDTIKEEKARVFEEIKILKNPRRKRENDGSSGSNRKNVGGSSGGKKKT VGGSSGSKKNVGRP
SAKKAQK

>MeNLP1

MPEQEDDKSKENQTVGGDKGETLMDLDLDTSWPLDQISYLSNPLSPLLLSSSDQPCSPLWAFSDA
DDRLLPVSSASHATTPPLRFSDYPIFLACAPNSVAENHTENDDKRKFPSPLLGLMPFDNPDGYCVIKE
RMTLALRKFKESTE QHVLAQVWAPT KNNGRYVLTTSQGPFVIDPHSNGLHQYRMVSLMYMFSVDG
DCEGELGLPGRVFRQKLPEWTPNVQYYSSKEYSRRDHALHYNVQGTALPVPFEPFGQSCVGVLELIM
TSQKINYGPEVNKVCKALEAVNLRSSSEILDHPSTQICNEGRRNALAEILEILTVVCETHKLALAQTWVPC
MHRSVLAFDGGGLKKSCTSF DGSCNGQVCMSTTDVAFYVVDPHMWGFREACLEHHLQKGQGVAGR
AFLSHNACFCPDITQFCKTEYPLVHYARMFGLSGSFAICLRSSYTGNDNYVLEFFWPLSISDNYEQNAL
LGSLVATMKQHFQSLKVASGMDLEEEGFVEIIQTSMGRDLRLECIRIPQSPKSPNLTSPKEGKT
AQLDPLKHLMVNLDAVDNNGNISQAEGSHFPTSLPENKGNKKPSEKRGKTEKSISLEV LQQYFAG
SLKDAAKSLGVCPTTMKRICRQHGISRWPSRKINKVNRSLSKLRVIESVQGAEGA FDLTPLTSPLPVT
GSIWPSNLNGCNQQNSLNSKSLEPIDEKNGSPICNAAGNDGQGGGEAQLLGGRILSREEAVLQNG
FSPKIGLVSDRFKAGNASGEESTGTPTSHGSCQGSPANDSAPANDSPVSPVHEKCKNAGNTPELAFQ
TKGKLNLSAAYSVPDALVATEAQAPLGEMLIKDAGSSKDLRNLCPVADTILEERVPESSWTNYPGPD
FPTTEAVA ALEHAMTQGTTRQEMMTITIKAAYREDIIRFRISLSSGIVELKEEVAKRLKLEVGTFDIKY LDD
DHEWVLIACDADLQECIDISRSSGSSIIRLSVHDVNTNLGSSCESNGEL

>MeNLP2

MAEQEDDKSKDNQSVAGNKGETLMDLDLDTSWPLDQIYFLSNPLSPLLLSSSDQPCSPLWAFSD
ADDERLAASSSSHATHPLRLSDYPIFLTCNPSSLAESQTENDDKRKLPSPLGLMPFDNPDGYCIIKER
MTQALRNFKESTE QHVLAQIWAPVKN GARYVLTTSQGPFVIDPHSNGLHQYRMVSLTYIFSLDGEFE
CEPGLPGRVFRQKLPEWTPNVQYYSSKEYSRRDHALHYNVQGTALPVPFEPGQSCVGVIELIMTSQK

INYGPEVDKVCKALKAVNLKSSEILDHPSTQICNEGRKNALAEILEILTVVCETHKLALAQTWIPCMHRS
VLAFGGGLKKSCTSFDCGSCNGQVCMSTTDVAFYVVDPHMWGFRASLEHHLQKGQGVTFRAFLSH
NACFCPDITQFCKTEYPLVHYARMFGLTGCFACILRSSHTGDDEYILEFFLPPGISDVFQQKALLGSLLA
TMKQHFQSLKVASGMDLEEEEGFVEIIQTSVSGKLDLRLECIQTPESPESLPNVNTSPKEGQMAQVDP
VVNLDVVNNGGSTGDAEGGHFPTSPPENKGNKKPSEKRGKTEKTISLEVLQQYFSGSLKDAAKSLG
VCPTTMKRICRQHGISRWPSRKINKVNRSLSKLRVIESVQGAEGTFDLTPIATSPLPVAFGSISWPSNL
NGCNQQNSPNSRSSEPNNERNGFPICKVAGSEEQSGSENQLPGGRVISHEELFLQNCFSPEIGQGSS
RHKAGNVSREESAGTPTSHGSCQGS LANDIAPAKVASASPVQEQGNEVGTIPELSFQPKGKPNLSAL
YPIPDADFVATEAQAPFRERLIEDAGSSKDLRNLCPVADTMLEERVPEYSWTNHPGPEFPTKQSM AAL
EHATPRVTARQEMRFVTIKATYREDIIRFRISVSGSITELKEEVAKRVKLEVGSFDIKYLDDDEHWVLIAC
DADLHECIDISRLSGGNIIRLSIHDVNTNLGSSCESNGELLGCTYGV

>MeNLP3

MLGTRADSAMDFDCMDKLLLEGCWLETIDGSEFFNPSPFSSAAFVDASFQWPTSEINNCDLASSPSK
RSNREEEQISLLPRNSALNEAHGRSLINAEALDHGVGSADRLGYNTTEGSEVSRRWWIGPRTNPGPKT
SVRDRLRALGYIREFTKDKDVLIQIWWPVDKGGRRVLTTHDQRFALVPNCQRLANYRDISTNYQFSVE
EDSKDMVGLPGRVFLGKVPEWTPDVQFFRSDEYPRVDHAQQYDVRGTLALPVFEQGSSTCLGVIEV
VTTKQKIKYHPELESVCMALKAVDLQSSEVPSLQHVKMCDMSYQAVLPEIHEVLRSAETHKLPLAQT
WVPCIQQGKGGRHSDNNYYRCVSTIDLACYVHDTGVQAFHEACSEHLLKGQGVAGEAFLTNQP
CFSSDITSYRKTEYPLSHHARMFGLHAAVAIRLSLHSGAADFVLEFFLPAYCTDPEKQKEMLTSLSITV
QQVCQSLRVVTDKELEETGCPISSELLASSVDTPPKEEMLVTQPYSVSYGGESLSHADRLTGIQQSGSV
VSSCQKKKQKVLQDQISVDCWQNQEDYSLKVSVESGGDSAVAEGSFSSVFKGKKGEKRRRTKAEKSITL
QVLQRYFAGSLKDAAKSIGVCPTTLKRICRQHGIKRWPSRKIKKVGHSLQKLQLVIDSVQGASGSFQIG
SFYTNFPELASPNLSRSLNFSTLQSDHPEPSSIQSERVFSSQAATPKSPSSSCSQSSNSSHCISSTQL
HASAVTPTSEDVPLGENSDNCVLKRARSDAELRASIQEQNLLPRSQSQSLGEQPNLGNLLPLPNN
SSSILRDFDTQRVKVITYGNEKIRFRMPNNWELKDLLQEIARRFNIDDIHKYELKYLDDESEWVLLTCDD
DLEECIDVCQSSQTHTIKFLQVSPHLFDRSMNSRGLS

>MeNLP4

MDHGASALNSTVWTFSSTTMDLDVMDKPLSQGYCLENNDRANSLEPEPFTSHVLYDHSEYSSFSED
LYHQIYRKEMKPLFENIPSAYHIGEGAETAKEFSVQSESFTLEGSSNSGSRWLIDPSYSVKQRLMLAIKYLKE
YVEDSDVLIQIWWPTQIGGQNVLTIDQPYSLNPSCKSLASYRNVSKTFQLTAEENLKELAGLPGRVFL
GKLPEWTPDVRFFRSDECPKRSYAKMYNISGCLALPVFEQDNGVCLAVVEIVTTTQKISYSLEIVGRA
LEAVDLKSSQDFPLGIKACNESYQISILEISDILQFVCKTHGLPLAMTWALRDRQGEVEHWQFSKKYD
YCLSTVDSACYVADSLLGFHEACSEHYLFNPQGIVGKAFTTKQWFATDITSFSKANYPLSHHARMF
NLRAALAVPLCNIYTGLIEFVLELFFPWDCDIEEQKHFWDMLSIVMQQACKSFHVVDKEIDEEVSEQ
MVVASDGRYNREGIQELVASPSNESSQEESSTPHEMDSQNKDKFSFISWECPEKELEDEFKIVITHWE
NDEMGLYQEPVFSDFQKATQSSMPKPGVDIAENFSNGRHCSSESSEKASDKRQTKIEKTITLQILRQYF
AGSLKDAAKSIGVCPTTLKRICRQHGINRWPSRKIKKVDHSLRKLQLIVNSIHGAELIQIDSFYKSFPEL
SSSKFSGNDPFSSSRMSENSCILKPQPRSRFSPKGVKPKSRSSSCSQNSGSTDEEKRLTTINGLNTGCS
LAIDDPVLMMLKKAYSKPELHNLNQEEKEPKVLKSSLSHKT LHGNTTGHSLQDGMVFRVKATFGEENIR
FSFLPNWDFRDLQQEIAKRFKIDDFSRIDLKYLDIDQEPVLLTCDADLEECIDLLRLSQCNTIKISLHQAS
KSNLGSSFRIGLGF

>MeNLP5

MEDGGFKTDSVSRNLPGAAMDLD FMDellyDGCWLTTDGLNISQPGLSSSTVPNDSSQYFPFVDTN
LHQQINQDGMENNFPENPPLSNPKVEQLADDESQDHKSVKITTSSVSAGFPNEGSELSRSFWIEPRA

DPGPTSSVKVRLMHAIRRLKECTKDREVLVQIWVPTKKEGKHVLTITTDQPCFVSLKSESLARYRYVSEN
YHFPVEGDSKESLGLPGRVFLGKLPESTPDVRRFRNDEYPRKTYAKQYNISGSLAVPVFERGTGTCLGV
VEVITTRYINYRSELETICKALEAFDLRSSQDFCPPSVKACKEFCQAAVPEISEILGSVCETHKLPLALTW
ARCFQQGKGGCRHFDEKFANCISTVDSACFVDDRECLVFHAACSEQFLSLGQGIVGRAVFTNKQCF
ASDVTAFSKTDYPLSHHAKVLGLHAAVAIPLRSTHDGSADFLVLELFLPKDCRDPEEHKQMQELLPIAIQ
QACRSLQVVMCKELEASSLNEPYPLGSSWFAQMLEAQQKGKRVCSWDNPEEPKEEFKVATHWDE
GLEKLYEGQVFAESGQLQQNSGRKDESTEGGNSSFAGQQSLGSRKTGEKRRTKTEKTISLEVLRYFA
GSLKDAAKSIGVCPTTLKRICRQHGISRWPSRKLKKKTFINDE

>MeNLP6

MENLFSLKEKGKYWTSPRAQADGMAPSDGGAKNSISEDIFNSFSEFMNFDTYAGWCTSPSATDQ
MFASYGSSSFQSTPYSTFDALSFAEQSCLTSLVGGNALNAAGTSYSSGDKMAVQQVNVYASDLMDA
DDLCAKERTGAQRQIEEMANCMISRPVGFSLDEKMLRALSLLRESADGGILAQVWVPMRRGDQYILT
TFEQPYLLDQSLAGYREVSRTYTFSAEVTPLPLGLPGRVFISRVPEWTSSVVYYSIAEYLRGQHARNHK
VQGSIALPIFEPDNVCCAVLELVTVKEKPNFSEMENVRLALQAVNLRSTAPPQLLPQSLSRNQRAA
LAEITDVLRAVCHAHSLPLALTWIPCHYMEEAFDEVMKVRVREGNSRSSGKFLCIERTACYVNDREM
QGFVHACSEHYIEEGQGIAGKALQSNHPFFSDVKAYDITKYPLVHHARKYGLNAAVAIRLRSTYTG
DDYILEFFLPVNMKGSSSEQQLLLNNLSGTMQRICKSLRTVSDAELKGGECSAVDFQKGAISSFPPLSV
SITSSQTTSSEAVLNLTDKVPLDASSKYDAMKSDGPHEQSFNASRRQPEKKRSTAEKNVSLGLVQYQY
FSGSLKDAAKSIGVCPTTLKRICRQHGISRWPSRKINKVNRSLKKIQTVLDSVQGVGGLKFDPTTGGF
VAAGSIVQEFDSQRIFLSPDKNLPARNSSQSAATEEAVSPVPCIDGSNSAVKVEEDEFCDTCEVLM
KSSIPVIDCEDSKSIATDAEICQKGRGCGPWAAMDNASAFAGTKGSLNSGSAKVDNSDTHFVSR
SSCSLGAAEVLDTKEEGDDVMVEHNQPTCSSMTESSNGSGSMIHGSASSSPSFEKHKLKVCDDGGS
KISVKATYREDTVRFKFEPSAGCFQLYEEVAKRFLQNGTFQLKYLDDEEEWVMLVTDSDLQECIEILDY
VGKRSVKFLVRDSVFTMGSSGSSNCFLLGSS

>MeNLP7

MEDHILSPGTMMLGAHADSTMDFDYMDKLLLEGFRLESIDGSEFFNPSSSSSAACVDSSFLWPASEIS
NGNFASSRSNQEDEHILLPRIAPPNEAHGRSLVTAQAHGEDIGSAYRLGDNTVDGSEVSRRWWIGPR
TSPGSKTSVRDLRILALGYIKDFTKDNILIQIWVPVDKGGRRVLTTHDQCFALVPNCQRLANYRHVSI
NYQFLAEEDSKHVMGLPGRVFLGKVPWTPDVRRFRSDEYPRVHDAQLCDVRGTLALPVFEQGSRT
CLGVIEVVMTKQKIKYHPELERICKALEAVNLQSSEVPSLQHVACDTSYQAVLPEIHEVLKSACETHKL
PLAQTWVPCIQQGKGGSRHSDENYYRCVSTVDHACYVRDSGVQAFQEACSEHLLKGQGVAGEAF
LTNQPCFTSDLTSYGKTEYPLSHHARMFGLHAAVAIRLRVHTGTADFVLEFFLPADCKDPEEQKKML
TSLSIHQEVQCQLRVVTDKELEEENDLPSEVLALSYGTPPEEMFRVTQPYSESYHGDNLWSDSFPGI
QQSGSAVSSFQIEKQKLLIHEKSVDCRQTQEDYSPKVSVEYGGDSAIAEGSFSSVCVSKTGEKRRTKGE
KTITLQVLRQYFAGSLKDAAKSIGVCPTTLKRICRQHGIKRWPSRKIKKVGHSRLKLQVVIDSVQGASG
AFQIDSFYTKFPELASPNLSRSTPLSTSKQLGHPSSSIQPEGGIFSSQVAAPKSPSSSSSSSSSHCCS
SGTEQHASTLTIPTCKDLMLGENSGNCVLKGVKSDAELHVSQEEQNLLPRSQSQKSLWEQPNLGNL
PPLAKSSNRICQEIDGQRVKVTYGNKIRFRMPNPNWELKDLLQEIARRFNIDDIHKYDLKYLDLDDSEW
VLLTCDDLEECIDLCQSSQSHTIKLLLQISPHLLDRSTNSRGLS

>MeRKD1

TKDNERKRSAPLEEEIRKHFDVPITKEAKEMKVGLTILKKRSRELKIMRWPHRKIRSLKSLINNIKEMGLT
NEIMMLEEHQRLLEKKPDMEFSETTKLRQAIFKANYKKKRCLVAHHI

>MeRKD2

MDFSQDYSLTALRIFQNTINREFIRSLHVYRLKDGTDEKEREFLFSDDGPYVEMVANPLRLDRFRVLE

LFEGQVIGVWHCIFAFAHNAHHSPHLSRIPSLLSISRNPKLKSVPTLANDLQLIFKLISRTADEEPLQFLSEEK
CRMIKGCFQSKRNLPVLDQDLNCLPYSVATSQVPKSQQIEPSEPASVMAKKKKRAATEDIARIALEDL
VKYFDLPFAEASRNLVGLTVLKRKCREFGIPRWPHRRIKSLDSLIRNLQEEAERQKQENEDAAMAVAK
RQKMLEREKESIERKPFMEIQSETKRFRQDVFKRRHRARALKTQGLRVSQASA

>MeRKD3

MDSKITVELMNFKNDDTDCFLMDEYFERLSELSPLESFLEFDSLSPYDTNFGFEDYLLENGHPLSWDV
DIPIDAKPLRVFTSTIDNTVKYDDDFGTSSNEEEKRVIMGRKRSAPLEMEEIRKHFDKPITKAAKEMKV
GLTVLKKRCRELSIMRWPHRRIKSLSLIRNVKEKGLTNEAVMLEEHQRLLKMPDMELNDSTKKLRQ
AIFKDNYYKKRRCLEAHA

>MeRKD4

MADPRYVVPYHDPHDSPINYEILNFLRDANPTLENLPSTDEPTSLHVSSDDIVNPNLSLEDPMIWDIV
NQPNSSGGQSQGEGPSLNRERRATENLEQRYLDDGKPISVWPPPAMPFQCTCCQVLREIHTDGNCT
TKLEIHGRGLIICHAVLEIKDQVMYEAQQADQTEGGNEAERGSRSTLAQQRERTGRLTLKDFEAYFHL
PIEEAAKIMNLCPTVVKKICRRYGMTRWPHRRIKSIQRQISNLRANSNWNDPGERARAQAEIQRLEVEI
SNICSGVTN

>MeRKD5

MGLTLLKKRCRELGIRRWPHRKLMSLQTLIKNVQEMKKVEGKESEEKLEAIEILESERKMLEEIPDLQLE
HKTkRLRQACFKSNYKKRKLMMMSRPSSSSGAIDYYGQINEDDEEIKSLLADPVCHPTMMF

>MeRKD6

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