

Supplementary Materials

Table S1. Lectin gene names, chromosome positions, annotated protein domains and protein sequences of the identified lectin homologs in soybean.

Lectin family

>gene name|transcript name|chromosome position|protein domain(s)
amino acid sequence

CRA

>Glyma.13G155800|Glyma.13G155800.1|27091569|CRA
MASLSMLRFLFLAIFVVGITATTSTNDIKAIYWLEQPLFPPSAINTSLFTHVYYAFLAPN
NVTYELDVVSNSTGTNLATFTNTLRSNVATLISIGGANSNSTLFSLIAANAAARATFINS
TITVARTFGFNGIDLDFEFPRTVNMNDLGLLFKEWRRAAVSAEAAATGREPLLLTAAVYF
SVDYFLSETTSLRYPVDSINENLDWVNVMSYDLNGPWSNHTGPPAGLFDPKNNASVSYGL
GSWIRGGVIPPQVVMGLPLYGRTWQLLEPNVHGIGAPASGPGPGSNGAMALFQVLEFNNE
TGANVVCDEKETSASVYSYSGSYWVGYYDDPKTVAVKVGFAQALSLHGYYFFWAAGLDTSDWKI
STQALNAWMLCIEETGGMN*

>Glyma.15G206400|Glyma.15G206400.1|29177838|CRA/protein kinase
MVSRTITIALVLFEFLLCQEFEPKQAQTWLGAGYWYSGSGFPVSDINSALYTHLICAFael
NSSTYELVSPEDeqsfssftttvkvknpsttllsIAGGNGNDTVLSLMVSKDSSRKYF
IQSSIRIARLYGFGQLDLWSVPETISDMNNMGRLFEEWRRAAKSEAANDSTQVLILTAAV
HFRPGLDSASYPVESIQNNLNWVHILTYDYHMPQLANFTAHAALYDPSSSVNTDNGIKE
WIGSGVTASKLVGLPFYGYAWNLRNPEDNAIGASATGPAIGKSGAMNYKDIKAYIQRYG
GHVKYNATYVVNYFSNGSTWIGYDDVEVVKMKVSYARENKLLGYAVWQVPYDDNWLSSA
AAEHVDQNGRNSWRLLVILITAMSVILLGILIYYLRRRFPKSTAVILSTLNNVNKDAS
RLFHSNAPDLQVFSFSDIEQATNRFSIENKVGQGGYGPVYKGIILSNRQEVAVKKLSKAST
QGFEFKNQNEVMLTARLQHVNLRLLGFIYDGEQQMLVYGYMPNKSLSYLFDPIRRYYLLD
WRKRIYIIIEGITQGLLYLQEYSRLTIHRDIKASNILLDNEMKPKISDFGMARIFRKDEL
EANTSKIIVGTGYVSPYAMKGLYSTKSDVYSFGVLLQLIVSGRRTACFYGEHENLNLME
YAYELWKEGKGMFADPSLDDSHSTCKLLRCMQIALLCVQEDANDRPTVKEISSMLKSDT
ILLIPQKPAFSINRDEKKPNKFIHHEEKCSINDATISQVVAR*

>Glyma.15G206800|Glyma.15G206800.1|29340004|CRA
MANSKNLILVSTLLMLLQLHFTPSKAAIKGGYWYSEGLAVSNINPSHFTHLFCAFAHL
DPNTNKVTISSDSSQSFSTFTQTLQAKNPSVKTLTLLSIGGGFGPSLAANFSRMARQANTRK
SFIDSSIQQARSNNFLGLDLWEYPSSTDKTNFASLIKEWKEAVTKESRTSGKAPLFLS
AAVAGSDQITPLKYYPGKDVANNLDFVNVMAIDLFTSEGYPTVTQPPAPWNNPRGQFSAE
QGVTEWNKTLGVPLNKLNLGLPFYGYKWSLSDSNKNGLFAPAKQGLGAVKYKDIKNVAAQ
VVFDDSTYVTNYCFKGTDFWGYDDTQSIKAVVNAKQKGLVGYFAWHIEQDSNWALSQAAS
QAWGM*

>Glyma.17G076100|Glyma.17G076100.1|5959648|CRA
MPMAYSKSFSLISILLFIFHNHVFSTAQIKGGYWFPGSSFAVSDINSTLYTHLFCAFA
DLNASTYQVTISSSNAPQFSTFTQTVQKKNPSVKTLTLLSIGGGASNPSTFSAMASQAGRRK
TFIDSSIQQLARSNNFHLGLDMDWEYFSTSTDMTNYGFLIREWRTALVNEARNSGKQIILLV
GAVFYSSNYSLNNTYQDINLAEFVNVMAIDFYGPVWYPNFTAPPAALYALNHPAANRV
SGDMGIRDWIGSGMPASKLVLGVPFYGYAWRLNLSNNRGLFDRANGSAFGGDGSMGYSQI
REFVSNRAACTFNSTVVSIDYCSSGTTWIGYDDVQSVSAKVAYAKTNNLGGHFVWHVGAD
YNWVLSQAASRTWG*

>Glyma.17G103500|Glyma.17G103500.1|8127907|CRA
MASLSMLRFLFLATLFLVITATSTNDVKAIYWLEQPLFPPSAINTSLFTHVYYAFLAPNN
VTYKLVHVSNTATNLAKFTTTLGSTVATLISIGGANSNATLFSLIAANSAARATFINSTI
TLARTFGFHGVDLDWEFPRTASEMKNLGLLFKKWRRAIAEAAATGREPLLLTAAVYFSV
DYFLSETSSLRYPVGSINENLDWVNVMSYDLNGPWSNHTGPPAGLFNPKSNASVGYGLGS
WIRGGVIPPQVVMGLPLYGRTWQLRDRSVHGIGAPTIGPVPGSDGVMALFQVLQFNKETG
AKVVYDRETASVYSYSGSYWIGYDDPISVAVKVGFAQAFSLRGYFFWAAGLDTSDWKIST
QALNAWMLCIKETGRMN*

>Glyma.17G217000|Glyma.17G217000.1|36553695|CRA
MINMALQRLSITLLLVLFMSLSHQASVESSNWKYAPNIGSVRAAYWPAGDDLSPSSIDTK
YFTHIYYAFIQQDPQLFHLVSTEFDEKWI PKFINGLRIRYPPVKTLTLLSIGGGGSNSTAFS
LMASNKHTRQVFINSTIHVARQYGFNGLDLDFEFPDDEHDMNLGVLFQEWQALVVEAK
ISRKPRLLLTAAVYYASTIKLIGDGPRSYPAQAIRNYLDWASPMCFDYGHTWDFNFTGFNA

ALYDPKSNISTQYQIGSWIESGVPTQKLVMGGLPLYGRAWALRDPNVNGVEAEAVGKATDT
DGTMDYDEILVFNKENGATVVYDDVAVAFYSYAGTTWIGYDDGPSIKKKVQFARFTGLKG
YFFWAVGKDKDWTISRQASNAWRH*

EUL

>Glyma.16G043000|Glyma.16G043000.1|4024940|EUL
MGGSFKNYDNQSHEVSEEESENYPYHHAPLVMHVNNNNSHSNIATTTTSALSNKRSTVR
ILCKAAPNFSLSIRDGKVILAPADPSDAYQHWYKDERYSSMVKDEEGYRAFCLVNKATNE
VMKHSIADSHPVRLVPYNPEYLDSEIMWTEASDLNGYRAIRMANNIHLNMDALKGIKEL
GGVQDGTIVALWKWNDGNQKWKVVPYGDSEDAIDADHSLMRRLLDRLELNMQAMFDAQQK
YLEGLSKRFGNEKLSGY*

>Glyma.16G043100|Glyma.16G043100.1|4028980|EUL
MSFFPNHSHRRDDDDDDDDKRPVYPPPGNTFNNPPPPFYGVHQPETHVSHVFNNNSYSA
PPPPPPSHNHHDSFTHGGGSTVHHTPHNNAPPTTSVHHLHQVNTGVLSSKPTVRVFTK
ANPNFSLTIRGGQVILAPSDPTNEYQHWYKDEKYSTRVKDEEGCPAFSLINKATGEALKH
SIGATHPVRLIPYKPDYLDSEILWTESRDLGDGHRAIRMVNNVHLNVDAFHGDKNSGGVR
DGTITVLWDWNKGDNQQWKILPY*

>Glyma.19G109000|Glyma.19G109000.1|36170931|EUL
MSFFPNHSHATHHRRDDDDDDERPTVYPPPGNSFSNPPPPFYGVPPPPQPPPPQETHVFS
AHVTPGHVSHDFNNYSAPPPPPSHHHDRHDSFTHAYPPAPAAADYPAHGGSSTTVHH
VAHESHHHTPHSAFSSHNAPPTTVHHVSHQVNTGGLSTKPTVRVFTKANPNFSLTIRRG
QVILAPSDPTNEYQHWYKDEKYSTRVKDEEGCPAFSLINKATGEALKHSIGATHPVRLIP
YKPDYLDSEILWTESRDLGDGHRAIRMVNNVHLNVDAFHGDKNSGGVRDGTITVLWDWNK
GDNQRWKILPYLKLTFGVSGFEDALS*

GNA

>Glyma.01G117900|Glyma.01G117900.1|40636182|GNA/S-locus glycoprotein/PAN/protein
kinase
MKFILFLISMIVYILFFPFLIVFTAETSSITQSQSLSYRKTIVSPSGIFELGFFNLGNP
NKIYLGIIWYKNIPLQNIWVWANGGSPDKDSSSILKLDSSGNLVLTHNNTVVWSTSSPEKA
QNPVAEALLDSGNLIVIRDENGNE DAYMWQSFDPSTNMLQGMKVGWDLKRNFSSTRLIAWK
SDDDPQTQDLSWGIILHPYPEIYMMKGTKKYHRLGPWNGLRFSGFPLMKPNNHIYYSEFV
CNQEEVYFRWSLKQTSSISKVVLNQTTLERQRYVWSGKSWILYAALPEDYCDHYGVCAN
TYCTTSALPMCQCLKGFKPKSPPEWNSMNNWSEGCVRKHPLSCKNKLSGDGFVLVEGLKVPD
TKDTFVDEITDLKQCRTKCLNKCSMAYTNSNISGAGSGCVMWFGDLFDIKLYPENGQSL
YIRLPASELEFIRHKRNSIIIVTSVAATLVVMVVTLAIYFIRRRKIADKSKTEENIERQ
LDDMDVPLFDLLTVTTATNNSLNNKIGQGGFGPVYKGEVLVDGREIAVKRLSTSSGQGIN
EFTA EVKLI AKLQHRNLVKLLGCCFQGEKLLIYEYMVNGSLDTFIFDKVKGKLLDWPRR
FHIILGIARGLLYLHQDSRLRIHRDLKASNVLLDEKFNPKISDFGTAKAFGGDQIEGNT
KRVVGTGYGMAPEYAVAGLFSIKSDVFSFGILLLEIVCGIKNKALCDGNQIHS LAWT LWK
EKNALQLIDSSIKDSCVISEVLR CIHVSLLCLQQYPGDRPTMTSVIQMLGSEMELEVPKE
LSFFQSRILDEGKLSFNLNLMTSNDELTTITSLNGR*

>Glyma.01G206300|Glyma.01G206300.1|53862540|GNA/protein kinase
MVMFMVHGNTLSSTLSTNDYDAWLSPSGEFAFGFHQLNGTNLFMTIAWNTKANEILATA
TTGSQVQLTSEGLTITSAMLIDGNFVLVNKNSTFEWESFKNPTDTLLPNQSLDGLKYYY
RIDASHSASRLVFDLGNIIYVETANGTRIQQPGPTWGYSTLAPKGSSTNAHQGWIMRYVP
DDICTTIFNENGSGSCGYSYCSMKHDRPTCKCPYGYSMVDPSPNEFVKAQTEELYEMHEF
RNFNFPGLGDYEEKQPYQQEQCSCLHSGNTCWMKRLPLGNRQVAVSDEHFPKLTRLVP
ATPSLLETNLHSFTYETLEKATRGFSEEIGRGSSGVVYKGQLEAASCNLMIAIKRLDRLA
QERDKEFRTELSAIGKTSKKNLVRLLIGFCDEGIHRLMYEFMRWLVLHHEECDAPIIHCD
IKPKKVLLADQSKTDTMIRRGYVPPPEWFKNVPVMVKVDVYSFGVMLEI IWCRSVLMMS
GEEKAILTDWAYDCYIEGRNVDA LVKNDEEAFSDSCLRHKWKI KIALMRDSYL*

>Glyma.01G206400|Glyma.01G206400.1|53864760|GNA/S-locus glycoprotein//protein
kinase
MVAIWYNMIPDDQTVVWSARKDNKLATAPAGSKLQITQEGLSLTNPKGDFIWTASSKDFV
SEGAMLDSGNFVLLNGSSANVWQSFEPHTDTLLPNQSLQLGGMLTSRLTDTNYTTGRFQL
YFDGGNLLLSPLAWPSQLRYKSPVIDASGNASRLLFNISGDIYVETTNGNRIQQPGQKW
VSNSSSSLDLNPENMFYRATLDPSGVFTQYAHPRNNTARQGWIMRYVPDDICNIIIFDRF
GSGSCGYNSYCDMENERPTCNCLDGYSYLDPSNQFGGCQPNFTLACGADVQAPPEQLYHM
LQSSRYNFP EADYEKI QPYTQQECLQFCLHDCMAVAIFGLDTCWMKRLPLSNGRVTDVN
DHHFVYIKIRNSRDFYPGVNEELPPGADSNKEDGAKPIILMGSLLIGSLVVGILLATVALL
VLLKPKLVAVPVAAASLLETNLHSFSYEALKEATWGFSEELGRGSGGIVYKKGLEAEDS
CNVIAVKRLDRLAQEREKEFRTELSAIGKTSKKNLVRLLIGFCQGINRLLVYEFMSNGTL

ADILFGHSPKNWNTRVGFALGIARGLVYLHEECDTPIIHCDIKPQNILIDEHFNTKISDF
GLAKLLLSQSRNTMIRGTRGYVAPEWFKNVAVTVKVDVYSFGIMLLEIICRRSVVME
EPGEEKAVLADWACDCYMEGRIDALVENEEALSDKERLQKWIKIAIWCIHENPEMRPT
IGMVVQMLEGFVQVSNPPPTFTMHSVS*

>Glyma.01G206500|Glyma.01G206500.1|53866538|GNA/protein kinase
MVAIWYDKIPDKTVVWSAKTEYKLATAPTGSHVQITKEGLSLTSPEGDSIWRAPKEATVS
EGAMLNNGNFVLLNGGSEYENMWQSFDPNPTDTLLPNQSLQLGLGGVLTSRFTDTNYTTGR
FQLYFQDFNVMLSPLAFPSQLRYNPYYHAINDASVGNASRLVFDKSGEIVVETTGTRNR
ILPQVDNTLDTEVNYYRATLDFSGVFTLYAHPRNTSGQPRWRIMNYVPDNICDAIFNDYG
SGSCGYNSYCSMENDRPTCNCYPYGYSLVDPSPNESGGCQPNFTLACGADVQQPPEELYEMH
VAKNFNFPPLGDYKVEPYSSQEQQACLDHDCMCAVAILEVDTCEWMKRLPLGNRQLPIRD
QHFVYIKTRLSPDFYPLANRELPAAPDSKKNRAKSIILGSLIASLVNSILLAAVALF
FLLPKPKLKKVIQASALLETNLHFSFEALKEATEDFCKELGRGSCGIVYKKGKLETADSCN
VIAVKRLDRLAQEREKEFRTELSAIGKTSKKNLVRLLIGFCDQGINRLLVYEFMSNGTLAD
ILFGHSPKIWNLRVGFVLGIARGLVYLHEECDSAIIHCDIKPQNILIDEHFNAKISDFGL
AKLLLFQSRNTMIRGTRGYVAPEWFKNVAVTVKVDVYSFGVMLLENICRRSVMTMEP
EEEEKAILTDWAYDCCVEGRHLALVENDREALSDIGRLQRWVKIAIWCIQEDPEMRPTMG
KVNQMLEGLVEVANPPSPNPDI*

>Glyma.02G075600|Glyma.02G075600.1|6616676|GNA/S-locus glycoprotein/protein kinase
MFLKTQFLFLTLALATTTVTTAIDPGSTLAASSSNQTWSSPSGTFSRLRFISVQPPTTPPS
FIAAIVFSGGAPVVWSAGNGAAVDSAGSLQFLRSGHLRLFNGSGATVWDGTAGASSATL
EDSGNLVVISNSTGSLWSSFDHPTDTLVPSQNFVTVGKVLNSESYSFGLSSIGNLTLKWNNS
IVYWTQGLNSSVNVSLDSPSLGLLSIGLLQLSDANLSPSIDVAYSSDYAEGNSDVMRVLK
LDSGDLNRIYSTAKGSGVATARAVALDQCEVYAYCGNYGVCVSYNDSTPVCGPCSENFEM
VDPNDSRKGCRRLKSLNSCQGSATMLTLDHAVILSYPPAAASQSFFSGISACRGNCLSGS
RACFASTSLSDGTGQCVMRSEDFVSAYHNPSLPSTSYVKVCPPLEPNPPPSMGGVREKRS
RVPAAVVVVVVLGTLGLIALEGLWMWCCRNSTRFGGLSAHYALLEYASGAPVQFSHKE
LQQATKGKFEKLGAGGFGTVYRGTLVNKTAVIAVKQLEGIEQGEKQFRMEVATISSTHHLN
LVRLIGFCSEGRHRLLVYEFMKNGLDNFLFLTELHSGNLFNWEYRYNIALGTARGITYL
HEECRDCIVHCDIKPENILLDENYVAKVSDFLAKLINPKDHRHRTLTSVRGTRGYLAPE
WLANLPITSVKSDVLSYGMVLLLEIVSGRRNFDVSEDNRKKFSIWAYEEFEKGNISGILDK
RLAEQEVEMEQVRAIQASFVCIQEQQPSQRPTMSRVLQMLEGVTELERPPAPKSVMEGAV
SGTSTYFSSNASAFSTVGVSPAGPSSSSSFQTSVVSTFTLGRNPEKATSSLLQSDT*

>Glyma.02G182200|Glyma.02G182200.1|31198198|GNA/S-locus glycoprotein/protein kinase
MLGQENCVLRSFPLQCFIFIGFLMHSVVGAEIPLGSKLSVVENDCWSSNGDFAFGFYNIS
DQPNQFSVGIRFNSKSIPIYNQQTVVWVAGGDVKGVNKSYFELTQEGELVLFDSLGEVSVW
TVKTGNRSVASASLLDNGNLVMDKEQRIIWQSFDTPSDTLLPGQSLFANEMLRATASK
NSKASYTTLHMNASGHLELHWESGVIYWTSENPSASNLAFLTAGGALELRDRSLKPVWS
AFGDDHNSDVKYRRLRLDVGDLRLYSWVESLESWSRVWQAVENQCKVFATCGQIGVCVF
NASGSAECKCPFEVTGGNKCLVPYECEGSGSNMIAKNTYLYAFYPPDNSFTTSMQHC
EQLCLNDTQCTVATFSGTSTPQCSIKKTGYVTGYSDPSVSSISFVKRCGPFVAVNPGITK
SPPPSEPPRLCVPCVIGASTFTFFTLVILQLGIGLFIYRRKNTTRKKSTLAFTGTNSKG
LIVLSFSEIKSLTGDFKNQIGPKVFKGLLPNNHLIAVKDLNASIEERKFRSAVMKMGCIH
HKNLVKLEGYCCEFDHRCVVEYCKGSDVKYIDDDALGRMLTWRKRVEICSSVAKAICY
LHSGCREFISHGNLCKKNVMDENLVAKVTEFGFAIADGKATYCGFSAEKDIEDFGKLV
TLLTGCCDHDHVKLCKWAYKEWMEERVANVVDKRMEGGYNSEELERTLRIAFWCLQMDER
RRPSMGPVSRVLDGSLSYMDPPPSPFVFQRPPLQVDYSEENVSELEG*

>Glyma.03G002700|Glyma.03G002700.1|257834|GNA/S-locus glycoprotein/PAN/protein kinase
MASLLLPLFLVSLIIFHNFQHTSSFSLSVEKDVIIVSSPEGTFTAGFHPVGENAYCFAIWT
QPPRTVVWMANRDQPVNGKRSTLSLLGVGNLVLTDADQFQVWSTNTLTSSKQVQLRLYDT
GNLVLNNGNSNGFVLWQSFDFPTDTLLPNQPLRKTTLNVSSISGTNYSSGYRLLFFDFENV
LRLMYQGPRTVSVYWPFAWLQNNNFGNNGNGRSTFNDTRVVLDDFGRVSVSSDNFTFTTS
DYGTVQLRRRLTLDHGDGNVRLYSIKDGEDNWKVSGQFRPQPCFIHGICGPNSYCTNQPTSG
RKICICLPGHRWVDSQWQGCIPNFQWCSNNSTEQESHFLQLPEMDFYGYDYALYQNHT
YQRCVNLCSRLCECKGFQHSYSKEGGDIGQCYLKTQLLNGHRSGGFSGAFFLRLPLSLQD
YDDRAILNNSNVLVCEGEVVKLERPYVEEKENAFVKFMLWFAIALGGIEFVIFFLVWCLL
FKNDADKEAYVLAVETGFRKFSYSELKQATKGFSDIEGRGGGTVYKGLSDNRVVAIKR
LHEVANQGESEFLAEVSIIGRLNHNMLIGMLGYCAEGKYRLLVYEFMENGSLAQNLSSSS
NVLDWSKRYNIALGTARGLAYLHEECLEWILHCDIKPQNILLDSYQPKVADFGLSKLLN
RNNLDNSTFSTIRGTRGYMAPEWVFNLPITSKVDVYSYGIIVLEMITGRSPTTGVQITEI
EAKSPHHERLVTVWREKRKKGSEMGSSWVNQIVDPALGSDYDMNKMMEMLATMALECEVEE
KDVRPTMHSVAERLQSHHEDS*

>Glyma.03G002900|Glyma.03G002900.1|270078|GNA/S-locus glycoprotein/protein kinase

MQKLRMATSPLSQLLLLSLILLQNFHHSHSFSLSVENHNEDVIVSSPNATFTAGFYPVGEN
 AFCFAIWYTRPPRTVWVWMANRDQPVNGKRSTLSLLGTGNLELTDAGQFIVWSTNTATPSK
 QNPRHLHYDTGNLVLIAILDNSEDHVLWQSFDFPTDTLLPNQPLSKSTNLVSSRSGTNYS
 SGHYKLFDFENVLRLMYQGPRVSSVYWPYAWLQSNFNGNGRSTFNDSDRVVLLDDFGK
 LVSSDNFTFTTIDSGTVVLRRLTLDHGDGNARVYSIRDGEDNWKVTGIFRPQPCFIHGIC
 GPNSYCSNKPTTGRTCSCLPGRWVDSQDWSQGCCSSFQLWCNTEKESHFLRLPEFDFY
 GYDYGYPNHTYEQCIVNLCELCCKGFQHSFSEKSDSTSQCYLKTQLLNGHHS PGFKGS
 FSLRLPLSHDYDEKAILNNDNGLVCEGNSGGAKELERPVEEKENGSVKFMLWFATALGG
 IEIVCFFLVWCFLFRNNADKQAYVLAETGFRKFSYSELKQATKGFSQEIGRGAGGIVYK
 GVLSDDDQVVAIKRLHEVNVNQGSEFLAEVSIIGRLNHNMLIGMLGYCAEGKYRLLVYEYM
 ENGSLAQNLSSSSNVLDWNKRYNIALGTARGLAYLHEECLEWVHLCDIKPQNILLDSYQ
 PKVADFGLSKLLNRNNLDNSTFSRIRGTRGYMAPEWVFNLPITSKVDVYSYGIVVLEMIT
 GRSPPTGVQITELAKSPHHGRVLVTWVREKRKKGSEMGSWVDQIVDPALGSDYDMNKME
 MLATMALECEVEEEKDVRPSMSHVAERLQSHEHDS*

>Glyma.03G003000|Glyma.03G003000.1|281581|GNA/S-locus glycoprotein/protein kinase
 MASSTLLALVILHNFQHSTQYSFSLSVENLKEDVIVSSPKATFTAGFYPVGENAYCFAI
 WYTQQPHTLVWVWMANRDQPVNGKLTLSLLKTGNLALTDAGQSIWSTNTITSSKQVQLHL
 YDTGNLVLDDNQNRSSNIIVLWQSFDFPTNTLLPGQILTNTNLVSSRSETNYSSGFYK
 LFFDFENVLRLMYQGPRVSSVYWPDPWLQNNFNGNGGTGNRSTYNDSDRVAVLDDFGYFV
 SSDNFTFRSDYGTLLQRRLTLDHGDGSRVVSFNDGHDKWTMSGFHLHPCYVHIGICPN
 SYCSYEPSSGRKCSCLPGHTWVDSQDWSQGCTPNFQHLCSNTKYESRFLRIPDIDFYGY
 DYGYFGNYTYQQCENLCSQLCECKGFQHSFSEANAFFQCYPKTHLLNGNSQPGFMGSFFL
 RLPLSSHDEYENPVQNNRSLVCGGDVGNVKMLERSYVQGEENGSLKFMLWFAGALGGIE
 VMCIFLVWCLLFRNNRTPSSADRQGYVLAAGFQKFSYSELKQATKGFSEEIGRGAGG
 IVYKGLSDDQVVAIKRLHEVANQGESEFLAEVSIIGRLNHNMLIGMLGYCAEGKHLRLV
 YEYMENGSLAQNLSSNSNVLEWSKRYNIALGTARGLAYLHEECLEWILHCDIKPQNILLD
 SEYQPKVADFGLSKLLNRNNVNNSSFSRIRGTRGYMAPEWVYNLSITSKVDVYSYGIVVL
 EMITGRSPPTGVRI TELEAESDHRERLVTWVREKKMKGSEAGSSWVDQIIDPALGSNYAK
 NEMEILARVALECEVEEKNVRPNMSQVVEKLQNHSMHTIVDGLNKE*

>Glyma.03G003100|Glyma.03G003100.1|288563|GNA/S-locus glycoprotein/protein kinase
 MASSIFLLHLLFPLIFHNPFENSYSFSLSVENFKEKIVIVSSPKATFTAGFYPIGDNAYCF
 AIWYTTTPHTLVWVWMANRDRPVNGKRSMLSLLKTGNLVLTDAGQSIWSTNTITSSKQVQL
 HFYDTGNLVLDDNSIAVVLWQSFDFPTDTLLPGQTLKNTNLVSSRSQTNYSYSGFYKLF
 DSENVLRLMYQGPRVSSLYWDPWLQSNDFGSGNGRLSYNDTRVAVLDHLGYMVSSDNFT
 FRTSDYGTVLQRRLTLDHGDGNVRVYSKKDVEEKWSMSGQFNSQPCFIHGICGPNSICSYD
 PKSGRKCYCIKGYSWVDSQDWSQGCILNFQIFGNRTYEECENLCLGLSQCKGFQHRFWQP
 DGVFICFPKTKQLNGYHTPGFTGSI FLRLPRNSPLSLSDSENPIYNNNGFVCGGSNGGLK
 LLDRPYVEEENESVKLLLCFVTALGGIEVACIFLVWCFLFRNKNRKLHSGVDKPGYVLA
 AATVFRKFSYSELKKATKGFSEAIGRGGGGTVYKGVLSDSRVVAIKRLHQVANQGESEFL
 AEVSIIGRLNHNMLIDMLGYCAEGKYRLLVYEYMENGSLAQNLSSSSNALDWSKTYNIAV
 GTAKGLAYLHEECLEWILHCDIKPQNILLDSYKPKVADFGLSKLLNRNSNLDNSSFSRI
 RGTGRGYMAPEWVFNLPITSKVDVYSYGIVVLEMITGRSATAGTQITELEAESYHHERLVT
 WVREKRKKGSEVGSWVDQIVDPALGSNYERNEMEILATVALECEVEDKNARPSMSQVAE
 KLQRYAHTS*

>Glyma.03G003300|Glyma.03G003300.1|300704|GNA/S-locus glycoprotein/protein kinase
 MASSIFLILHLLPLIFNNPFENSYSFSLSVENFKEEVIVSSPKATFSAGFYPVGDNAYGF
 AIWYTTTPHTLVWVWMANRDRPVNGKRSMLSLLKTGNLVLTDAGQSIWSTNTITSSKQVQL
 HFYDTGNLVLDDNSNAVVLWQSFDFPTDTLLPGQTLKNTNLVSSRSQTNYSYSGFYKLF
 DSENVLRLMYQGNPRVSSLYWDPWLQSNDFGSGNGRLSYNDTRVAVLDHLGYMVSSDNFT
 FRTSDYGTVLQRRLTLDHGDGNVRVYSKKDLEEKWSMSGQFKSQPCFIHGICGPNSICSYD
 PKSGRKCSICIKGYSWVDSQDWSQGVPNFQLRYNNNTEKESRFLHLPGVDFYGYDYSIFR
 NRTYKECENLCLGLSQCKGFQHKFWQPDGVFICFPKTKQLLNGHHTPGFTGSI FLRLPRNS
 PLSLSDSENPIYNNNGFVCGGSNGGPKLLDRPYVEEENESVKLLLCFVTALGGIEVACI
 FLVWCFSFRNKNRKLHSGVDEPGYVLAATVFRKFSYSELKKATKGFSEAIGRGGGGTVY
 KGVLSDSRVVAIKRLHQVANQGESEFLAEVSIIGRLNHNMLIDMLGYCAEGKYRLLVYEY
 MDNGSLAQNLSSSNALDWSKRYNIALGTAKGLAYLHEECLEWILHCDIKPQNILLDSY
 KPKVADFGLSKLLNRNSNLDNSSFSRIRGTRGYMAPEWVFNLPITSKVDVYSYGIVVLEM
 ITGRSATAGTQITELEAESYHHERLVTWVREKRKKGSEVGSWVDQIVDPALGSNYERNE
 MEILATVALECEVEDKNARPSMGQVAEKLQRYAHNS*

>Glyma.03G054900|Glyma.03G054900.1|7467093|GNA/S-locus glycoprotein/PAN/protein
 kinase
 MKFILFLMSIIVYILFFSSLIVFTAGETSSITQSQSLSYGKTLVSPSGIFELGFFNLGNP
 NKIYLGWIYKNIPLQNMVWVANSSIPIKDSSPILKLDSSGNLVLTHNNTIVWSTSSPERV
 WNPVAELLDSSGNLVIRDENGAKEDAYLWQSFDPSTNMLPGMKIGWDLKRNLS'TCLVAWK
 SDDDPQTQGDLSLGITLHPYPEVYMMNGTKKYHRLGPWNGLRFSGMPLMKPNNPIYHYEFV
 SNQEEVYYRWSLKQTGSI SKVVLNQATLERRLYVWSGKSWILYSTMPQDNC'DHYGFCGAN

TYCTTSALPMQCCLNGFKPKSPPEEWNMSDWSEGCVQKHPLSCRDKLSDGFPVPDGLKVPD
TKDFTVDETDIDLKQCRTKCLNNCSMAYTNSNISGAGSGCVMWFGDLFDIKLYPVPENGQ
SLYIRLPASELESIRHKRNSKIIIVTSVAATLVVTLAIYFVCRRKFADKSKTKENIESHI
DDMDVPLFDLLTIITATNNFSLNNKIGQGGFGPVYKGELVDRRQIAVKRLSTSSGQGINE
FTTEVKLIAKLQHRNLVKLLGCCFQEQEKLIIYEYMVNGSLDTFIFDQVKGKLLDWPRRF
HVIFGIARGLLYLHQDSRLRIIHRDLKASNVLLENLNPKISDFGTARAFGGDQTEGNTK
RVVGTGYGMAPEYAVAGLFSIKSDVFSFGILLLEIVCGIKNKALCDGNQTNLSLVGYAWTL
WKEKNALQLIDSSIKDSCVIPEVLRICIHVSLCLQQYPGDRPTMTSVIQMLGSEMELVEP
KELGFFQSRTLDEGKLSFNLDLMTSNDLITITSLNGR*

>Glyma.03G079500|Glyma.03G079500.1|20189237|GNA/S-locus glycoprotein/PAN/protein kinase

MGSLTQVNYLIFLLILSSFYFGIISVNDTITSTRFIRDPEAIISSNGDFKLGFSSPEKST
NRYVAIWYLSEYIWIANDRQPLNDSSGVFQIHKDGNLVVMNPQNRIIWSTNVSIATN
TSAQLDDSGNLILRDVSDGKILWDSFTHPADVAVPSMKIAANRLTGEKIAYVSWKSSSDP
SSGYFTGSLERLDAPEVFFWFNKTTPYWRTPGWNGRVFLGSPRMLTEYLYGWRFEPNNDG
TAYLTYNFENPSMFGVLTITPHGTLKLVFELNKKIFLELEVDQNKCDFYGTGCGPYGSCDN
STLPICSCFEGFKPSNLDEWNRENWTS GCVRNMQLNCDKLNNGSDVQQDGFLEYHNMKVP
DFAERSINGDQDKCRADCLANCSCLAYADSYIGCMFWSRDLIDLQKFPNGGVDLFIRVP
AQLLVVAGGKKEKDYKGLIIGITLAIGALITAVTAYLLWRKFTPKHTGNQPQNLTITGDQK
QIKLEELPLFEFEMLATATNNFHLANMLGKGGFGPVYKGQLDNGQEIIVKRLSKASGQGL
EEFMNEVVVISKLQHRNLVRLLGCCIERDEQMLVYEFMPNKSLSDFLDPLQRKILDWKK
RFNIEGIARGVLYLHRDRLRIIHRDLKASNILLDDEMNPKISDFGLARIVRGDDDEA
NTKRVVGTGYGMPPEYAMEGIFSEKSDVYSFGVLLLEIVSGRRNTSFYNNEQSLSLVGYA
WKLWNEDNIMSIIDPEIHDPMEFESILRCIHIGLLCVQELTKERPTISTVVLMLISEITH
LPPPRQVAFVQKQNCQSSSQKSFNSNNDVTISEIQGR*

>Glyma.03G090200|Glyma.03G090200.1|26849526|GNA/protein kinase

MASSLLLFLLFCSVILLPFVVAQTKTNIAIGDSHTAGKSTTPWLVSPPSGDFAFGFLPLE
ATPDHFIICIWIYANIQDRTIVWFANRDNKPAPKGSKVELSADDGLVLTAPNGDKLWNTGG
FTARVSSGVFNNDTGNLVLLDGASSSTWESFDDYRDITLLPSQTMERGQKLSSKLRRNDFNI
GRFELFFQNDGNLVMHSINLPSEYVNANYASGTIESNTSSAGTQLVFDRSGDVYILRDN
KEYNLSDGGSISTTQFYLRATLDFDGVFTLYQHPKGS SGVGTWPVWSHPDNICKDYL
AASSGVCYNSICSLGDYKRPICKCPKWYSLVDPNDPNGSCKPDFVQSCSEDELSQREDL
YDFEVLIDTDWPLSDYVLQKPFTEEQCRQSCMEDCLCSVAIFRLGDSCWKKKLPLSNGRV
DATLNGAKAFMKVRKDNSSLVVPPIIVKKNSRNTLIVLLSGSACLNLILVGAICLSSFYV
FWCKKKLRRVGKSGTNVETNLRCTFYEELEEATNGFEKVLGKGAFGIVYEGVINMGSLTL
VAVKRLNTFLLEEVQKEFKNELNVLGLTHHKNLVRLLGFCETQDERLLVYEYMSNGTLAS
LVFNVEKPSWKRLRLQIATGVARGLLYLHEECSTQIHC DIKPQNILLDDYINARISDFGL
AKILNMNQSRTNTAIRGKGYVALEWFKNMPITAKVDVYSYGVLLLEIVSCRKSVEFEAD
EEKAILTEWAFDCYTEGVHLHDLVENDKEALDDMKTLEKLVMIALWCVQEDPGLRPTMRNV
TQMLEGVVEVQIPPCPSSQLSIQCSLD*

>Glyma.03G090300|Glyma.03G090300.1|26855486|GNA/protein kinase

MVSHQLATWPCSMVLLQIFVVAQTRSNIIGHSLKKTASKASWMVSPHGQSRRNIVVGDS
LLAKTTSNNNNPSSWVVSPLGDFAFGFVLLLEDTNNFLVFIWYAKIPEKIVVWYTNGETPA
SKGSKVELTADDGLVLTALNGELLWKNDNHNGKDNGNFVLVDENHQGVWETLKDPRDTL
LPSQSLEKGEKLSSRFLESNFSKGRFELLQMDGILSIHALNSPFEYASENYETRIEES
NTSSPGTRLVFEPLGYVYILRKNNERYNLSTWSRASTNESSFRETLNFDGIFTLYQHAKS
SSESDAWSPIWCFCTLGGDQRSSCQCPKWYSLDPNHPYGSCKPDFIQGCAEDELIGRK
EDVAEYDFEVLINTDWPLLDYVLLKPFTEEQCKQSCLEDWMCPVTIFRSVDVVG LNCAKT
FMKVRKDNSSLVVPQAKVNENSKSTLSYKKKHGKISKSEKALETNLHCFYSYKELQRATNG
FQKELGRGSFGVVYERVINIGSAIPIAVKKLNNLLFQQVEKEFKNELHVIGLTHHKNLVR
LIGYL*

>Glyma.03G090500|Glyma.03G090500.1|26893241|GNA/protein kinase

MASSLLLFLLFCSVILLPFVVAQTKTNIAIGDSHTAGKSTTPWLVSPPSGDFAFGFLPLE
ATPDHFIICIWIYANIQDRTIVWFANRDNKPAPKGSKVELSADDGLVLTAPNGDKLWNTGG
FTARVSSGVFNNDTGNLVLLDGASSSTWESFDDYRDITLLPSQTMERGQKLSSKLRRNDFNI
GRFELFFQNDGNLVMHSINLPSEYVNANYASGTIESNTSSAGTQLVFDRSGDVYILRDN
KEYNLSDGGSISTTQFYLRATLDFDGVFTLYQHPKGS SGVGTWPVWSHPDNICKDYL
ATSSGVCYNSICSLGDYKRPICKCPKWYSLVDPNDPNGSCKPDFVQSCSEDELSQREDL
YDFEVLIDTDWPSDYVLQKPFTEEQCRQSCMEDCLCSVAIFRLGDSCWKKKLPLSNGRV
DATLNGAKAFMKVRKDNSSLVVPPIIVKKNSRNTLIVLLSGSACLNLILVGAICLSSFYV
FWCKKKLRRVGKSGTNVETNLRCTFYEELEEATNGFEKVLGKGAFGIVYEGVINMGSLTL
VAVKRLNTFLLEEVQKEFKNELNVLGLTHHKNLVRLLGFCETQDERLLVYEYMSNGTLAS
LVFNVEKPSWKRLRLQIATGVARGLLYLHEECSTQIHC DIKPQNILLDDYINARISDFGL
AKILNMNQSRTNTAIRGKGYVALEWFKNMPITAKVDVYSYGVLLLEIVSCRKSVEFEAD
EEKAILTEWAFDCYTEGVHLHDLVENDKEALDDMKTLEKLVMIALWCVQEDPGLRPTMRNV
TQMLEGVVEVQIPPCPSSQLSIQCSLD*

>Glyma.03G090600|Glyma.03G090600.1|26899208|GNA/protein kinase
 MVSPQLATWPCSMVLLQIFVVAQTRSNKIIGHSLKKTSKASWMVSPHGQSRRNIVVGDS
 LLAETTSNNNNLSSWVVSPLGDAFAGFVLLLEDTNNFLVFIWYAKIPEKIVVWYTNGETPA
 SKGSKVELTADDESVLTVPNGELLWKNDNHNGKDNNGFVLVDENHQGVWETLKDPRDTL
 LPSQPLEKGEKLLSRFLESNFSKGRFELLQMDGILSIHALNSPSEYANENYCETRTEES
 NTSSPGTRLVFEPLGYVYILRKNNERYNLSTWSGASTNESSFRETNLNFDGIFTLYQHAKS
 SSESDAWSPICWCFCTLGGDQRSSCQCPKWYSLLDPNHPYGGSSKLDIFIQGADEDELIGRK
 EDVAEYDFEVLINTDWPLSDYVLLKPFTEEQCKQSCLEDWMCVITIFRSVDVVG LNCAKT
 FMKVRKDNSSLVPPPNLSQKNDDLQLIHRWIIVKFEHHIHNPISILT VGNL DIMSDLR
 EIPLYKKKLRGISKSEKALETNLHCFNYKELQRATNGFQKELGRGSFGVVYERVINIGSA
 IPIAVKKLNNLLFQQVEKEFKNELQVIGLTHHKNLVRLIGYL*

>Glyma.03G138400|Glyma.03G138400.1|35488023|GNA/S-locus glycoprotein/PAN/protein
 kinase
 MVLITVQFQVGLTSLWCYIVNDARGNSLCLLIEFLSFGLFKVFQGVGIQHFSLVNVTWA
 IGFDVDEPNQFSAGIRFNSKSI PYDQQT VVWVAGAHDKVSNMSYFQLTPEGELILFDSLKG
 FIAWRSGTGNRAVASAALRDNGNLVLIDTKQNI IWQSFDT PSDLTLLPGQSLSVYETLRAT
 TKNPMSSSYTLYMNP SGQLQLRWDSHVIYWTSESPSSASNLTAFLTNGGALQLQDQSLKA
 VWSVFGEDHNDVSNYRFLRLDVGNLRLYSWIEASQSWRSVWQAVENQCKVFATCSQRGV
 CIFTASGSTDWCWCPFEVTESNQCLVPYEQECESGSNMLMYKNTYLYGIYPPDDSVVISSL
 QQCEQLCLNDTQCTVATFSNNGRPQCSIKKTKYVTGYAVPSLNSISFVKRCSGPFAVNP
 LTKSPPPKLPRLRCVPCLMGAASGTFFIFAILQLGIIIFIIRRKNSTMRNVAIAFTSPNA
 KGLNVFSFSEIKSLTGDLKDQIGPNMFKGVLPNNHLIAVKDLNASIEERKFRSAVMKLG
 IHHKNLVKLEGYCCFENHRFLVYEVVKIGSLHKYINDCTLCKRLTWRKRIEICSSVAKAI
 CYLHTGCREFVSHGNLKCENVMLENSVAKVCEYGFADGEATYRGFSAEKDVGDFGKL
 ALTLFTGRLVHEQGLYEWAYTEWMEGRAVNVVDKRLDGVVNSEELERALRISFWCLQMDER
 RRPSMEEVVRVLDGTLNVDPPPPFVLHRPLQEDDPQENGSD*

>Glyma.03G191300|Glyma.03G191300.1|40211543|GNA/S-locus glycoprotein/PAN
 MLQTRHPQFLAIIPFLFLYTLTCSETATTTSSIPQELHIGFSATAESSTTPFQAVLSDHSG
 NFSLGLFLRVNQNLALAVLHVASSEPFVWVANPHTHAASWSDTTRLFFNGSLVLSDPETRV
 WSTATNGDRVNLNTSLYQVHDKGGTPLWQSFHFPANTLVQDQNFSTNMTLLSSNGIYS
 MRLGNDFMGLYVNHDSLWKRTPLGAKAEVKEGQGP IYARVNPEGYLGMYQTSDEKPADV
 QKFNTFQLTSSFLLLRLEPDGNLKGYYWDGSRWMLNYQAITEACELPRSCGSYGLCTPGG
 SGCSCLDNRTRFEPGCGFNDASSGDADLCSSEGGKSSYWVLRRTGVEAAHKELLRHVT
 TSSLAECCEGLCQNNCSCWGALYSNETGFCYLLLEYTIQTLLGTGDGSKVGYFKVKEERT
 KRVWIRVGVVTVLVGVGVIIIGVGFVTRWKKKRGVKEEDWGSPPGYKNLESASFRSIE
 MSNSNSANE*

>Glyma.04G042400|Glyma.04G042400.1|3423548|GNA/S-locus glycoprotein/protein kinase
 MHLSTSREVPNPQLIVHVSLEYLFIPLVLYAMRMVLLFLLLLFVPTSFGTIERLPEGSSLS
 VEKQNDTIVSSNGDFSAGFFQVGDNAFCFSVWFTRSERPTVLWMANRDKPVNNGRGSHLSL
 WKDGNVVLTDAGGTI IWATATLSSSQQLHLKLNRNNGNLVLLASKSTNTTIIWQSFDSPTD
 TLLTLQPLTEQASLVSSRSTTNHSSGFYKLYFDNDNVLRLLYKGPTLSSVYFPEPWRLPM
 DIGRSTYNVTKTAVLDSFRGTSSDGFQFRSTDHPPKLFRRLTMDPDGNLRLYSFDEKLK
 TWQVTWQLIPQPCTVHVICGANSACNYDRVVGRTCYCLKGFKVKDPNDWTQGCPEFDP
 VFSCNSGESMGFLHYPTTELYGYDWNITVNSLEECLNLCLELCKCVAVQFKFNDVAKY
 NCYPKTMVFNGRYTPNFDGEMYLKLPQAILGSSATPLNKHSTMNCTAGLSQQLERFYEAP
 SRNSTLSFLVWFACGMGVFELSTIFLVWFFLFRTSKNSETVDQQRHLLSATGFQRFITYAE
 LKSATKGFKKEEIGRGAGGVVYKGVLYDDRVAAIKRLGEATQGEAEFLAEISTIGMLNHMN
 LIDMWGYCVEGKHLRLSLYVEYMEHGS LAGNLFSNTLDWKKRFNVAVGTAKGLAYLHEECLE
 WILHCDVKPQNIILLSDSFQPKVADFGLSKLLNRDERGNSTFSRIRGTRGYMAPEWVYNLP
 ITSKVDVYSYGIVVLEMVTGRSPMEIHSLENSRGIEQRRVMWVTDKINDAPTSGFWIEE
 ILDPNLEGQCQVSQVEVLVKVALQCQVQDDMNQRPMSQVVEMLLSHENVLPR*

>Glyma.04G042500|Glyma.04G042500.1|3429721|GNA/S-locus glycoprotein/PAN/protein
 kinase
 MHQGSLSVEEPPKDVMLSPNAMFSAGFYAVGENAYSFAVWYSEPNGRPPNPFTFVWMANRD
 QPVNGKRKSFLLGNGNLVLNDADGSVWVSTDIVSSSSAVHLSLDNTGNLVLREANDRRD
 VVLWQSFDSPTDTLLPQQVFTRHSLVSSRSETNMSSGFYTLFFDNDNVLRLLYDGPVDS
 GPYWPDPWLAPWDAGRSSYNNSRVAVMDTLGSFNSSDDFHFM TSDYGKVVQRR LIMDHG
 NIRVYSRRHGGEKWSVTWQAKSTPCS IHGICGPNLSLSYHQNSGLKCSCLPGYKRKNDS
 WSYGCEPKVHPSCCKTESRFLYVPNVKLF GFDYGVKENYTLKECKELCLQLCNCKGIQYT
 FYDTKGTNYCYPKLQLRHASSIQYFTDDL YLKL PASSSY SNEGSTDEQGLNCSSRTIKIE
 RTYDKGHENRYVKFLVWFATGVGGLLELLCAFVWFFLVRTTGKQDSGADGRVYALAGFRK
 FSYSELKQATKGFSQEIGRGAAGVVYKGVLLDQ RVAVKRLK DANQGE EEF LAEVSCIGR
 LNHMNL IEMWGYCAEGKHLRLVY EYMEHGS LAKNIESNALDWTKRFDIALGTARCLAYLH
 EECLWILHCDVKPQNIILLSDSNYHPKVADFGLSKLLNRNETTYSSFS TIRGTRGYMAPEW
 IFNLPI TSKVDVYSYGIVVLEMVTGRSITKDIEATDNGVVNQHLSMVTWLKERQKNGFTC
 VSEILDPTVEGVYDEGKMETLARVALQCI EEEKDKRPTMSQVVEMLQESSRETHNR*

>Glyma.04G042600|Glyma.04G042600.1|3433939|GNA
 MSCSHKKNMGFSAGFYAVGQNAYSFAVWFSEPYGQTRNATVVWMANRDQPVNGKDSKISL
 LRNGNLALNDVDESLVWYTNATSLSSSVRLFFDNTGNLLHETQATGVVLWQSFDFPTDT
 LLPQQVFTRHSLKLVSSRSETNMSSGFYALFFDNDNIFRLLYDGPVSGLYWPDPCRVAVM
 DTLDNFSSSDDLHFLTSDYGTLIQRRLVLDHGDGNIRVYSQRHGGVGGLEVFCIFVIWFFL
 VRTRGQKYSVDGRVYNLAMSFRKFSYSQKQATKGFSEIGRDAGGVVYKGVGVC*

>Glyma.04G066700|Glyma.04G066700.1|5567751|GNA/protein kinase
 MEIHWPFPHITGTFLFLCKVCLAGIQYSGSVSPGIINGSQMNWIDRDGKFLVSKEGQFAF
 AFVATANDSTKFLLAIVHVATERVIWTANRAVPVANSDFVDEKGNFLEKDGTLVWST
 NTSNKGVSSEMLLDGTNLVLLGSDNSTVIWQSFNHPDPTLLPTQEFTEGMKLI SDPSTNN
 LTHFLEIKSGNVVLTAGFRTLQPYWTMQKDNRRVINKGDVAVASANISGNSWRIFYGSKS
 LLWQFIFSTDQGTNATWIAVLGSDGFITFSNLNGGESNAASQRI PQDSCATPEPCDAYTI
 CTGNQRCSCPSVIPSCCKPGFDSPCGGDSEKSIQLVKADDGLDYFALQFLQPFSTIDLAGC
 QSSCRGNCSCALALFFHISSGDCFLLSVGSFQKPDSDSGYVSYIKVSTVGGAGTGSGGSG
 GGNKHTIVVVVIVIIITLLVICGLVFGGVRYHRRKQRLPESPRDGSEEDNFLENLTGMP
 IRYSYKDLATATNNF SVKLGQGGFGSVYKGLPDGTQLAVKKLEGIGQGKKEFRAEVSII
 IGS
 IHHLHLVRLRGFCADGTHRLLA YEYLSNGSLDKWIFKKNKGEFLDWDTRFNIALGTAKG
 LAYLHEDCDSKIVHCDIKPENVLDDHFMKVSDFGGLAKLMNREQSHVFTTLRGTRGYLA
 PEWITNYAISEKSDVSYGMYLLEIIIGGRKNYDPRESSEKSHFPTYAFKMMEEGKLDRDIF
 DSELEIDENDDRFQCAIKVALWC IQEDMSMRPSMTRVVQMLEGICIVPKPPTSSSLGSRL
 YATMFKSSSEEGATSSAPSDCNSDAYLSAVRLSGPR*

>Glyma.04G139100|Glyma.04G139100.1|22051371|GNA/S-locus glycoprotein/PAN/protein
 kinase/SRK
 MESQKVLMLMYTTLFCFMATFSSQDVTITITLNQSLQFSDTLVSLDGTFEAGFFNFENSR
 HQYFGIWKYKRISARTVVWVANRDVPVQNSTAVLKLTDQGNIVILDGSRGRVWSSNSSRIA
 VKPVMQLLKTGNLVKDGEGTKNIIWQSFDPGNTFLPGMKLKS NLVTGPYNYLT SWRDT
 EDPAQGEFSYRIDIRGLPQLVTAKGATIWYRAGSWNGYLF TGVSQRMHRFLNFSFESTD
 KEVSYEYETWNSSILTRTVLYPTGSSERSLWSDEKQRLWTIATRPVDECEYYAVCGVNSN
 CNINDFPICKCLQGFIPKFQAKWDSSDWSGGCVRRIKLSCHGGDGFVKYSGMKLPDTSSS
 WFNKSLSLRECKTLCLRNCTAYANLDIRDGGSGCLLWFDNIVDMRNHTDRGQEIYIRL
 DISELYQRRKNMNRKKLAGLITAGLIAFVIGLTLVWATSSFIKRMNLGKPEIIKKLIHW
 KHMKETEENDIQTIFDFSTIDIATNHFSDRNKLGEFGFVPYKGILEDGQEI AVKRLSKT
 SRQGTBEFKNEVKLMATLQHRNLVKLLGCSIQQDEKLLIYEFMPNRS LDYFI FDTMRGKL
 LDWTRCFQIIIEGIARGLLYLHQDSTLR I IHRDLKTSNILLDINMIPKISDFGLARTFGGD
 QAEANTNRVMGTGYGMPPEYVHVHGSFSTKSDVFSYGVIVLEIIISGRKNRGFRDPHNNHLN
 LLGHVWRLWTEERPLELIDEMLDDDTTISSEILRRIHVGLLCVQENPENRPNMSSVVLML
 NGGTLPLPKPRQPGFYTGKNDTIDTGSCKHHERCSVNEISISLLEAR*

>Glyma.06G043200|Glyma.06G043200.1|3296539|GNA/S-locus glycoprotein/PAN/protein
 kinase
 MHQGSLSVVEPKDFMLSPNGMFSSGFFAVGENAYSFAVWYSEPYGQTRNATVVWMANRD
 QPVNGKSGKFSLLHNGNLALNDAESHVWSTNTVSLSSSVLLFLDNTGNLVLRQTESTGV
 VLWQSFDFPTDTLLPQQVTRHAKLVSSRSKTNKSSGFYTLFFDNDNII RLRLYDGPVSG
 LYWPDPLASWNAAGRSYNNRSRAVMDTLGNFSSSDDLHFLTSDYGVVQRRLTMDNDGN
 IRVYSRRHGGKWSITWQAKARPCNIHIGCPNSLCSYHQNSGIECSCLPGYKWKNVADW
 SSGCEPKFSMLCNKTVSRFLYISNVELYGYDYAIMTNFTLNQCQELCLQLCNCKGIQYTY
 VFESGTYTCYPKLQLRNAYRTPYFNADLYLKL PANSSYSYEGSTEQHGLDCSSSRTIQLE
 RAYDMGHESRYIKFLFWFVGGVGGIEVFCIFVICFLVKTSGQKYSVDGRVYNLSMNGF
 RKFSYSELKQATKGRQEIIRGAGGVVYKGVLLDQRVVAVKRLKDANQGEFFLAEVSSI
 GRLNHNLIEMWGYCAERKHRLLVYEYMEGSLAQNIKSALDWTKRFDIALGTARGLAY
 IHEECLECILHCDVKPQNI LLDSNYHPKVADFGMSKLIMRNRNDTSTYSNISIRIGTRGY
 VAPEWVFNLISITSKVDVYSYGMVLEMTGKSVTKDVDATDNGVENLHLSMVAWLKEKDK
 NGSGCVSEILDPTVEGGYDEGKMKALARVALQC VKEEKDKRPTMSQVVEILQKSSRENDH
 Q*

>Glyma.06G068100|Glyma.06G068100.1|5213049|GNA/protein kinase
 MGKHWSFFHITGTFLFLCKVCLAGSQYSGRVLPGLNGSQMNWIDRDGKFLVSKKVQFAF
 GFVTTTNDTTKFLLAIIHVATTRVIWTANRAVPVANSDFVDEKGNFLEKDGTLVWST
 STSNKGVSSEMLLDGTNLVLLGIDNSTVIWQSFNHPDPTLLPTQEFTEGMKLI SDPSSNN
 LTHVLEIKSGNVVLTAGFRTLPQPYWTMQKDNRRVINKGGDAVASANISGNSWRIFYDKS
 KSL
 LLWQFIFSDAQGTNATWIAVLGSDGFITFSNLNDGGSNAASPTTIPQDSCATPEPCDAYT
 ICTGDQRCSCPSVIPSCCKPGFDSPCGGDSEKSIQLVKADDGLDYFALQFLQPFSTIDLA
 GCQSSCRGNCSCALALFFHSSGDCFLLSVGSFQKPDSDSGYVSYIKVSTDGGAGTGSGG
 GGGVHKHTIVVVVIVIIIALVVICGLVFGGVRYHRRKQRLPESPREGSEEDNFLENLTGMP
 IRYSYKDLAATNNF SVKLGQGGFGSVYKGLPDGTQLAVKKLEGIGQGKKEFRAEVSII
 IGS
 GSIHHLHLVRLKGF CADGTHRLLA YEYLSNGSLDKWIFKKNKGEFLDWDTRFNIALGTA
 KGLAYLHEDCDSKIVHCDIKPENVLDDHFMKVSDFGGLAKLMNREQSHVFTTLRGTRGY
 LAPEWITNYAISEKSDVYSYGMVLEMTGKSVTKDVDATDNGVENLHLSMVAWLKEKDK
 IFDSELKIDENDDRFQCAIKVALWC IQEDMSMRPSMTRVVQMLEGICIVPNPPTSSSLGS

RLYATVFKSSSEGATSSGPSDCNSDAYLSAVRLSGPR*

>Glyma.06G110700|Glyma.06G110700.1|8945501|GNA/S-locus glycoprotein/protein kinase
MSQICTSSNYTMKPIITFSCILLFFTITISARFSFDYITPNFTASYLEFIDNFGTFLFSHN
RTFKAALFNPGGQQTsfYLCVHAASNTIIWSGNRDAPISDSGKMLLSFKGITILDEHGN
TKWSTPSLKSQVNRLLQITEMGNLVLDDKSNGLWESFQNPTDTIVIGQRLPVGASLSSAA
SNSDLSKGNKLTITSSDAVLQWYGQTYWKLSTDTRVYKNSNDMLEYMAINNTGFYLFSD
GGTVFQLGLPLANFRIAKLGTSGQFIVNSFSGTNNLKQEFVGPEDGCQTPLACGRAGLCT
ENTVSSSPVCSCPPNFHVSGTFTGGCEPSNGSYSLPLACKNSSAFSFLNIGYVEYFGNFY
SDPVLYKVNLSACQSLCSSNCCLGIFYKSTSGSCYMIENELGSIQSSNGGDERDILGFI
KAITVASTTSSNDGNDDKENSQNGEFPVAVAVLLPIIGFIILMALIFLVWRRLTLMSKMQ
EVKLGLKNSPSSGDLDAFYIPGLPARFDYEELEEATENFKTLIGSGGFGTVYKGVLPDKSV
VAVKKIGNIGIQKKDFCTEIAVIGNIHVNVLVKLGKFAQGRHRLLVYEMNRGSLDRN
LFGGEPVLEWQERFDVALGTARGLAYLHSGCVQKI IHCDIKPENILLQDQFQAKISDFGL
SKLLSAEQSGLFTTMRGRTRYLAPEWLTNSAITEKTDVYSFGMVLLLELVSGRKNCYRRSR
SHSMDDSNSGGGNSSTSTTGLVYFPLFALEMHEQRSYLELADSRLEGRVTCEEVEKLVR
IALCCAHEEPALRPNMVTVVGMLEGGTPLPHPRIESLNFLRFYGRRYTEASTIAEENEY
SVMLQQARSSTTSMPSDSSTRGFSYMSSQNISGR*

>Glyma.06G255900|Glyma.06G255900.1|43736673|GNA/S-locus glycoprotein/PAN/protein
kinase
MAFTSALTSLTTLVCLCMFCVNAVTHKEILQTGQSLGTSDTLLSYGGNFELGFFSKDNST
KYYVGIWYKRVNDKIVVANRDSPVQTSSAVLI IQPDGNFMIIDGQTTYRVNKASNNFN
TYATLLDSGNLVLLNTSNRAILWQSFDPTDTLIPGMNLGYNSGNFRSLRSWTSAADDPA
GEFSLNYGSGAASLI IYNGTDVFWRDDNYNDTYNGMEDYFTWSVDNDSRLVLEVSGELIK
ESWSEEAKRWVSIRSSKCGTENS CGVFSICNPQAHDPDCDLHGFQPLHADSWRNGNTSAG
CVRKIELSCSNRSSNNVKSNDGFFQFNKVQLPQTSNGYIKLKIDRARECESACSRNCSCV
AYAYYLNSSI CQLWHGQVLSLKNISTYLDNSDNTNPIFYLRDLASELVTADSNPTNATEL
ATDFRKHENLLRNLLILVILILLAFLLGLLVYWRTRQRKGEDLLRFHVSMMSMKVEDS
ELAEAHARGAKVKKEVKLPLFSFVSAAATNNFSDANKLGEFGFPVYKGILLNGDEVAV
KRLSRRSGQGWEEELRNEALLIAKLQHNNLVRLLGCCIDRDEKMLIYELMPNKS LDFVFLD
ATKRRMLDWGTRVRIIDGIAQGILYLHQYSRFRIIHRDLKASNILLDTNMNPKISDFGMA
RIFGDNELQANTNRIVGTGYMSPEYAMEGLFSIKSDVFSFGVLLLEILSGKKNTGFYQT
NSFNLLGYAWDLWTNNSGMDLMDPALDDSDTTSSSMHTVPRYVNIGLLCVQESPADRPTM
SDVVSIMIGNDTVALPSPKPPAFLNVRGNQNSILPASMPESFSLNLTDTMVEAR*

>Glyma.06G256400|Glyma.06G256400.1|43823445|GNA/S-locus glycoprotein/PAN/protein
kinase/SRK
MLFIWFLCLFSYMTSTSTSLDSLAVSQSIRDGETLVSAGGITELGFFIPGNSARRYLG IWF
RNVSPFTTVVWVANRNTPLDNKSGVLKLNENGLVLLNATNSTIWSSSNISSKTENDPIAR
LLDSGNFVVKNGEQTNENGVWQSFDPHPCDISMPKIGWNLETGVERYVSSWTSDDDDPA
EGEYALKMDLRGYPQLIVFKGPDIKSRAGPFNGFSLVANPVP SHDTLPKFVFNEKEVYYE
FELLDKSAFFLYKLSPSGTGQSLFWTSQRLRTRQVASIGDQDQCETYAFCGANS LCN YDGN
HPTCECLRGYVPKSPDQWNISIWVNGCVPMNKSNCENNDTDGFFKYTHMKLPDTSSSWFN
ATMNLDECHKSKCLNCSCTAYANLVDVDDGGSGCLLWLNLDLRSFSEWGQDFYIRVSAS
ELDHAGHGNVVRKIKVIGTVGVITFGLIISCVCFIIKNQGTARKIYNKHYNRLLRKEDI
DLPTFDLSVLANATENFSTRNKLGEFGFPVYKGTLDGKELAVKRLSKKSEQGLDEFKN
EVALISKLRHNLVKLLGCCIDGDEKMLIYEFMPNHSLDYFVFDETKRKFLDWPKRFNII
NGIARGLLYLHQDSRLRIIHRDLKTSNVLLDANLHLPKISDFGLARSFIGDQVEANTNRVA
GTYGYIPPEYAARGHFSKSDVFSYGVIVLEIVSGKKNREFSDPEHYNNLLGHAWRLWTE
ERVLELLDELLEGCAPFEVIRCIQVGLLCVQQRPEDRPDMSSVVLMLNSDTSLPKPKVP
GFYTEIDVTSDANSSSANQKLHVSVELSITILDR*

>Glyma.06G256600|Glyma.06G256600.1|43863765|GNA/S-locus glycoprotein/PAN/protein
kinase/SRK
MVQNFRMLFIWFLLLWYLRNSTSLDSLAVSQSIHDGETLVSEEGTFEVGGFFSPGTSTRRY
VGIWQNRNLSPLTVVWVANRENALQNNAGVLKLDERGLLVILNGTNSTIWSSNNTSSKVVK
NPIAYQLLDLSTFDLSTFDFPIIERATENFTESNKLGEFGFPVYKGRLLKDGQEFQFAVKRLSKKSG
EDDPSKGEYSMKLDDLGRYPQVIGYKGDVVRFRSGSWNGQALVGYPPIRPFTQYVHEL VFNE
KEVYYEYKTLDRSTFFIVALTPSGIGNYLLWTNQTRRIKVLLFGESEPCKEYAMCGANSI
CNMDNSSRTCDCKIGHVPKFPQWNVSHWYNGCVPRNKSDCKTNNTDGFRLRYTDMKIPDT
SSSWFDKTMNLDECQYCLKNCSCKAYANLDIRDGGSGCLLWFDLIDMRHFSNGGQDLY
LRVVSLEIDFTAVNDKGKMKMGFITIGTIIILGLTASVCTIMILRKQGVARI IYRNHFK
RKLKKEGIDLSTFDLSTFDFPIIERATENFTESNKLGEFGFPVYKGRLLKDGQEFQFAVKRLSKKSG
QGLEEFKNEVVLI AKLQHRNLVKLIGCCTEGKERMLIYEQNKSLDYFIFDETRRNLDV
WPKRFNII CGIARGLLYLHEDSRLRIVHRDLKTSNILLDENFNPKISDFGLARAFLGDQV
EANTNRVAGTYGYMPPEYAACGHFMSKSDVFSYGVIVLEIVCGQRNREFSDPKHYLNLLG
HAWRLWTKE SALELMDGVLKERFTPEVIRCIQVGLLCVQQRPEDRPNMSSVVLMLNGEK
LILPNPKVP GFYTKGDVTPESDIK PANRFSSNQISITLLEAR*

>Glyma.06G256700|Glyma.06G256700.1|43889014|GNA/S-locus glycoprotein/PAN/protein kinase

MADNFRMLFIWLFLLLSYLNRNSTSLDSLLPGQSIRDGETLVSEETFEVGFSPGTSTGR
YLGIIWYRNVSPILVWVANRETPLQNKSGVLKLDERGVLVILNGTNSTIWWSYNTSSKVI
KNPIAQLLDSGNIVVRNEHDINEDNFWQSFDPYCDKLLPGMKIGWNLVTGLDRTISSWK
KEDDDPAKGEYSKLDPKGFPQLFGYKGNARFRVGSWNGQALVGYPPIRPLTEYVHELVEFN
EKEVYYEYKTLDRSIFFIIVTLNSSGIGNVLLWTNQTRGIQVFSWSDLCENYAMCGANSI
CSMDGNSQTCDCIKGYVPKFPEQWNVSKWYNGCVPRTPDCRNSNTDGFRLYTDLKLDPDT
SSSWFNTTINLEECKKYCLKNCCKAYANLDIRNGSGCLLWFDDLDIMRKFSIGGQDIY
FRIQASSVLDHVPVNGHGKKNRMIGITVGANILGLTACVCIIMILKKLGVARIIYRNHFK
RKLKKEGIDLSTFDFFPIARATENFATSNKLGEFGFVPYKGRLLKDGQEFVAVKRLSKKSG
QGLEEFENEVVLIAKLQHRNLVKLIGCCIEGNERMLIYEYMPNKS LDCFI FDETRRHLDV
WHIRFNIICGIARGVLYLHQDSRLRIIHRDLKTSNILLDANMDPKISDFGLARTFCGDQV
GANTNKVAGTYGYMPPEYATRGHFSMSKSDVFSYGVIVLEIVSGKRNREFSDPTHSLNLLG
HAWRLWTEERALELLDGVLRERFIASEVIRCIQVGLLCVQQTPEDRPDMSPVVLMLNGEK
LLPNPKVPGFYTEGDVHLNQSKLKNPFSNQISITMLEAR*

>Glyma.06G257000|Glyma.06G257000.1|43941660|GNA/S-locus glycoprotein/PAN/protein kinase/SRK

MLFIWFFLFSFMTTRTSTSLDRLEVNSIRDGETLVSAAGGIEVGFSPGNSTRRYFGVWY
KNVSPLTVVWVANRNTPLENKSGVLKLNKGIIVLLNATNSTLWSSSNISSKARNNATAH
LLDSGNFVVKHGHKTSNVLWQSFDPYGNLTLMQGMKLGDLETGLERSISSWKSVEDPAEG
EYVIRIDLRGYPQMIEFKGFDIIFRSGSWNGLSTVGYPAVNLSPKPFVNEKEVYYEFE
ILDSSVFAIFTLAPSGAGQRIFWTTQTTRQVISTQAQDQCEIYAFCGANSICSYVDNQA
TCECLRGYVPSKSPDQWNIAIWLGGCVQKNISNCEIRYTDGFLKYRHMKLDPDTSSSWFNKT
MNLGECQKSKLNCSCCTAYANLDIRNGSGCLLWFNIIIVDMRNFSWLGQDFYIRVPASEL
DDTGNRKIKKKIVGITVGVTTFGLIITCLCFIMVKNPGAVRKFYKNHYNNIKRMQDLPLP
TFNLSVLTKATRNFSSENKLGEFGFVPYKGTLDIGKEIAVKRLSKKSVQGLDEFKNEVA
LIAKLQHRNLVKLLGCCIEGEEKMLIYEYMPNQSLDYFVFDKTRKFLDWGKRLNIIIGI
ARGLLYLHQDSRLRIIHRDLKTSNILLDENLDPKISDFGLARSFLGDQVEANTNRVAGTY
GYMPPEYAARGHFSVSKSDVFSYGVIVLEIVSGKKNREFSDPEHYNNLLGHAWRLWTEQRS
LDLLDEVLGEPCTPFVIRCIQVGLLCVQQRPEDRPDMSSSVVLMLNCDKELPKPKVPGFY
TETDAKPDANSSFANHKKPYSVNELSITMLDAR*

>Glyma.06G257100|Glyma.06G257100.1|43996701|GNA/S-locus glycoprotein/PAN/protein kinase

MLCIWFFLFSYMLGKCTLLDRLEMSQYIPDDGETLVSAAGEITEMGFFSPGNSTRRYLGIW
YKNVSPFTVVWVANRNTPLENNFVGLKLNKGIILELLNPTNNTIWSSSNISSKARTNPI
VRLNSENVLKNGQCTKDDSFVWQSFDPHPCDTYMPGMKVGWNLDTDLWFLSSWKSVDH
AKGEYALKIDLRGVLQIIKFKGIVIIITRAGSWNGLSAVGYPGPTLGISPIFVFNKKEMSY
RYNSLDKSMFSIFYWTSQARNQQVVSIGEVDKCKNYAFCGANSVCNYNGNHPNCECLRGY
DPKSPGQWNVGIWIFYGCVPRNKASCGNSYVDGFLKYMDMKLPDTSSSWFSKTMNLDKCQK
SCLNNSCCTAYANLDMRHGGNHDSHRNTKRKIVEIMVGVTIFGLIITWAARKFYIKHYKN
KORTEDGDLPIFYFSVIANATENFSTKNKLGEFGFVPYKATLIDGKELAVKRLSKKSGL
VCNSYAKTQAYMQCGTMSVKNLVRRLGVHDKTNHTLARQGLDEFKNEVALIVKLRHPNLV
KLVGCCIEEEKMLIYEYMSNRSLDYFIFDEAKRKLDDWRKLFNIIICGSARGLLYLHQDSR
LRIIHRDLKTSNILLDTNLDPKISDFGLARSFLGDQVEANTNTVAGTYGYMPPGYAVSGQ
FSVKSDVFSYGVILLEIVSAKKNREFSDPESYNNLLGHGTELLDDVLGEQCTFREVIIRCI
QIGLLCVQQRPGDRPEMSSSVVLMKGDKLLPKPKVPGFYTEKDVKFESNHNLCVNELSI
TTLDGRQEGKVRKC*

>Glyma.06G257300|Glyma.06G257300.1|44030457|GNA/S-locus glycoprotein/PAN/protein kinase

MLFICFFIFFYMTTSTSVDR LAVTQSIRDGETLASAGGIEAGFFSPGNSIRRYLGIWY
RNVSPFIVVWVANRNTPLENKSGVLKLNKGVLELLNATNNTIWSSNIVSSNAVNPIAC
LFDSGNFVVKNSDGVWQSFDPYPGDTLMPGIKLGWNLETGLERSISSWKSDDDPAEGEY
AIKIDLRGLPQMIEFKGSDIRMRGTGSWNGLTTVGYPSPTPLIRKFVNEKEVYYEYEI
KKSMFIVSKLTPSGITQSFSWTNQSTPQVVQNGEKDQCENYAFCGANSICIIDNNYLT
ECLRGYVPSKSPDEWNIRIWFDCIRRNKSDCKISYTDGFLKYSHLKLDPDTSSSWFSNTMN
LDECQKSCLENCCKAYANLDIRNGSGCLLWFNT

>Glyma.06G257500|Glyma.06G257500.1|44050091|GNA/S-locus glycoprotein/PAN/protein kinase/SRK

MLLIWFLLLISYTTTTSTSLRSVNHLAVSQSIRDGETLVSAAGGITELGFFSPGNSTRRYL
AIWYTNVSPYTVVWVANRNTPLQNNSGVLKLNKGIILELLSPTNGTIWSSNISSKAVNNP
VAYLLDSGNFVVKNGHETNENSFLWQSFDPYPTDTLMSGMKLGWNIETGLERYLTSWKSVE
DPAEGEYTSKIELTGYPQLVRFKGPDIRTRIGSWNGLYLVGYPGPIHETSQKFVINEKEV
YYEYDVVARWAFSVYKLTTPSGTGQSLYWSSERTTRKIASTGEEDQCENYAFCGANSICNF
DGNRPTECLRGYVPSKSPDQWNMSVWSDGCVPRNKSNCKNSYTDGFFTYKHLKLDPDTSAS
RYNKTMNLDLDECQKRSCLTTCCTAYTNLDIRDGGSGCLLWSNDLVDIMRKFSWDWGQDLFVRV

PASELDHAGHGNIKKKIVEIIVGVIIIFGFLICASVFIIRNPWTARKLYNKHFKSKPRKED
 GDLPFTNLSVLANATENFSTKNKLGEFGFVYKGLIDGQVLAVKRLSKESGQGLEEFK
 NEVALIAKLQHRNLVKLLGCCIEGEEKMLIYEYMPNQSLDYFIFDETKRKLDDWHKRFNI
 ISGIARGLLYLHQDSRLRIIHRDLKTSNILLDANFDPKISDFGLARSFLGDQFDAQTNRV
 AGTYGYIPPEYAARGHFSVKSDVFSYGVILLEIVSGKKNREFSDPQHYNLLGHAWRLWT
 EGRALELLDEVLGECQTLSEIIRCIQIGLLCVQQRPEDRPDMSSVGLFLNGDKLLSKPKV
 PGFYTEKDVTSSEANSSSANHKLCSVNELSTITILDAR*

>Glyma.06G257700|Glyma.06G257700.1|44160331|GNA/S-locus glycoprotein/PAN/protein kinase

MLSLLCICLLLSYFSGNCTSLDSLAVNQSIQDGGNETLVSAGGITEVGGFFSPAKTTRRY
 LGIWFRNVTPLIIVVWVANRNTPLENNSGVLKLNQKGLVLLNDKSSTIWSSKISSKAGNN
 PIAHPLDSGNFVVKIGQQPNKGTVLWQSFDPDTHIPGMKIGWNIETGLERSISSWKS
 EDPKAGEYVVKVDLRGYPQVFVFKGSLIKFRVGPWNGHFWRAQTNRQVLTIEDQDQCEN
 YAFCGENSICSYDGNRPTCECLRGYFPKSPDQWNMSISPNGCVPRNKSNCQNSYTDGFFK
 YAHTKMPDTSSSWFNTTMNLDECRKSCCLKNCSTAYANLDIRGGSGCCLLWFNNTVDMRY
 FPKFGQDIYIRVPASELDNNGGPGIKKKIIVVITAGVTVFGLIITCFCILIVKNPEYFILRR
 EDMDLPTFELSAIAKATDKFSSRNKLGEFGFVYKGTLDGQEVAVKRHSEMSDQGLEE
 FKNEVVLIAKLQHRNLVKLLGCCIHGEEKLLIYECMANKSLDCFIFDETRSKLLSWNQHL
 KTSNILLDAHMPKISDFGMARTFGWDQSQAKTRKVVGTGYGMPPEYAVHGYYSVKSDVF
 GFGVIVLEIVSGNKNRGFSDEHSLNLLGHAWRLWTEDRPLELIDINLSERCIPFEVLR
 IHVGLLCVQQKQDRPDMSSVIMLNGEKLPLPKAPGYTGNCTPELVSSSKTCNPLSQ
 NEISLTIFFEAR*

>Glyma.06G257900|Glyma.06G257900.1|44201533|GNA/S-locus glycoprotein/PAN

MSSTLDMVTPTHPIRDGFFNLANSNNRYLGVWYKNIIPRTTVWVANKETPLKDNTGILEV
 GTNQGILSIKIDGGGAKIWSSSASHTPNKSIIVKLLSEGNMVMKDGHNLLWQSFDPDST
 LLPGMKIGVNFKTGQHRALRSWKSLSDLTLVIIKENANSSNDIAYRQGSWNGLSVTELP
 EINDQLTKSLFVMNENDVFYEILLNSSTILRRNLLPEKGYQVRFIWLKNKNRWVQGLPK
 PYDVCQTYSLCGANTICNFGKDKHCECLNCNKGDIDKFQKYDGMKLSDTSSSWYDKTIS
 LQCEKYTLNCSCTAYAQNLISGNGSGCLHWFYDIDVDIRTLPMTGGQDFYLRMAIVSNLD
 LQLQDKSKKDDIDLPIFHFLTISNATNHFSKSNLGGGFGPMYKQDEKLLVYEFMPNRS
 LCESCQTLANLLRVHPGTSICIIHSKEEKSFCLSQKVCNQETICLLNYSTRRTLLDWA
 KRFEIICGIA*

>Glyma.06G258100|Glyma.06G258100.1|44232261|GNA/S-locus glycoprotein/PAN

MLGTCTSLDSLAVSQSIQDGETLVSTGGITELGFFSPGNSTRRYLGIWFRNASPLTIVVW
 ANRNIPLKNNSGVLKLSEKGIQLLSATNSTIWSSNILSKAANNPIAYLLDSGNFVVKYG
 QGTNEDAILWQSFDPDCTLMAGMKLGWNLKTGLERSLSSWRGVDDPAEGEYTIKIDLRG
 YPQIIKFKGPDITSRYGSWNLGTLTVGNPDQTRSQNFVLNEKEVFYEFDLPDISTFGVLKL
 TPSGMPQTMFWTTQRSTLQVLLNADDQCENYAFCGANSVCTYDGYLLPTCECLRGYIPK
 NPDQWNIAIWSDGCVPRNKSDCENSYTDGFLKYTRMKLPDTSSSWFSKIMNLHECQNSCL
 KNCSCSAYANLDIRDGGSGCCLLWFNTLVDLRKFTESGQDLYIRLPASELEKRVYVSMRS
 FKDDGGQKKINKKIVAIAGVTIFGLIITCVCILVIKNPGSLRKFYNKRYKNIIPRKEDID
 LPTFSFVLANATENFSTKNKLGEFGYGPVYKGLLDGKELAVKRLSKKSGQG*

>Glyma.06G258200|Glyma.06G258200.1|44277958|GNA/S-locus glycoprotein/PAN/protein kinase/SRK

MALFLAMLVFSNPLVFFSQISYATDTITQSQPLLDGSTLVSKEGTFELGFFTPGNSPNH
 VGIWFKNIPMRTVWVANRDNPAKDKSNMLSLSKDGNLILLGKNRSLIWSTNATIAVSNP
 VVQLLDNGNLVIREEKDDNMDNEENFVWQSFDPDCTQLQGMKLGWNLKTGLNRYLTAWK
 NWEDPSSGDLFTISGLKLTPNELVISKGSNEYRSGPWNGIFSSGVFGFSPNPLFEYKYVQ
 NEDEVYVRYTLKNSSVISIIVLNQTLFLRQRITWIPHTRTWSVYQSLPQDSCDVYNVCGA
 YGNCMINASPVQCLEGFKPKSPQDWNQMDWTGKCVRSEPWSCGVKNKDGFRLIAGMKMP
 DTTHSWINRSMTLEDCKAKCLKNCCTAFANMDTGGGSGCSIWFGDLVDLRISESGQDL
 YVRMAISGTGKDNVNADAKHKLKVVVLVAITVSLVLLMLLAFSIIYMTKTKYKENGTV
 TEEKQDGGQENLEPFFDLATIINATNNFSDNKLGEFGFVYKGTMLDGHEIAVKRLS
 KSSGQDLKEFKNELVICALQHRNLVKVLGCCVEGEEKMLIYEYMPNRSLSDFIDPAQS
 KLLDWPTFRNLCIAIARGLLYLHQDSRLRIIHRDLKASNILLDNMNPKISDFGLAKMCG
 GDQVEGNTNRIVGTGYMAPEYAIIDGLFSIKSDVFSFGVLLLEIISGKKNRTVTYEEHSD
 NLIGHAWRLWKEGIPQLIDASLVDSCNISELVRCIQVGLLCLQHHPEDRPNMTTVVVML
 SSENSLSQPKVPGFLIKNISIEGEQPCGRQESCTNEVTVSLLNAR*

>Glyma.06G258400|Glyma.06G258400.1|44338609|GNA/S-locus glycoprotein/PAN/protein kinase

MHIYFNSCALTYYKMAIPLSLMLVIAMLFLFSSKISSESDTLTQLQPLHDGATLVSKEGT
 FELGFFSPGSSSTNRYLGIWFKNIPKTVIWWANRNPYIINKNTSTYTNTNTKLTITKDGN
 LTLTANNTHHWSTNATTKSVNAVAQLLDSGNLILREEKDNTNSQNYLWQSFDPDSTLL
 PGMKLGWEVTTREALNLNRYLTAWNWDPPSSGQFAYGVARSSIPEMQLWNGSSVFYRSGP
 WNGFRFSATPIPKHRSVLNLFVDTTKESYYQIFPRNRSLLIRTVVNQTVSTLQRFWDE

ESQNWKLELVI PRDDFC SYNHCGSFGYCAVKDNSSVCECLPGFEPKSPWTQGCVHSRKTW
 MCKEKNNDGFIKISNMKVPDTKTSCMNRSMTIEECKAKCWENCSC TAYANS DITESGSSY
 SGCIIWFGDLLDLRQIPDAGQDLYVRIDIFKVDKYGSKKVMVVVASIVSSIIAMLVVLKF
 VYWRNKTFRSEVI IKTGKTNESEDELELPLFD FDFDTIVCATSDFS SDNMLGQGGFG
 PVYRGTL PDGQDI AVKRLSDTSVQGLNEFKNEVILCSKLQHRNLVKVLGYCIEEQEKLLI
 YEYMSNKS LNFFLFDTSQSKLLDWPRRLDIIGSIARGLLYLHQDSRLRI IHRDLKSSNIL
 LDDDMNPKISDFGLARMCRGDQIEGTTRRVVGTYGYMSPEYAIGGVFSIKSDVFSFGVIL
 LEVLSGKRNEFSYSSQNYNLIGHAWRCWKECI PMEFIDACLGD SYIQSEALRCIHIGLL
 CVQHQP TDRPD TTSVVTMLSSES VLPQPKPVFLMERVLVEEDFRQNMNSPTNEVTISEL
 EPR*

>Glyma.06G258500 | Glyma.06G258500.1 | 44347886 | GNA/S-locus glycoprotein/PAN/protein kinase

MAIQLPLMLLIAILLLLFSSKISSETDTLTQFQPLSDGTTLVSKEGTFELGFFSPGSSTN
 RYLGIWFKNIPVKTIVVWVANRDNPIKSNNTNTNTKLTI TKDGNLVLLTVNDTVHWTTNAT
 EKSFNAVAQLLD TGNLVLIDEKDNN SQNYLWQSFDYPTD TLLPGMKIGWEVATGLNRYLT
 SWNNWEDPSSGHFAYGVARSNIPEMQI WNGSSVFYRSGPWSGFRFSATPTLKRRSLVNIN
 FVD TTEESYYQLFPRNRS LVIRT VVNQT VVFALQRF IWDEV TQNWKL DLLI PRDDFC GYNQ
 CGSFGFCTEKNSSVCGCLRGFEPKSPQNRGAKNSTHQGC VQSSKSWMCREKNIDGFVKM
 SNMKVADTNTSQMNRSMTIEECKEKWENCSC TAYANS DITESGSGFSGCILWFSDDL DL
 RQFPDGGQDLYVRVDISQIDKDAKDGSKIAVVVVASIVPSIIAILVFTFFYRRSKTKFRS
 KVIIKTGKINESEEDLELPLFD FETIAFATSDFS SDNMLGQGGFGPVYKGTLPDGHNI
 AVKRLSDTSAQGLDEFKNEVIFCSKLQHRNLVKVLGYCIEEQEKLLI YEYMHNKS LNFFL
 FDT SQSKLLDWSKRLNIISGIARGLLYLHQDSRLRI IHRDLKSSNILLDDDMNPKISDFG
 IARVCRGDIIEGTNRVVGTYGYMAPEYAIGGLFSIKSDVYSFGVILLEVLSGKKNKGFS
 FSSQNYNLIAHAWWCWKECSPMEFIDTCLRDSYIQSEALRYIHIGLLCVQHQPNDRPNMT
 AVVTMLTSESALPHPKKPIFFLERVLVEEDFGQNMYNQTNEVTMSEMQR*

>Glyma.06G258900 | Glyma.06G258900.1 | 44382191 | GNA/S-locus glycoprotein/PAN/protein kinase

MTIFTLILAIANLLFLSKASSIDTLTSLQSLPDGTTLVSKDET FELGFFSLRNSTNRYL
 GIWFKNIPVKTIVVWVANRDYPLKDNSTKLIITNDGNLVLLTKNNKVQWSTNTTTKASRPI
 LQLLNTGNLVLVRNDNEDNKNNNKSSNNNNEDRFLWQSFDYPSD TLLPGMKLGWYRKTGLN
 RRVIAWKNWDDPSPGNFSWGITFDSNPEMVLWKGSKFYHRSGPWNGIRFSGAFGGSNRLS
 THPLFVYKLIINNDDEVYYSYSLTNKSVISIVVMNQTLRRQRNIWI PENG TWRLFQTAPR
 DICDTYNPCGSYANCMVDSSPVCCLEGFKPKSLDTMEQGCVRSEPWCKVEGRDGFRKF
 VGLKFPD TTHSWINKSMTLEECKVKCWENCSC TAYANLDIRGAGSGCSIWFGDLIDLKVV
 SQSGQYLYIRMADSQTDADDAKKKELLIGTIVPPIVLVILLAI FYSYKRKRKYEEENV
 SVVKKDEAGQEHSMPLFDLATLVNATNNFSTDNKLGQGGFGPVYKGVLAGGQEI AVK
 RLSRSSGQGLTEFKNEVILCAKLQHRNLVKVLGCCIEEEEKMLLYEYMPNKS LDSFLFDS
 TSKSKILDWSKRPHILCATARGLLYLHQDSRLRI IHRDLKASNILLDNNLNPKISDFGLAR
 MCGGDQIEGNTNRVVGTYGYMAPEYVIHGLFSTKSDVFSFGILLLEIISGKKNREITYPY
 HSHNLIGHAWKLWKEGIPGELIDNCLQDSCIISEALRCIHIGLLCLQRQPNDRPNMASVV
 VMLSSDNELTQPEKPGFLIDRVLIEEESQFRSQTSSTNGVTISILDAR*

>Glyma.06G260900 | Glyma.06G260900.1 | 44662225 | GNA/S-locus glycoprotein/PAN/protein kinase

MSNNRELLYSMKILSFMMVLVICIVVPSLRICVANDSVNVLQMSDGERLVSKGGNFELGF
 FSPGSSQKRYVGIWYKNIPTQT VVWVANGANPINDSSGILTNTTGNLVLTQNGSIVWYT
 NNSHKQVQNPVVELLD SGNLVRNDGEPNPEAYLWQSFDYPSHALLPGMKFGRDLRTGLE
 RRYTAWKSPEDPSGPDVYGVLPYNYPEFYMMKGEKKLLRQGPWNGLYFSGFPDLQNN TI
 FGINFVSNKDEIYYTFSLVKSSVVTINVINQTGRTRYRYVWVEGDQNWRIYISQPKDFCDT
 YGLCGAYGSCMISQTQVCCLKGFSKSPQAWASSDWTQGCVRNNPLSCHGEDKDG FVKF
 EGFKVPDSTHTWVDESIGLEECRVKCLSNCSMAYTNSDIRGEGSGCVMWFGLIDMKQL
 QTGGQDLYIRMPASELEHKKNTKTIVASTVAAIGGVLLLLSTYFICRIRRNNAEKDKTEK
 DGVNLTTFDFSSISYATNHFSENNKLGQGGFGSVYKGILLDQGEIAVKRLSETSRQGLNE
 FQNEVKLIAKLQHRNLVKLLGCSIQKDEKLLIYELMPNRS LDHFI FDS TRRTLLDWVKRF
 EIIDGIARGLLYLHQDSRLKI IHRDLKTSNVLLDSNMNPKISDFGMARTFGLDQDEANTN
 RIMGTYGYMPPEYAVHGGFSVKSDVFSFGVIVLEIISGRKIRGFCDPYHNLLNLGHAWRL
 WTEKRSMEFIDDL DNSARLSEIIRYIHIGLLCVQQRPEDRPNMSSVILMLNGEKLLPEP
 SQPGFYTGKVHSTMTESPRNTDAYSFNEISNSLLEAR*

>Glyma.06G261000 | Glyma.06G261000.1 | 44680166 | GNA/S-locus glycoprotein/PAN/protein kinase

MEILSFMIIFACIFVPSLKISLAIDSINLLQSVRDGETLVSKGGKFELGFFSPGSSQKRY
 LGIWKYKNIPNKTIVVWVANGANPINDSSGII TLNNTGNLVLTQKTSLVWYTNNSHKQAQNP
 VLALLDSGNLVIKNEEETDPEAYLWQSFDYPSD TLLPGMKLGWDLRTGLDRRYTSWKSPD
 DPSPGDVYRALVLHNPPELYMMKGTQKLYRYGPWNGLYFSGQPDLSNNTL FNLHFVSNKD
 EIYYTYTLLNDSITRTITNQTGQIDRYVWDENGQ TWRLRYYPKEFCDSYGLCGPNGNC
 VITQTQACQCLKGFSKSPQAWFSSDWTGGCVRNKGLSCNGTDKDKFFKFS LKVPDTT

YTFVDESIGLEECRVKCLNNCSMAFTNSDINGEGSGCVMWFHDLFDMRQFESVGQDLYI
 RMAASESDSQEPVSRHKNNTPKIVASSIAAICGVLFLSTYFICRIRNRSPRNSAANLLP
 EDNSKNDLDDLEVQLFDLLTIATATNDFSTENKIGEGGFGPVYKGILMDGREIAVKTLISK
 STWQGVAEFINEVNLIAKLQHRNLVKFLGCCIQRQERMLIYEYMPNGSLDSLIFDDKRSK
 LLEWPQRFNIICGIARGLMYIHQDSRLRIIHRDLKPSNILLDENLSPKISDFGVARTFGG
 DESEGMTRRVVGTGYGMAPEYAVDGSFSVKSDFVSFGILALEIVSGTRNKGLYQTDKSHN
 LVGHAWTLWKAGRELDLIDSNMKLSSCVISEVQRCIHVSLLCVQQFPDDRPPMKSVI PML
 EGHMEMVEPKHEHGFISVNVLGELDLHSPNQTSSSNYVTITMLEGR*

>Glyma.06G261100|Glyma.06G261100.1|44721147|GNA/S-locus glycoprotein/PAN/protein
 kinase

MHIIIIQISEYHKSSDPMHILSFIIILFTCILVPFPKISVANDSINLRQSMRDGDTLVSKT
 RKFEGLFFSPGSSQKRYLGIWYKNIPIQTVVWVANRENPIINDSSGILTLNNTGNFVLAQN
 ESLVWYTNNSHKQAQNPVAVLLDSGNLVIRNDGETNPEAYLWQSFDPSTLLPGMKLGW
 DLRTGLDRRLTAWKSPDDPSPGDVYRDLELYSYPEFYIMKGTKKVYRFGPWNGLYFSGVP
 DLRNNTIFGFNFFSNKEESYIIFSPNTDMSRIVMNESTTIYRYVWVEDDQNWRIYTSLP
 KDFCDTYGLCGVYGNCMTTQTQVCQCLKGFSPKSPEAWVSSGWSQGCVRNKPLSCKDKLT
 DGFVKYEGLKVPDTRHTWLDESIGLEECKVKCLNNCSMAYTNSDIRGAGSGCVMWFGDL
 IDIKQLQTAGQDLYIRMPASELESVYRHKKKTTTIAASTTAAICGVLLSSYFICRIRRN
 NAGKSLTEYDSEKMDDDLIDQLFDLPTITTTATNDFSMENKIGEGGFGPVYKGILVDGQEI
 AVKTLSSRSSWQGVTEFINEVKLIAKLQHRNLVKLLGCCIQGQEKMLIYEYMANGSLDSFI
 FDDKKRKLKWPQQFHIICGIARGLMYLHQSRLRIIHRDLKASNVLLDENSSPKISDFG
 MARTFGGDQFEGNTSRVVGTCGYMAPEYAVDGSFSVKSDFVSFGILVLEIVCGKRNGLY
 QTDKSLNLVGHAWTLWKEGRALDLIDDSNMKESCVISEVLRCIHVGLLCVQQYPEDRPTM
 ASVILMLESHMELVEPKHEHGFISRNFLGEGDLRSNRKDTSSSNDVTITLLEAR*

>Glyma.06G261200|Glyma.06G261200.1|44748559|GNA/S-locus glycoprotein/PAN/protein
 kinase

MTDGESLVSKGGKFELGFFSPGNSQKRYLGIWYKNVPNQTVVWVANREDPIINDSSGILTL
 NTTGNLVLVTQNKSLVWYTNNSHKQAPNPVAVLLDSGNLVIRNEGETNPEAYLWQSFDPSP
 DTFLPGMKLGWNLRGTGHEWKLTAWKSPDDPSPGDVYRVFKLYNYPELYVMKKTCKLYRFG
 PWNGLYFSGMSDLQNNVTSHFSYVSNKDEIYYAYSLANDSVIVRSVTDQTTSTVYRYKWV
 VGEQNWRLSRSPTEFCDTYSVCGAYGNCVSSTQPPQACNCLKGFSPPNSPQAWKSSYWSGG
 CVRNKPLICEEKLSDGFVKFKGLKVPDTHHTWLNESIGLEECRVKCLSNCSMAFANSDI
 RGEESGCVMWFGDLIDMKQLQTDGQDLYIRMHASELATNCWKDKSEKDDNIDLQAFDFPS
 ISNATNQFSESNNKLGQCGFGFPVYKGMLPNGQEIYAVKRLSNICGQGLDEFKNEVMILAKLQ
 HRNLVTLVGCISIQQDEKLLIYEFMPNRSIDYFIFDSARRALLGWAKRLEIIGGIARGLLY
 LHQDSKLKIHRDLKTSNVLLDSNMNPKISDFGMARTFELDQDEENTTRIMGTGYMSPE
 YAVHGSFVSVDVYSFGVILEIISGRKIKEFIDPHHDLNLLGHAWRLWIQQRPMQLMDD
 LADNSAGLSEILRHHIIGLLCVQQRPEDRPNMSSVVLMLNGEKLLPQPSQPGFYTGNNHP
 PMRESSPRNLEAFSFSSEMSNSVLVAR*

>Glyma.06G261400|Glyma.06G261400.1|44785849|GNA/S-locus glycoprotein/PAN/TIR/NB
 ARC/LRR/LRR/LRR

MSDGETLVSKGGKFEGFFSPGNSHKRNVLTKNESLVWYTNNSHNQAQNPVAVLLDSGN
 LVIRNDGETNPEAYLWQSFDPSTFLPGMKLGWNLRIGHEWKQTAWKSPDDPSPGDVYR
 VLELYNYPEFYVMKGTKKAYRFGPWNGLYFSGLSDFENGTMYSFCYVSNKHEISFTYSIA
 NDSFIARSVANQTAITTYRVMWVGEQDWKMSRSPQEFCDTYSLCGAYGNCVSSTQRQA
 CQCLKGFSPKSPEAWNSSDWSGGCLKVPDTHHTWWDESIGLEECRVKCLNSCSCMAYSNS
 DIRGEGSGCVMWFGDLIDMKQLQTEAGRPMVLVILEVQQQTQHVTSMTVTKSSLKNIIFI
 LTNGSLNECKLENLAKEEWQHLISVEYFHACIPLRSLCLLKRFDQQLNFKIINYFNKYF
 AIEMASTSNAIIQCTSSSSSSSFEYDVVVSFRGEDTRNSFTGFLFEALKKQGIKQIEAFKDDK
 DIRKGESIAPELIRAIEGSHVFLVVSFDYASSTWCLRELAHIWDCIQKSPRHLLPIFYD
 VDPSQVRKQSGDYEKAFQHQSSRFEDKEIKTWREVLNDVGNLSGWDIKNKQQHAVIEE
 IVQQIKNILGCKFPSTLPYDNLVGMESHFATLSKLICLGLVNDDVRVVGITGMGGIGKSTL
 GQALYERISHQFNSRCYIDDVSKLYQGYGTGLVQKELLSQSLNEKNLKICNVSNGTLLVW
 ERLSNAKALIILDNVDQDKQLDMFTGGRNDLLRKCLGKGSIVIIISRDQQILKAHGVDVI
 YRVEPLNDNDALGLFCKKAFKNYMSDFEKLTSVLSHCQGHPLAIEVLGSSSLFDKDV
 HWSALALLRENKSKSIMNVLRISFDQLEDTHKEIFLDIACFFNHYPVKYVKEVLDFRFGF
 NPEYGLQVLVDKSLITMDSRQIQMHDLCDLGKYIVREKSPRKPKWKSRLWDVKDILKVM
 SDNKAADNVEAIFLIEKSDILRTISTMRVDVLSTMSCLKLLKLDHLDNFVNKINFFSGTLV
 KLSNELGYLGWEKYPFECLPPSFEPDKLVELILPKSNIKQLWEGTKPLPNLRRDLDSGSK
 NLIKMPYIGDALYLESLDLEGCIQLEEIGLSIVLSPKLTSLNLRNCKSLIKLPQFGEDLI
 LEKLLLGGCQKLRHIDPSIGLLKKLRRLLNKNCKNLVSLPNSILGLNSLEDLNLSGCSKL
 YNTELLYELRDAEQLKKIDIDGAPIHFQSTSSYSREHKKSVSCLMPSSPIFPCMLKLDLS
 FCNLVEIPDAIGIMCCLQRLDLSGNNFATLPNLKKLSKLVCCLKLQHCKQLKSLPELPSRI
 YNFDRLRQAGLYIFNCPVELVDRERCTDMAFSWTMQSCQVLYLCPFYHVSRRVSPGSEIPR
 WFNNEHEGNCVSLDASPMHDHNWIGVAFCAIFVVPHEHETLSAMSFSETEGNYPDYNDIPV
 DFYEDVDLELVLDKSDHMLWFFVGRGRFIEYFHLKHKYLGRLLLKCDNEGIRFKESYAEV
 KKYGYRWVYKGDIEWSARKHWGN*

>Glyma.06G261800|Glyma.06G261800.1|44863206|GNA/S-locus glycoprotein/PAN/protein kinase

MLNPYYRYPKNLVLGVGKKIMMNRNINISLPNPIYHFMIIIVAYMLVPSLKISAAILSVSQF
ITESQTLVSHRGVFELGFFSPGNSKNRYLGIWYKTTITIDRVVWVANWANPINDSAGILTF
SSTGNLELRQHDSVAWSTTYRKQAQNPVAELLDNGNLVVRNEGDTDP EAYLWQSFSDYPSD
TLLPGMKLGWDLRTALEWKITAWKSPEDPSPGDFSFRNLNLYNPEFYLMKGRVKYHRLGP
WNGLYFSGATNQPNPNQLYEIKYVVKNDMSYVMNEVEKFCFLTVMKNSSAAAIVRVKITETS
LQIQVWEEERQYWSIYTTIPGDRCD EYAVCGAYGNCRISQSPVCQCLEGFTPRSQQEWST
MDWSQGCVVNKSSSCEGDRFVKHPGLKVPETDHDVLDYENIDLEECREKCLNNCYCVAYTN
SDIRGGGKGCVHWYFELNDIRQFETGGQDLYIRMPALESVNQEEQHGHHTTSVKIKIATPI
AAISGILLFCIFVMYRVRSSADKSKTKDNLKKQLEDLDLRLFDLLTITTATNNFSLNNK
IGQGGFVPYKGLADGRDVAVKRLSSSSGQGITEFMTEVKLIAKLQHRNLVKLLGCCIR
GQEKILVY EYVMVNGSLDSFVFDQIKGKFLDWPQRLDIIFGIARGLLYLHQDSRLRIIHRD
LKASNILLDEKLNPKISDFGMARAFGGDQTEGNTNRVVGTYGYMAPEYAVDGLFSIKSDV
FSFGILLLEIICGNKNRALCHGNQTLNLVGYAWTLWKEQNVQLIDSNIMDS CVIQEVLR
CIHVSLLCVQQYPEDRPTMTSVIQMLGSEMELVEPKPEGFFPRRISNEGKLLANLNQMTS
NNELTITLLNAR*

>Glyma.06G261900|Glyma.06G261900.1|44875369|GNA/S-locus glycoprotein/PAN/protein kinase

MKFILSLKSFIYILFFPSLVVSIVPDRSSISQFQSLSYGKTIVSSPHGMFELGFFNLGYP
NRIYLGIRYKNIPVDNVVWVANGGNPINDSSADLKLHSSGNLVLTHNNMVAWCTRSSKAA
QNPVAELLD SGNLVIRDLNSANQESYLWQSFDPSTMLSGMKVGWDLKRNLNIRLIAWK
SGDDPTPGDLSWSIVRHPYPEIYMMKGKNKYHRLGPWNGLRFTGMPKPNPVYHYEFVS
NKEEVYSTWTWLKQTSKITKAVLNQTALARP YVWSELDESWMFYSTLPSDYCDHYGVCGA
NAYCVTSAPMCECLKGFKPKYLEKWNMDWSQGCVLQHPNLCKHKGDFVLLLEGLKVPDTK
ATFVNDSIDIEKCR TKCLNNCSCMAYTNSNISGAGSGCVMWFGDLFDIKQYSAENGQGL
YIRLPASELEAIRQRNFKIKHVTIVTAASGMLVLGIYFIYRIWRNINEKSKAENNYEGFV
DDLDLPLLDLSIILAATDNFSEVNKIGEGGFGPVYWGKLASGLEIAAKRLSQNSGQGI SE
FVNEVKLIAKLQHRNLVKLLGCCIHKQEKILVY EYMANGSLDYFIFDILLRNTDHTKGKSL
DWPKRLSIIICGIARGMLYHLHQDSRLRIIHRDLKGSNVLLDED FNPKISDFGMAKTVGREE
IEGNTNKIVGTFGYMAPEYAVDQGQFSVKSDVFSFGILLMEIICGKRNRGRYSGKRYNLID
HVWTHWKL SRTSEIIDSNIEDSCIESEIIRCIHVGLLCVQQYPEDRPTMTSVVLMLGSEM
ELDEPKKPGVFTKKESIEAIISSSSTNTLTITLSAR*

>Glyma.06G262000|Glyma.06G262000.1|44888315|GNA/S-locus glycoprotein/PAN/protein kinase

MRFVHFLMNI I IYTLFDTFLLVF EAAGTSSFIAQYQSLSYGKSIVSSPRGT YELCFFNLG
NPNKIYLGIRYKNIPQNVVWVANGGNPINDSS T ILELNSSGNLVLTHNNMVVWSTSYRK
AAQNPVAELLD SGNLVIREKNEAKPEEEEEYLWQSFDPSTMLAGMKVGWDLKRNFSIRL
VAWKSFDPTPGDLSWGVTLHPYPEFYMMKGTKKYHRLGPWNGLRFSGRPEMAGSDPIYH
FDFVSNKEEVYTTWLKQTNLLSKVLNQTQTERPRYVWSETEKSWMFYTTMPEDYCDHY
GVCGANSY CSTSAYPMCECLKGFKPKSPEKWN SMGWTEGCVLKHPLSCMNDGFFLVEGLK
VPDTKHTFVDESIDLEQCKTKCLNDCSCMAYTNSNISGAGSGCVMWFGDLIDIKLYPVPE
KGQDLYIRLP SSELESSRDKKDSKII I IATSIGATLGVLAIYFVYRRNIAEMSNAENNH
EEPLPQHGHN RWNIAADKSKTKENIKRQLKDLDVPLFDLLTITTATNNFSSNNKIGQGGFG
PVYKGLVDGRDIAVKRLSSSGQGIVEFITEVKLIAKLQHRNLVKLLGCSPKQEKLLL
Y EYVMVNGSLDSFIFDQQKGKLLDWPQRFHIIIFGIARGLLYLHEDSRLRIIHRDLKASNVL
LDEKLNPKISDFGMARAFGGDQTEGNTNRVVGTYGYMAPEYAVDGVFSIKSDVFSFGILL
LEIICGNKNRSLCHGNQTLNLVGYAWTLWKEQNTSQLIDSNIKDSCV IPEVLR CIHVSLL
CVQQYPEDRPTMTSVIQMLGSEMELVEPKPEGFFPRRISDERNLSSNLNQTISNDEITIT
TLKGR*

>Glyma.06G262100|Glyma.06G262100.1|44913295|GNA/S-locus glycoprotein/PAN/protein kinase

MKFILTLTSFILYILFVSSLVVSIAADTSSISQSQSLSFGR TIVSPNGVFELGFFNLGNP
NKSYLGIWFKNIPSQNI VVWVANGGNPINDSFAILSLNSSGHLVLTHNNTVVWSTSSLRET
QNPVAKLLD SGNLVIRDENEVIQEAYLWQSFDPSTGLSGMKIGWY LKRNLSIHLTAWK
SDDDPTPGDFTWGI V LHPYPEIYLMKGTKKYRVGPWNGLSFGNGSPELNNSIYYHEFVS
DEEEVSYTWN LKNASFLSKVVVNQTTEERPRYVWSETESWMLYSTRPEDYCDHYGVCAN
AYCSTTASPICECLKG YTPKSPEKWKSMDR TQGCVLKHPLSCKYDGAQVDDLKVPDTKR
THVDQTLDIEQCRTKCLNDCSCMAYTNSNISGAGSGCVMWFGDLLDIKLYSVAESGRRLH
IRLPPESELESISKKSII IGT SVAAPLGVLAI CFIYRRNIADKSKTKKSIDRQLQDV
DVPLFDMLTIT AATDNFLNNKIGEGGFGPVYKGLVGGQEI AVKRLSSLSGQGITEFIT
EVKLI AKLQHRNLVKLLGCCIKGQEKLLVY EYVNGSLNSFIFDQIKSKLLDWP RRFNII
LGIARGLLYLHQDSRLRIIHRDLKASNVL LDEKLNPKISDFGMARAFGGDQTEGNTNRV
GTYGYMAPEYAFDGNFSIKSDVFSFGILLLEIVCGIKNKSFCHE NLTNLVGYAWALWKE
QNALQLIDSGIKDSCV IPEVLR CIHVSLLCVQQYPEDRPTMTSVIQMLGSEMDMVEPK
GFFPRRILKEGNLKEMTSNDEL TISLFSGR*

>Glyma.06G262300|Glyma.06G262300.1|44955111|GNA/S-locus glycoprotein/PAN/protein kinase

MKFILTVTSFILIYILFVSSLVVSIADTSSISQSQSLSFGRITIVSPNGVFELGFFNLGNP
NKSYLGIWFKNIPSQNIWVWANGGNPINDSFALLSLNSSGHLVLTHNNTVWSTSSLRET
QNPVAKLLDSGNLVIRDENEVIQEAYLWQSFDPYPSNTGLSGMKIGWYLRNLSIHLTAWK
SDDDPDTPGDFTWGIIILHPYPEIYLMKGTKKYRVGPWNGSPGLINSIYYHEFVSDEEELS
FTWNLKNASFLSKVVVNQTTQERPRYVWSETESWMLYSTRPEDYCDHYGVCANAYCSST
ASPICECLKGYPKSPKWKSMRDRTQGCVLKHPLSCKYDGFQVDGLKVPDTRKTHVDQT
LDIEKCRTKCLNDCSCMAYTNYNISGAGSGCVMWFGDLDIKLYSVAESGRRLHIRLPSS
ELESISKKNKSKIIIGTSVAAALGVVLAICFIHRRNIADKSKTKKSNDRLQDQVDVPLFD
LLTITAATDNFLNKNIGEGGFGPVYKKGLEGGQEIIVKRLSSRSQGQITEFITEVKLIA
KLQHRNLVKLLGCCIKGQELLVYEVVNGSLNSFIFDQIKSKLLDWPFRFNIILGIARG
LLYLHQDSRLRIIHRDLKASNVLDEKLNPKISDFGMARAFGGDQTEGNTNRVVGTYGYM
APEYAFDGNFSIKSDVFSFGILLLEIVCGIKNKSCHENQTLNLVGYAWALWKEQNALQL
IDSGIKDSCVIEVLRCHVSLLCVQQYPEDRPTMTSVIQMLGSEMDMVEPKEPGFFPRR
ILKEGNLKEMTSNDELITISLFSGR*

>Glyma.06G262400|Glyma.06G262400.1|44964196|GNA/S-locus glycoprotein/PAN/protein kinase

MKFILTMSSIPYILFVSSLVVSIADTSSISQSQSLSFGRITIVSPSGTFELGFFHNLGNP
NKSYLGIWFKNIPSRDIWVLPINNSSALLSLKSSGHLVLTHNNTVWSTSSLKEAINPV
ANLLDSGNLVIRDENANQEAYLWQSFDPYPSDTMVSGMKIGWDLKRNLSIHLSAWKSADD
PTPGDFTWGIIILHPYPEMYLMKGNKKYQVRGPWNGLQFSGGRPKINNPVLYKFSVNKEE
IYYEWTLKNASLLSKLVVNQTAQDRSRYVWSETTKSWGFYSTRPEDPCDHYGICGANEYC
SPSVLPMCECLKGYKPESPEKWNMSMDRTQGCVLKHPLSCKDDGFAPLDRLKVPDTRKTYV
DESIDLEQCKTKCLKDCSCMAYTNTNISGAGSGCVMWFGELFDIKLFPDRESQRLYIRL
PPSELESNWHKKISKIVNIITFVAATLGGILAIFFIYRRNVADKSKTKESIERQLEDVDV
PLFNLLTITITATNNFLNKNIGQGGFGPVYKKGLEGGQEIIVKRLSSRSQGQGLTEFITEV
KLIAKLQHRNLVKLLGCCIKGKEKLLVYEVVNGSLDSFIFDKIKSKLLDWPQRFHIILG
IVRGLLYLHQDSRLRIIHRDLKASNILLDEKLNPKISDFGLARAFGGDQTEGNTDRVVG
TYGYMAPEYAVDQGFSIKSDVFSFGILLLEIVCGNKNKALCHENQTLNLVGHAWTLWKEQN
ALQLIDSSIKDSCVISEVLRCHVSLLCVQQYPEDRPTMTSVIQMLGSEMDMVEPKEPGF
FPRRILKEGNLCTNLNQVTSNDELSITSLSGR*

>Glyma.06G262600|Glyma.06G262600.1|44984109|GNA/PAN/protein kinase

MSFILIYTLFVSSVVFISIAADNTSSISQSQSLSFGRITIVSPRGI FELGFFNLGLPNKSYLG
IWFKNPNPSQNVVWANGGNPINDSSAILRLNSSGNLVLTHNNTVWSTNCPKEAHNPVAE
LLDPGNLVIRDENANQEAYLWQSFDPYPSDTMLPGDFTWGIIILHPYPEIYIMKGTKKYHR
VGPWFNLCFSGGRPKTNPIYHYEFVSNKKEILENHGCFIQQGPKT'TVTIMGFVEAMRIA
ALLHHQCECLKGFKPKSPEKLNMSDWFQGCVLKHPLSCKYDGFAPVDGLKVPDTRKTYVD
ETIDLEQCRRRCLKDCSCMAYTNTNISSETGTGSACVIWFGDLFDLTSYYFQFRKRAASIY
KVAWSEVVTGVVVVLGVVVMVKKNMDKSKTKESIERQLKDQVDVPLFDLLTITATNNFLN
NNKIGQGGFGFPVYKGLVGGQEIIVKGLSSRSQGQITEFITEVKPIAKLQHRNLVKLLGC
CIKGHEKLLVYEVVNGSLDFFIFDFGSNILLDEKLNKKISDFGMTRAFGGDQTEGNTNR
VVGTT*

>Glyma.06G262700|Glyma.06G262700.1|44993233|GNA/S-locus glycoprotein/PAN/protein kinase

MKFILSLMSIILYTLFISSLVVSIADKSSNSQFQSLSHEETIVSPNGVFELGFFPLGNS
NKSYLAIIRYKNYSDETFVWANGSYPIINDSSAKLTLHSSGSFVLTHNSNQVWSTSSLKVA
QNPLAELLDSGNLVIREKSEANSEDEEYLWQSFDPYPSNTMLAGMKIGWDHKKRLNRRLI
AWKSDDDPTPGELSWEVVLHPYPEIYMMRGKEKHHRLGPWNGLRFGSGMPEMKPNPVFHYK
FVSNEEEVTYMWTQLQTSITKVVNLQTSLERPRFVWSEATASWNFYSTMPGEYCDYYGVC
GGNSFCSTASPMCECLKGFTPKSPEKWNMSMVRTQGCGLKSPLTCKSDGFAQVDGLKVPD
TTNTSVYESIDLEKCRTKCLKDCSCMAYTNSNISGAGSGCVMWFGDLDIKLYPDPESSQ
RLYIRLPPSELDSIRPQVSKIMYVISVAATIGVILAIYFLYRRKIYEKSMTEKNYESYVN
DLDLPLLDLSIIAATNKFSEGNKIGEGGFGSVYWGKLPSGLEIAVKRLSKNSDQGMSEF
VNEVKLIAKVQHRNLVKLLGCCIKKQEIIMLVYEVVNGSLDYFIFDSTKGKLLDWPKRFB
IICGIARGLMYLHQDSRLRIIHRDLKASNVLDDTLNPKISDFGVAKTFGGENIEGNTTR
IVGTYGYMAPEYAIIDGQFSIKSDVFSFGVLLLEIICGKRSCSSGNQIVHLVDHVWTLWK
KDMALQIVDPNMEDSCIASEVLRCHIGLLCVQQYPEDRPTMTSVVLLLGSEVELDEAKE
PGDFPKKESIEANSSSFSSSTNAMSTTLLTAR*

>Glyma.06G300600|Glyma.06G300600.1|48955701|GNA/S-locus glycoprotein/PAN/protein kinase

MRNNKPQLWLSLSLFI TCF SFHTSLAALT TISANQSLSGDETLVSQGGEFELGFFNTGNN
SNKFYIGMWWYKKISQRTYVWVANRDQPVSDKNSAKLTILDGDLVLLDQYQNLVWSTNLNS
PSSGSVVAVLLDSGNLVLSNRANASASDAMWQSFDPHTD'TWLPGGKIKLDNKT'KKPQYLT
SWKNREDPAQGLFSLLEDPAGRNAYLILWNKSEQYWTSGAWNGHIFSLVPEMRLNYIYNF
TFQSNENESYFTYSVYNSSIITRFVMDGSGQIKQLSWLDNAQQWNLFWSQPRQCEVYAF
CGGFGSCTENAMPYCNCLNGYKPKSQSDWNLDYSGGCVKKTNFQCENPNSSNKDKDRFL

PILNMKLPNHSQSISGAGTSGECEATCLSNCSCTAYAYDNSGCSIWNGDLLNLQQLTQDDSGSQTFLRLAASEFHDSKSNKGTIVIGAAGAAAGVVLLIVFVFMRLRRRRRHVGTGTSVEGSLMAFSYRDLQONATKNFSDKLGGGGFSGSVFKGTADSSIIAVKKLESISQGEKQFRTEVSTIGTVQHVNLVRLRGFCSEGTCKLLVYDYMNGSLESKMFYEDSSKVLWDKVVRYQIALGTARGLNYLHEKCRDCIIHCDVKPENILLDADFVPKVADFGLAKLVGRDFSRVLT'TMRGTRGYLAPEWISGVAITAKADVSYGMMLFEFVSGRRNSEASEDGQVRFFPTYAANMVHQGGNVLSLLDPRLEGNADLEEVTTRVIKVASWCVQDDESHPSMGQVVQILEGFLLDLTLPPIPRTLQAFVDNHNENIVFFDDSSSTQSSQVKSNAASSASSQAKSNISSSSKST*

>Glyma.07G069000|Glyma.07G069000.1|6232846|GNA/S-locus glycoprotein/protein kinase
MSLFILILILILILHSPCTSTIILQGNATLQSPNNTFRLGLFSFSPNSSFYLAIRHTSL
PFPNTIWLANRLHPSPSQTASSLQLTQTGQLLLTHSNTTLWTTTISNIHPSNFSSLSLKL
LDSGNLIILTAPNGVVLWQSFDSPTDTWLPGMNLTRLNSLLSWRTETDPSGLYSLRLKPP
FYGEFLVFNPTVPYVYMONGALSYYLRKEGPCLSWDVRFVAVGTAKGIAYLHEECRCCI
IHCDIKPENILLDGDFTAKVSDFGGLAKLIGRDFSRVLATMRGTWGYVAPEWISGVAIT
KADVSYGMTLLELVGRRNVEAPPSSAGGGGGGREGSGSETGKTWFFPPWAAQQIIIEGNVS
DVVDKRLNGNYNIDEARRVALVAVWCIQDDEAMRPTMGMVVKMLEGLVEVSVPPPPKLLQ
ALVTGDSFHGVKADSGNGVSTGGSLSDGNLEVSTADSESYTGNVFSPLDVNVHVSVR*

>Glyma.07G080700|Glyma.07G080700.1|7341451|GNA/S-locus glycoprotein/protein kinase
MNANMASSPTLIPFLLIFFLFHHRSSSLPLSVENPEDDVIVSSPKGTFFTAGFSPVGENA
YSFAIWFSTQATTKTIVVWMANRDQPVNGKRSTLSLLKTGNLVLTDAGQFDVWSTNTLSSK
TLELHLFDTGNLVLRQSNQSAVLWQSFQFPPTDTLLPGQIFTRFTKLVSRRSEGNHSSGF
YNLYFDNDNVFRILYDGPQVSSVYWPDPWLVSNDVGFNGRSTYNSSRVAVLDNLGEFSA
SDHFSFKTIDYGLLLQRRRLTLDHGDGNVRVYSRKNGEENWSITGQFKSQPCFIHGICGPNS
ICSHEQYVIGRCKSCLEGSWIDSQDWTGCKPNFQPTCDNKTEYRFVPPYEVDFYGYDYG
SSFSNYTYQCKEKLCEGLCECMGFQYSFARENGLFWCYPKRQLLNGHHS PGFTGQIFLRL
PKNDVQENRVQNSDDLACSRNAEKVLERPYVKGKENGSKVFMWFAIGLGGFEVLCIFMV
WCFLFRSSNHLVSADQQGYVLAATGFRRYTYSELKQATKGFSEEIGRGAGGTVYKGVLS
DKRIAAIKKLHEFADQGESEFLTEVSIIGRLNHNMLIGMWGYCVEGKHRMLVY EYMENG
LAHNLPNALDWSKRYNIAVGMAKGLAYLHEECLEWILHCDIKPQNILLDSYQPKVADF
GLSKPLNRNNVNNSSFSRIRGTRGYMAPEWVFNLQITSKVDVYSYGIVVLEMITGRSPMI
GVQVTELADQSHNERLATVWRERRRKAREGECWVEQIVDPTLGSDDYDVEQMEILT'TVAL
ECVEEEKDVRPSMSQVVERLQSHDS*

>Glyma.07G108200|Glyma.07G108200.1|10636080|GNA/S-locus glycoprotein/protein kinase
MASTFLLPLFVSLIFHNFQHSSSFSLSVEKFKEDVIVSSPKGKFTAGFYFVGDNAYCFA
IWYTQPPHTLVWMANRDQPVNGKRSTLSLLTTGNLVLTDAAQFMVWSTNTATSSKQVQLH
FYDTGNLVLDDNSDNVALLWQSFDFPTDTLLPNQPLRKSTNLISSRSGTNYSSGYKLF
DFENVLRLMYQGPQVSSVYWPYDWLRSNNIDYGINGRYTFNDSRVVVLDDFGYLVSSDN
FTSKTSDYGMIIQRRRLTLDHGDGNVRVYSIKDGQDKWSVSGIFRRQPCFIHGICGPSSICS
YEPASGRKCSCLPGYRWLDSQGCVPKQFQLWCRNNNTEQDSRFLQLPEVDFYGYDYG
FFLNHTYQQCVNLCLRLCECKGFQHSSSGQGGVNGQCYLKTQLLNGHRTPGYSRSFILRL
PSSMHDYDENTINIGLVCGNRRGVQVLERPYVEEKENGSKVLMWFAALGGIEVVCIFM
VWCFLFRKNADKQIYVLAETGFRKFSYSELKQATKNFSEEIGRGGGGTGYKGVLSNDR
VAAIKRLHEVANQGESEFLAETSIIIGRLNHNMLIGMLGYCAEGKHRLLVYDYMENGSLAQ
NLDSSSNVLDWSKRYNIALGTARGLAYLHEECLEWILHCDIKPQNVLLDSYQPKVADFG
LSKLLNRNSNLNNSNFSRIRGTRGYMAPEWVFNLPIITSKVDVYSYGIVVLEMITGRSPPT
GVRVTELEAESHHDERLVTWVREKKMKASEVGSTWVDRI VDPALGSNYDMNQMEILATVA
LECVDEDDKDVPRPSMSQVAERLQNHENDS*

>Glyma.07G108400|Glyma.07G108400.1|10652106|GNA/S-locus glycoprotein/protein kinase
MGFSTFLLPLLVSLIFHNFQHSSSFSLSVEKFKEDVIVSSPKGKFTAGFYFVGDNAYCFA
IWYTQPPHTLVWMANRDQPVNGKRSTLSLLTTGNLVLTDAAQFMVWSTNTATSSKQVQLH
FYDTGNLVLDDNSDNVVLWQSFDPYPTDTLLPDQTLTKNSNLISSRSGTNYSSGFYKLF
DSDNVLRLMYQGPQVSSVYWPDPWLLNNNLGIGGTGNGRSTYNDSRVAVLDEFHGFVSSD
NFTFKTSDYRTVLQRRRLTLDPDGSRVYYSKNDGEDKWSMSGEFKLHPCYAHGICGSNSYC
RYEPTTGRKCLCLPDHTLVNDQDWSQGCTPNFQHLCDNNNTKYESRFLGMSLVSFYGYDY
GYFANYTYKQCENLCSRLCQCKGFLHIFSEENAFFECYPKTQLLNGNRQMDFKGSFFLRL
PLSHEEYENPVQNNNDGGLVCGGEGGAKLLERQYAEKENGSKVLMWFAALGGIEV
CIFLVWCFLFRKNRKLHSGADKQGYVIATAAGFRKFSYSELKQATKGFSEEIGRGGGGT
VYKGVLSNDRVVAIKRLHEVANQGESEFLAEVRIIGRLNHNMLIGMLGYCAEGKHRLLVY

GQGGFGIVYKGRLMEGQNIQIAVKRLSKNSGQIDFEKNEVKLIVKLQHRNLVRLLGCSIQM
DEKMLVVEYEMENRSLDAILFDKTKRSSLDWQRRFNIICGIARGLLYLHQDSRFRIIHRDL
KASNILLDKEMNPKISDFGMARIFGTDQTEANTMRVVGTYGYMSPEYAMDGIFSVKSDVF
SFGVLVLEIISGKKNRGFYSANKELNLLGHAWKLWKEENALELIDPSIDNSYSESEVLRC
IQVGLLCVQERAEDRPTMASVVLMLSSDTASMSQPKNPGFCLGRNPMETDSSSSSKQEESC
TVNQVTVTMLDAR*

>Glyma.08G061000|Glyma.08G061000.1|4694260|GNA/S-locus glycoprotein/PAN/protein kinase/SRK

MKFFSAIEFLSSFLVLMFFYPFCHSLDNTITINHPIRDGDVLVSNGLGNFALGFFSPRNS
TNRYVGIWYNKISEQTVVWVANRDTPLNDSGLVKISNNGNLVLHDNSTRSLNPVWSSNV
SIESTNNISAKLLDTGNLVLIIQTNNNNILWQSFDPGNTMLPFMKLGLNRKTGLDRFLVS
WKSPEVDPGTGNMITYKIDPTGFPQLFLYKDKIPLWRVGSWTGQRWSGVPEMTPNFIFTVNY
VNNESEVNSIMYGVKDPSPVFSRMVLDESCHVARSTWQAHEHRWFQIWDAPKEECDNFRRCG
SNANCDPYHADKFECECLPGFEPKFEREFWRDGSGGCVRKSNVSTCRSGEGFVEVTRVK
VPDTSKARVAATIGMRECKERCLRDSCVAYTSANESSGSGCVTWHGNMEDTRTYMQVGQ
SLFVRVDKLELAKYAKHPYGSGLGKKGMVAVLTAALFLFLLLAITFVYWFVKTRRQGIIRD
RKYSFRLTFDDSTDLDQEFDTTKNSDLPPFELSSIAAATDNFSDANKLGQGGFGSVYKGLL
INGMEIAVKRLSKYSQGGIEEFKNEVVLISKLQHRNLVRIIGCCIQGEEKMLIYEYLPNK
SLDSLIFDESKRSQLDWKKRFDIICGVARGMLYLHQDSRLRIIHRDLKASNVLMDSSSLNP
KIADFGMARIFGGDQIAANTNRVVGTYGYMSPEYAMEGQFSVKSDVYSFGVLLLEIVTGR
KNSGLYEDITATNLVGHIDLWREGKTMEIVDQSLGESCSDEHVQRCIQIGLLCVQDYAA
DRPSMSAVVFMLGNDSTLDPDPKQPAFVFKKTNYESSNPSTSEGIYSVNDVSIITMIEAR*

>Glyma.08G125800|Glyma.08G125800.1|9686176|GNA/protein kinase
MVICYKQLGEYHFFLVLLLSVQCVAIANNILKPGDTLNTRSQLCSENNIYCMDFSPLNT
NPIVNYTHLSISDNRKDDNSAVWVANRNQPVDKHSAVLMLNHSGLVKIESSKDAKPIILF
SSPQPLNNNTEAKLLDTGNFVVQQLHPNGTNTVLWQSFDPYPTDTPGPKLGVNHKTGH
NWSLVSWLAVSDPRIGAFRFEWEPIRRELIKERGRLSWTSSELNNNGSIHNTKYTIVS
NDDESYFTITTTSSNEQELIMWEVLETGRLIDRNKEAIARADMCYGYNTDGGCQKWEIIP
TCRHSGDAFETREVYVSMNMLNGLNSSYGPSDCRDIWENCACNGYRNYDGGTGCTFL
HWNSTEEANFASGGETHILVNTHHKGTKKWIWITVAVVVPFVICAFILFLALKKRKHL
FEEKKRNRMETGMLDSAIDLEDEFKKRQNLKVFKYTSVLSATNDFSPENKLGQGGFGPV
YKGIPLTGQEAIAIKRLSKTSRQGVVEFKNELMLICELQHMLNVQLLGCCIHEEERILIYE
YMPNKSDFYLFDCSTRSKLLDWKKRFNIIEGISQGLLYLHKYSRLKVIHRDLKASNILLD
ENMNPKISDFGLARMFEEQESTTTTSRIIGTYGYMSPEYAMEGIVSVKSDVYSFGVLVLE
IISGRNRTSFNDDRPNNLIGHAWELWNQGVPLQLMDPSLNDLFDLNEVTRCIHIGLICVE
KYANDRPTMSQIISMLTNESVVVPLPRKPAFYVEREILLRKASSKELCTNSTDEITIT*

>Glyma.08G167500|Glyma.08G167500.1|13202201|GNA/protein kinase
MKLSPLFIFAWLCLRTTTHATTARDSLRPGEMLNSSILTSAQKKFSLKFATIEIPNTSL
NTYLVIDRANTTGNVDWIGNRNDPLAYNSCALTNLHSGALIITRHNGDSIVLYSPAEATN
RTIATLLDSGNFVLKEIDNGSTKNVLWQSFDPHPEFVLLPGMKLGVNKKSGMSWLKASI
SRAKPSAGSFTLEWEPREGQLVIKQGGQVYASGLLRNKRFEHIPEEVQLMYEYNIVSNE
EEESFASYTTPRVVSVQWVLFHNGQLKDTTRGSEIARADTCYGYNTDGGCQRWEQPTCRKKS
DQVRVKRSDSRVFSYASIIAMTNRFSVENKLGEGLVYKGLPTGEDVAIKRLSKGSR
QGVIKELNELNISQLQHMLNVIQILGCCIHGEERMLIYEKMLLDWKRRFNIIEGIAQGLL
YLHKYSRLKVVRDLKASNILLDENMNPKISDFGTARIFSPQSEINTERIVGTGYMSP
EYVTRGIFSIKSDVYSFGVLILEIVSGGRTNSFYSGERQCNLIGHAWELWQQGKLELVD
PTIRDSCIEDQALRCIHVGLLCAEDNAVDRTPTISDIINMLTSEYAPFPLPRRPAFYSRM
PNEECRCKTGSECYSVNGLSISNVVAR*

>Glyma.08G176200|Glyma.08G176200.1|14059990|GNA/S-locus glycoprotein/protein kinase

MASTLLPFLFLSMVLLPFQTIAQTKSNIAIGESHTAGASTSPWLVSPPSGDFAFGFLPLE
DTPDHFMLCIWYAKIQDKTIWVFANRDQPAPKGSKVVLTAADDGLVLITAPNGHMLWKTTGG
LTLRVSSGVLNDTGNFVLQDGHSKTVWESFKDYRDITLLPYQTMEKGHKLSSKLGRNYFNK
GRFVLFQNDGSLVMSINMPSGYANENYYQSGTIESNTNTSTAGTQLVFDGTGDMYVL
RKNNEKYNLSKGGSRASSTTQFYLLRATLDFDGVFTLYQHPKGS SGSGWSQVWSHPDNI
CKDYVASAGSGVCGYNSICSLRDDKRPNCRCPKWYSLVDPNDPNGSCKPDFVQACAVDKL
SNRQDLYDFEVLIDTWPQSDYVLQRPFNEEQCRQSCMEDCMCSVAIFRLGDSCKKKLP
LSNGRVDATLNGAKAFMKVRKDNSSLIIVPPIIVNKNKNNTSILVGSVLLGSSAFLNLILV
GAICLSTSYVFRYKKKLRSIGRSDTIVETNLRRFTYEELKKATNDFDKVLGKGAFGIVYE
GVINMCSDTTRVAVKRLNLFHMEVDHKEFKNELNAIGLTHHKNLVRLLGFCETEERLLVY
EYMSNGTLASLLFNIVEKPSWKLRLQIAIGIARGLLYLHEECSTQIIHCDIKPQNILLDD
YYNARISDFGLAKLLNMNQSRTNTAIRGTKGYVALEWFKNMPITAKVDVYSYGVLLLEIV
SCRKSVEFEAEDEEKAILAEWAYDCYIEGTLHALVEGDKEALDDMKTFEKLVMIALWCVQ
EDPSLRPTMRNVTQMLEGVVEVKMPPCPSQFSVQYS*

>Glyma.08G236900|Glyma.08G236900.1|20084182|GNA/PAN/protein kinase
MTCSEQEKPHHVLLFLIYMWLWWSSTTCIHVEANDSLKPGDTLNATVPGAELCSKKGKCYCM

SFDPITHDNQEAUYLTICAQKKDDWEVWVANRNQPVDSNSAVLSLDHKGVLKIESQDGKK
 KVKKSPIILYSPQPINNTLATLLDTGNFVLQQLHPNGSKIRVLWESFDFPTDTLLPGMK
 LGLNHKTGGTNWSLVSWLSGQVPTAGPFKLEWEPKTRELLI IKRGGSSSSSGKRVLWASG
 NKLEHIPSEIRREIVPSETGDYFTLKSSDSEEEPTKWTLTSTGQLINRKGVDFVARADMCH
 GYNTDGGCQKWDAILPSCRRPGDAFELKYGYPKWDETEVKRDEENSSYGISDCQEICWRNC
 SCVGFALNHRNETGCVFFLWDLVKGTNIANEYKIFYVLVRSNHQNRKQWIWAMVATVAT
 ILIICLCILRRVLKKRKHVLKENKRNGMEIENQDLAASGRSSSTDILEVYLKEEHDCLKF
 SYASII EATNDFSSENKLGQGGFGVVYKGILSTRQEVAVKKLSRSSGQGLIEFKNELTLI
 SKLQHTNLVQLLGYCIHEEERILIIYEYMSNKS LDFILFDSTQSHLLDWNKRFNII EGIAQ
 GLLYLHKYSRLRI IHRDLKASNILLDENMNPKISDFGI AKMFTQQDSEANTTRI FGTYGY
 MSPEYAMEGIFSTKSDVYSFGVLLFEIVSGKRNNSFYTEERQLNLVGHAWELWKKGEALK
 LVDPALNNDSFSEDEVLRVHAGLLCVEENADDRPSMSNIVSMLSNNKSKVTNLPPKKPAYY
 VRTKLLGEELETSTKEYGLDPLFENSLYVCSV*

>Glyma.08G307300 | Glyma.08G307300.1 | 42551411 | GNA/S-locus glycoprotein/protein kinase

MSSAIFLFPFILSLSLSLNGLDVIQLNTNITAGSNSTWKSPSGDFEFGFYDLRTGLFL
 VGIWFGKIPDRTLAWYFQSPPEVANSQIQFTSAGNLVVAYPNQTIAQTIYSGGAATSSYM
 QDDGNFVMKDSNSES VWQSFNSPNTMLPGQTLQSTKVLYSKERGDSNYSLGKFMLQMQD
 DGNLVLKAYQWSGPAYWYNSTNTPNVNLEFNATSALMHFVSGSRSIYTLTKSTSTPVEDY
 YHRATIDENGNFQQYAYPRRNENDTTGWRRVWRAVEDPCRVLNLCGVYGLCTSPDNESVK
 CECIPGYIPLDHQDVSKGCHPDTINYCAEKKFKVEVFGDTDFQFDNNFVRVYDVLDLEG
 KKSMLDDCNVIAATYNTSTRTC AKKRLPLLNARNSSSSKQKALKVPNSVDDGRSNKAT
 NKKSFNVRIFLKVMLAVTATLACFFGALVVYHPFTQRLARRKRYLNASAI GINFREFTF
 QELHEATDGFTRILGRGSSGKLVYHGTLI IDDAVIGIAVKKLEKKIEKSESEFMTELKI IG
 RTHHRNLVRLGFCIESSHRVLVYELMTNGALSSFLFGEGERPQWGWQRIEMALGVARGLL
 YLHEECHTQIIHCDIKPQNVLLDSNHTAKIADFGLSKLLLDQTRTSTNLRGITIGYMAPE
 WLKSAPITAKVDIYSFGVMLLEIICRRHFESPHDANDSEDDDLVLSNLVLRVSVSRKLE
 VVVRHDSEVLNDFKRFEEMALVGLWCVHPNPALRPSMKHVMQMLNGTVEVGIPPLVYDQM
 MEDQGL*

>Glyma.08G307400 | Glyma.08G307400.1 | 42556212 | GNA/S-locus glycoprotein/protein kinase

MVTKPLVLVFSFFLCCSVLRNANSIELGSSIVAGTNNSSWRSSNGDYAFGFYHLLSGHYL
 VGIWFDKVPNKTLVWSANRDNPEIGSTINLTSSGEFLLQPVKGATFQIYKGTNTPAATA
 KMEDNGNLVLRNSLSEFIWQSFDSPTDTLLLGQTLKMGQKLYSNANGSVDYSKGQYSLEI
 QQSDGNIPLKAFRFTDAGYWSSGNTQNTDVRIVFNSTTAFLYAVNGTNQTIHNMVTDPLT
 GAIEDYHRVLIIDDRNLQKLIHPKENGSDWTSVWNAIELPCRVTALCGVYGFCSNDDNQ
 SYSCECLPGYTHLDPNVPSKGCYLS TEANGLCAANSSKVEVKAIQDADI PNNDYFYFDLQ
 VINNMDLESCRELMDDCMAAVFYGSDCHKKTWPVINA IKIFPDTSNRVMLIKVPLLD
 NDMENEKDSQSLVLLIVALVSCSLLAVLFAATFIYHHPICQHLLIHKGEPPKPKPMDINL
 KAFSFOQLREATNGFKDKLGRGAYGTVYSGVLNLEGQQVEVAVKQLEQVEEQGEKEFVTE
 VQVIAHTHHRNLVGLLGYCNEQNHRLLVYEKMENGTLSNLF FEGEGRHPSWESRVRIE
 IARGLLYLHEECDDQIIHCDIKPQNVLLDSSYTAKISDFGLAKLLMKDKTRTSTNARGTV
 GYMAPEWLKNAPVTTKVDIYSFGVVLLETIFCRRHIELHRINDETTGGDDMILIDWVLYL
 AKENSLRAAVVDDLEVESDFKRFERMVMVGLWCVPNSTLRPSMKVVAQMLEGNIEVGVP
 PLN*

>Glyma.08G352100 | Glyma.08G352100.1 | 46524724 | GNA/S-locus glycoprotein/PAN/protein kinase

MGSSSCVKFFVFILCCHVLVDGTAIDTITSSQSIKDTETLTSTDGNFTLGFFTPQNSTN
 RYVGIWVKSQSTVIWVANRNQPLNDSSGI VTI SEDGNLVVLNGHKQVIWSTNVSKTSFNT
 SSQFSDSGKLVLAE TTTGNILWDSFQQPSNTLLPGMKLSINKSTGKKVELTSWESPYNPS
 VGSFSSSLVQRKNIVELFI FNGTQLYWRSGPWNGGI FTGIAYMSTYLNGFKGGDDGEGNI
 NIYYTVSSELGPLGLFIYMLNSQGRLEEKWWDDEKQEMGLMWASRKSDCDIYAICGSFAI
 CNAQSSPICSLKGFEPNKEEWNRQHWTS GCVRNTGLLCERVKDQNTSIDTNE DGFLEL
 QMVKVPDPFERS PVDPDKCRSQCLENCSCVAYSHEEMIGCMSWTGNLLDIQQFSSNGLDL
 YVRGAYTELEHDEGTNTTIIIIITVTIGTVFIVICACAYVMWRTSNHPAKIWHSIKSGRK
 RGNKYLARFNNGVPSEHTSNKVIEELSQVKLQELLLFDFERVVAATNNFHL SNKLGQGGF
 GPVYKGLPDGQEI AVKRLSRASGQGLEEFMNEVVVISKLQHRNLVKLFGCCAEGDEKML
 IYEYMLNKS LDFVIFDPKSKLLDWRKRCGII EGIGRGLLYLHRDSRLKI IHRDLKASN
 LLDEALNPKISDFGMARIFGGTEDQANTNRVVGTYGYMSPEYAMQGLFSEKSDVFSFGVL
 VIEIVSGRRNSRFYDDDNALSLLGFAWIQWREGNLSVIDPEIYDVTHHKDILRCIHIGL
 LCVQERAVDRPTMAAVISMLNSEVAFLPPDQPAFVQSQNMLNLVSVSSEERQKLCSINV
 LSQYGGQKHKHPVGGKH*

>Glyma.08G352200 | Glyma.08G352200.1 | 46533648 | GNA/S-locus glycoprotein/PAN/protein kinase

MGFSSRANLFFVLLMLCCCVLDVGIAIDTITSSQSIKDP EVLT SKDGNFTLGFFTPQNST
 NRYVGIWVKSQSTIIWVANRNQPLNDSSGI VTI HEDGNLVLLKGQKQVIWTTNLSNSSN

RTSQFSDYGKLVLTTEATTGNILWDSFQQPSNTLLPGMKLSTNNSTGKKVELTSWKSPSNP
 SVGSFSSGVVQGINIVEVFIWNETQPYWRSGPWNGRLFTGIQSMATLYRTGFQGGNDGEG
 YANIYYTIPSSSEFLIYMLNLQGQLLLEWDDERKEMEVTWTSQSDSCDVYIGCSFAIC
 NAQSSPICSLKGFPEARKEEWNQRQNTGGCVRRRTQLQCERVKDHNTSTDTKEDGFLKLQ
 MVKVPYFAEGSPVEPDICRSQCLENCSCVAYSHDDGIGCMSWTGNLLDIQQFSDAGLDLY
 VRIAHTELDKGKNTKIIIIITVIIGAVVIITCSCAYVMRRTSNHPAKIWHLIKLRKGNRN
 GFVQSKFDETPHEPSPHRVIEELTQVQQQEMFVDFKRVATATNNFHQSNKLGQGGFGPVY
 KGKLQDQGEIAVKRLSRASGQGLEEFMNEVVVISKLQHRNLVRLFGSCIEGEEKMLLEYEY
 MPNKSLDVFIIDPSKSKLLDWRKRISIEGIARGLLYLHRDSRLRIIHRDLKASNILLDE
 ELNPKISDFGMARIFGGTEDQANTLRVVGTYGYMSPEYAMQGLFSEKSDVFSFGVLVLEI
 VSGRRNSSFYDNENFLSLLGFAWIQWKEGNILSLVDPGTYDPSYHKEILRCIHIGFLCVQ
 ELAVERPTMATVISMLNSDDVFLPPPSQPAFILRQNMNLNSVSSEEIHNFSINTVSITDI
 HGR*

>Glyma.08G352300|Glyma.08G352300.1|46539457|GNA/S-locus glycoprotein/PAN/protein kinase

MCFSSCANLFFVLFILFCYVLDVAIAVDTTITSSQPVKDPETLRSKDGNTLGGFFSPQNSK
 NRYVGIWWSQSSTVVWVANRNQPLNDSSGIITISEDGNLVLNGQKQVWSSNVNTSSN
 TTSQFSDYGKLVLTETTTGNILWDSFQQPSDTLLPGMKLSSNSTSMRVKLASWKSPSNPS
 VGSFSSGVVERINILEVFVWNETQPYWRSGPWNGGIIFTGIPSMSPYRNGFKGGDDGEANT
 EIIYTVPSALTFTIYMLNSQGGYEEKWWYDEKKEMQLVWTSQESDCDVYGMCGPFTSCNA
 QSSPICSLKGFEPNKEEWNQRQNTGGCVRRRTQLQCERVKDHNTSRDTKEDGFLKLQMV
 KVPDFPEGSPVEPDICRSQCLENCSCVAYTHDDGIGCMSWTGNLLDIQQFSEGGDLTYIR
 VAHTELDKGTNTKIIITITVIIGTVMIVTCAYVMWRRTSNHPGRIWNLIKSAKGNNAFV
 RFNDETPNHPSHKVIIEELSQVTLPELLLFNFERVATATNSFDLSNKLQGGFGFPVYKKG
 LQDQGEIAVKRLSRASGQGLEEFMNEVVVISKLQHRNLVRLFGCCAEGDEKMLIYEYMPN
 KSLDVFIIDQSRSKLLDWRKRSSIEGIARGLLYLHRDSRLRIIHRDLKASNILLDEELN
 PKISDFGMARIFGGTEDQANTNRIVGTYGYMSPEYAMQGLFSEKSDVFSFGVLVLEIVSG
 RRNSSFYDNVHALSLLGFAWIQWREGNTLSLMMDDQEIHDPSHHEDILRYIHIGLLCVQEH
 AVDRPTMAAVISMLSELALPPPSQPAFILQQNMNLASSEETLRCCSINIVSVTDIQGR
 *

>Glyma.08G352400|Glyma.08G352400.1|46545324|GNA/S-locus glycoprotein/protein kinase

TPSQSIKDPETLRSKDGKFTLGGFTTPQNSTNRYVGIWWSQSSTIIWVADRNPQLNDSSGK
 VTISEDGNLVLNGTKQVIWSSNMSNITSNIAQSFQIFHPSNTLLPGLELT'TNIRAGLK
 VELTSWKSPSNPSIWSFSSNIVQRINLIELLIWNGTRPYWRSGPWNGRLFTWIPNTDSAY
 LNGFQEBETRWDEKKDTEVSWTSPESDCDVYSICGSFSCINAQSSQICNCLKGFEPRIKG
 EWDNRQWSSGCVRSTGLQCETTGCMSTGNLLDIQQFSSAELVLYVRVAYAELEHARKRN
 NKASLLFNDETSEHPSQKVIIEELSQVTLPELLQLDFEMVAIATNNFHLPNKLQGGFGFP
 VYKKGKLQDQGEIAVKRLSRASGQGLEEFMNEVVVISKLQHRNLVKLFGCCIEGDEKMLIY
 EYMPNKSLDVLIIDPSKSKLLDWRKRYSSIEGIARGLLYMHRDSRLRIIHRFEDK*

>Glyma.08G354900|Glyma.08G354900.1|46763083|GNA/S-locus glycoprotein/PAN/protein kinase

MALSITLFLLASLLSFQISSSSSSSLRKGSLSVENPQHVLVSPNGMFSAGFLAIGENAYS
 FAIWFTEPHFHSPNTVTWMANRDQPVNGKGSKLSLTHAGNIVLVDAGFNTAWSSNTASLA
 PAELHLKDDGNLVLRELQGTILWQSFDFTPTDTPVGPQLTRHTLLVSARSESNHSSGFYK
 FFFSDDNILLRLVYDGPVSSNYWPNPWQVSWHIGRTLNFSSRIAALNSLGRFRSSDNFTF
 VTFDYGMVLQRRLLKLDSDGNLRVYGRKSAVEKWYVSWKAIKRNDCIIHGVCNPNSTCGYDP
 KSGRTCKCLPGYRLNRNSDWSYGCEPMFDLTNCNWNETTFLMRGVEFYGYDNYVEVSNY
 SACENLCLQNCCTCQGRFHQSYSYSLRDGLYRCYTKTKFLNGQRLPRFPGT'TYLRIIPKSYSL
 VKESAIDSVDHHCVSQVQLQRAYIKTLESRVVRVLLWFAAALGAFEMVCIFVWCFLIRT
 GQKSNADQQGYHLAATGFRKFSYSELKKATKGFSEIGRGAGGVVYKGIKLSQDQRHAAIKR
 LNEAKQGEGEFLAEVSIIGRLNHMNLIMWGYCAEGKHRLLVYEYMEGSLAQNLSNNTL
 DWSKRYNIVLGTARVLAYLHEECLEWILHCDIKPQNILLDSNYQPRLADFLSKLLNRNN
 PNNPSISMIRGTRGYMAPEWVFNLPITSKVDVYSYGIIVVLEMTGKSP'TTSIDDINGEET
 YDGRLVTVWREKRSNSNTSWVEQIIDPVIGLNYDKSKIEILITVALKCVLEDRDSRPNMS
 QVVEMLQCHGSDSH*

>Glyma.08G355000|Glyma.08G355000.1|46767745|GNA/S-locus glycoprotein/PAN/protein kinase

MAFSISLFLVLVLLFSFQSSSSSSLSLNKGSSLSVEKHAEDVIVSPNQMFAGFFQVGENA
 FSFAIWFDNDPHTHNNHTVWVANRETPVNGRLSKLSLNSGNMVLVGAGQIT'TWSSNTA
 SDAPVKLHLQDDGNLVLDDLQGTILWQSFDFTPTDTPVGPQLLTRYTQLVSSRSQTNHSPG
 FYKMLFDDDNVLRILIYDGPVSSSTYWPPPWLLSWQAGRFNYNSSRVAVLNSIGNFTSSDN
 YDFSTDDHGTVMPRRLKLDSDGNARVYSRNEALKWYVSWQFIIDACTSHGICGANSTCS
 YDPKRGRRCSCLPGYRVKNHSDWSYGCEPMFDLTCSRNESIFLEIQGVELYGYDHNHFVN
 STYINC'VNLCQDCNCKGFQYRYDGNQIFSCFTKSQLLNGRRSPSFNGAIYLRLPITNNF
 SKEESVSADHDVCSVKLHKDYVRKPENRLVRFFLWLATAVGALEVIFFFLIWGFLIWNLK

TSSADQQGYHLAAVGRFKYSYLELKKATKGFSEIGRGAGGIVYKGILSDQRHVAIKRLY
DAKQGEGEFLAEVSIIGRLNHMNLIEMWGYCAEGKHRLLVYEYMEENGSLAQNLSNTLDW
SKRYSIALGTARVLAYLHEECLEWILHCDIKPQNILLDASYQPKVADFGLSKLLNRNNLN
NSSFSMIRGTRGYMAPEWVNLAIITSKVDVYSYGIVLLEMITGKSPTTTGVQNIDGEEPY
NGRLVTVWREKRSATSWLEHIIDPAIKTNYDECKMNLATVALDCVEEDKDVRPTMSHV
EMLQSHESDPRIINA*

>Glyma.08G355100|Glyma.08G355100.1|46778500|GNA/S-locus glycoprotein/PAN/protein kinase

MDFPTSLSFLLLLLSFQCSSSLSSLNKGSSLSVEKHTQDSIVSPNQMFAGFFQVGENAF
SFAIWFNDPHTHNNHNNRNVVIANREQPVNGKLSKLSLLNSGSIVLLDADQITTWSSN
TASNAPLELNLQDDGNLVLRELQGTILWQSFDSPTDTLLPGQPLTRYTQLVSSRSKTNHS
SGFYKLLFDNDNLLRLIYDGPDVSSSYWPPQWLLSWDAGRFSFNSSRVAVFNSLGI FNSS
DNYGFSTNDHGKVMPPRLTLSDGNVRVYSRNEASKWYVSWQFI FETCTVHGVCVNST
CNFPDKRGRICSCLPGHTVKNHSDWSYGCEPMFNLS CNGNDSTFLELQGFYGYDSNYI
PNSTYMNCVNLCLQDCNCKGFQYRYDGEYSTCFTKRQLLNGRRSTRFEGTIYLRPKNNN
FSKEESVSAYGHVFSVQLHKEYVRKPENRFVRFFLWLATAVGALEVVCFLI IWVFLIKTR
QKSGADQQGYHQAEMGFRKYSYSELKEATKGFNQEISRGAEIGIVYKGILSDQRHVAIKRL
YEAQGEEEFLAEVSIIGRLNHMNLIEMWGYCAEGKHRLLVYEYMEENGSLAQNLSNTLD
WSKRYSIAGLTARVLAYLHEECLEWILHCDIKPQNILLDANYQPKVADFGLSKLLNRNNLN
NNNLRFSVIRGTRGYMAPEWVYNPITSKVDVYSYGIVLLEMITGKNPTTGVHSNAGEES
YNGRLVTVWREKRGDASWLEHIIDPAIKTNFDECKMDLLARVALDCVEVNKDRRPTMSQV

VEMLQSHDCLRC*

>Glyma.08G355200|Glyma.08G355200.1|46783898|GNA/S-locus glycoprotein/PAN/protein kinase

MAFSISLFLVLVLLFSFQSSSSSLSLNKGSSLSVEKHAEDVIVSPNQMFAGFFQVGENA
FSFAIWFNDPHTHNNHTTVVWMANREQPVNGRLSKLSLLNSGNMVLVDAGQITKWSSNTA
SHAPVKLHLQDDGNLVLDDLQGTILWQSFDTPTDTLLPGQLLTRHTQLVSSRSQTNHSPG
FYKMLFDDDNVLRILIYDGPDVSSYTWPPWLLSWQAGRFNYSRVAVLNSIGNFTSSDN
YDFSTDDHGTVMPPRLKLDSDGNARVYSRNEALKKWHVSWQFI FDTCTIHGICGANSTCS
YDPKRGRRCSCLPGYRVKNHSDWSYGCEPMFDLACSGNESIFLEIQGVELYGYDHKQVQN
STYINCYNLCLQDCNCKGFQYRYDGNQIFSCYTKLQLWNGRRSPSFNGTINLRPLNSNNF
SKEESESADHDVCSVQLHKDYVRKAANRFRFSLWLATAVGALEMICLLMIWGFLIRSQQ
KSSANKLGYHLAAVGIRKYSYSELKKATEGFSQEIGRGAGGVVYKGILSDQRHAAIKRLY
DAKQGEGEFLAEVSIIGRLNHMNLIEMWGYCAEGNHRLLVCEYMGNGSLEENLSNTLDW
SKRYNIALGVARVLAYLHEECLEWILHCDIKPQNILLDASYQPKVADFGLSKLLNRDNLH
SNSTVSMIRGTRGYMAPEWVYNLPITSKVDVYSYGIVLLQMITGKSPTTGVSIDGEEH
NGRLVTVWREKRSATSWLEQIMDPAIKTNYDERKMDLLARVALDCVEEKDSRPTMSQV
EMLQSHETN*

>Glyma.09G003100|Glyma.09G003100.1|263802|GNA/protein kinase
MLLESTKMASSFTLRSYFLLLLLIILPFLPSVFSATSSNCNVLDLNSSLVTNGTWNPSG
FAFGFQSVLFDNKEFMSVLAVWFAKDPNRTIVWYAKQKQSPAFPSGSTVNLTKGIVVND
PKGHEMWHRPENNTTIALVSCAMLDNGSFVLLDESGKQVWESFEEPTDITLPGQNLAKP
KTFRARESDTSFYNGGFELSQNDNLVLYYSPQSSDDQASQSPTGEAYWATGTFKTESQ
LFFDESGRMYIKNDTGTVISEITYSGPEEFFYMARIDPDGVFRLYRHPKGENTVADSCSS
GWWSVVQQYPQDICLSFTKQTGNVICGYNSYCITINGKPECECPDHYSSFEDHNLTGCRP
DFPLPSCNKDGEQNKDLVDFFEYTNLDWPLSDYDKLVATAMDKDMCKQKCLEDCFCVA
IYGEQCVWKKVYFISNGRKHPNVTRIALVKVPKRDLDRGGREQTTLVLVISILLGSSVFL
NVLLGFLQALFKYAFIFYHKLRLNNPKLSAATIRSFTYKELEEATTGFKQMLGRGAFGTVYK
GVLTSDTSTRYVAVKRLDKVQGEKEKEFKTEVSVIGQTHHRNLVRLLYGCEGEHRLLVYE
HMSNGSLASFLFGISRPHWNQVRQIALGIARGLTYLHEECSTQIIHCDIKPQNILLDEL
TPRIADFLAKLLAEQSKAAKTGLRGITIGYFAPEWFRKASITTKIDVYSFGVVLLEIIC
CKSSVAFAMANDEEALIDWAYRCYSQGVAKLVENDEEAKNDIKRVEKHMVMAIWCIQED
PSLRPSMKKVQMLEGVTTVSVPSPRPSIFSSSSFEISFTS*

>Glyma.09G099100|Glyma.09G099100.1|17829353|GNA/S-locus glycoprotein/PAN/protein kinase/SRK

MAIPPLTLICKLLWLLFSQICYATDTITQDQQLSDDGSTLVSNGGTFELGFFNPGSSNNR
YVGIWYKKISIKTVVWVANRDNPIVRHNSSKL VIRQEGNLVLLSNNNQSLWTTNVTKKA
SSSSPIVQLLDTGNLVIKDGINEESVFLWQSFDPHPCDTLLSGMKLGWDLRTGLNRRLTSW
KSWDDPSSGDIWVEVVISNPELVMWKSKVDYFRTGPTYTGNMFSGVYAPRNNPLYNWKV
SNKDEVFYQYTLSNSFVSSIIVLNQTLNLRQLRTWI PDTKTWTVYQSLPLDSCDVYNTCG
PNGNCIIAGSPICQCLDGFKPKSPQQWNAMDWRQGCVRSEEWSCGVKNKDGFORLASMKL
PNTTFSWVNESITILEECLAKCLENCSCCTAYSNLDTGRGGSGCSIWVGELVDMRDVKSQD
LYVRIATSDPDGKHERQKVIIVVAITVSLVLVMLLAFVCVYMIKKKYKGKTEIRMSIEQK
DQGGQEDLELPPFDLATIITATNNFSINNKLGEGGFGPVYKGLLVDEQEIAIKRLSRSSG
QGLKEFRNEVILCAKLQHRNLVKVLGYCIEGEEKMLVYEYMPNKSLDLILFNSVESKFLD

WPMRFNINLNAIARGLLYLHHSRLRIIHRDLKASNILLDNMNPKISDFGLARLCGSDQV
EGSTSIAGTHGYMAPEYAIIDGLFSIKSDVFSFGVLLLEIVSGKKNKGLTYQDHDHNLIG
HAWRLWKEGTPEQLIDACLANSCTSIYEVARCVQISLLCLQHHPDDRPNMTSVVVMLSSEN
VIEPKELGFLIRRVSNEREQSSNRQSSSINEVTMSLLNAR*

>Glyma.09G099200|Glyma.09G099200.1|17845393|GNA/S-locus glycoprotein/PAN/protein kinase/SRK

MAIPLVILLICKLLSLFSQICYATTDTITKGQPLPDDGNTLLSKDGTFFELGFFNPGSSNN
RYVGIWYKNIVVKTVVWIANRDNPIRNNSSKLVISQDGNLVLLSQNESLIWTTNASSSEV
SSSSPIVQLLDTGNLVIKDGNDKESVFLWQSFDPCTLLPGMKFGWDLRTGLNRRRLTSW
KSWDDPSSGDFTWGVEIGSNPDIVMWKGNVEYFRTGPYTGNMFGSVYGPRNNPLYDYKFV
NNKDEVYQYTLKNSSVITMIVMNQTLYLHRHLTWIPEAKSWTVYQSLPRDSCDVYNTCG
PNGNCIIAGSPICQCLDGFEKSPQQWNVMDWRQGCVRSEEWSCGVKNKDGFRFASMKL
PNTTFSWNESMTLEECRAKCLENCCKAYSNLDTRGGGNGCSIWVGDLVDLRVIESGQD
LYVRMATSDMDGKHEHRRKVVVLVSTIASLVLMVAFCIYMIKKIYKGKTKTRMSREDK
DEGRQEDLELPFFDLATIVNATNNFSIENKLGEGGFGPVYKGTLVNGQEIAIKRLSRSSG
QGLKEFRNEVILCAKLQHRNLVKVLGYCIQGEEKMLLYEYMPNKSLLDLFLFDSEQSKFLN
WPVRFNINLNAIARGLLYLHQDSRLRIIHRDLKASNILLDNMNPKISDFGLARMCGSDQV
EGSTSIIVGTHGYMAPEYAIIDGLFSTKSDVFSFGVLLLEIISGKKNRAFTYQDNDHNLID
HAWRLWKEGTPERLTDAHLANSNCNISEVIRCIQISLLCLQHHPDDRPNMTSVVVMLTSEN
ALHEPKPEPGFLIRRVSNERGEQSSNRQTSSFNVSISLLNAR*

>Glyma.09G278200|Glyma.09G278200.1|49362681|GNA/PAN/protein kinase

MLLLLLPLMRLFPFLFLLLVLLFNYGFSESGVGAGYQLMVAVPVEYEVNFKGRAFLVETN
QTAPNFRVALSIEAINGKYSCSLEVFGLDVKVWDSGHYSRFYITEKCLELTMDGDLRLK
GPKERVGWKTGTSGQGVKRLLEIQRGTGNLVLVDALNNIKWQSFNFATNVMLRGQQLDVATR
LTSSQSNSSLFYFSEFIEDKKVALYLYNYGKLRYSYWGFGPTMNRSITYIKLSSRGLLLFD
VKYKKIAQIPSEGIHPLRFLALNNETGNLGLYHYSPEKGKFEASFQALNSTCDLPISCRP
YGICTFSNSCSCIQLLANENKGGADCSGGITGGFCNGKEAEMLEIDNISSVLKNVTRVVN
ISKKTCESLCLQDCKCAAALYFGNASTDEAECYIYRLVLGLKQVKKGTGFSYMKVVKPGT
IKNHERHNVKRWVLIVAGGVGLIILLVGGFGYWLVKRRSHSLHSRAGNT*

>Glyma.10G100600|Glyma.10G100600.1|18396083|GNA/S-locus glycoprotein/PAN/protein kinase

MLGQENCVLKSPFLLCIFIGFLMHSVVGAEIPLGSKLSVVDNDYVWSSNGDFAFGFYNIS
DQPNQFSVGIRFNSKSI PYSQQTVAWVAGGDVKVGNKSYFELTQEGELVLFDSIGEGSVW
TVKTGNQSVASASLLDNGNLVLMDEQKI IWQSFDTPTDTPGQSLFANETLRAATASK
NSKASYNTLHMNASGHLELHWESGVIYWTSENPSASNLRAFLTASGALELQDRSLKPVWS
AFGDDHNDLVKMYRLRLDLVDGNLRLYSWVESLGSWRVWQAVENQCKVFATCRQLGVCVF
NASGSAECKCPFEVTGNECLVPYEECESGSNMIAIKNTYLYAFYPPDNSFITSSLQQC
EQLCLNDTQCTVATFSNDGTPQCSIKKTEYITGYSDPSVSSISFVKRCSGPFAVNPPTFF
ILVIFQMGI VLFYIRRNKSTRKRSTLTFTGTNSKGLIVLSFSEIKSLTGDFKNQIGPKVF
KGLLPNNHP IAVTDLNASLEERKFRSAVMKMGCIHKKNLVKLEGYCCFEFDRHFLVYCYCK
KGSVDKYIDDDALCKVLTWRKRVEICSSVAKAICYLHSGCREFI SHGNLKCENVMLDENL
GAKVTEFGFAIADGKATYCGFSAEKDIEDFGKLVLTLTGCRNHDHIELCEWAYKEWMEE
RVANVVDKRMGGYKSEELHVLRIAFWCLQMDERRRPSMGEVVVRVLDGTLSVDPPPPPF
AFQRPLQVDDSEENVSELEV*

>Glyma.10G228900|Glyma.10G228900.1|45897641|GNA/S-locus glycoprotein/protein kinase

MASAAIFPCNWVVLALCLCCFSGCISAIQIGLSQLLASKAQTWVSENGTFALGFTPAET
DNRAALVIGIWFAPQLPGDPTLVWSPNRDTPVSEQEALELDTTGNLVLMDGDTTVWTSNTSG
ADVQTATMSETGNFILHSTNNHVSQSFQSPDTPNQLLTVSSELTSSKSSSHGGYYA
LKMLQQPTSLSLALTYNLPETYQASDESNTYSYWGQPDISNVTGEVIVVLDQAGSFGIV
YGDSSDGAVYVYKNDGGDAGLSSAVHQSAPLTVLRRLTLEKNGNLRLYRWDEVNGSRQW
VPQWAAVSNPCDIAGVCGNGVCNLDNRSKTKATCTCLPGTAKVGRDQGCYENSSLVGKCN
KHENLTSQLRISTVQQTNYYFSEFSVIANYSIDISNVSKCGDACLLDCDCVASVYGLNEER
PYCWNLRSLSFSGFEDTSTLTFVKVRANGSWTLEGQEGGSNSSSDGMGSAKEKAVI IPTV
LSMVVLIVLLSLLLYYTVHRKRTLKREMESSLILSGAPMNFYTRDLQIRTCNFSQLLGTG
GFGSVYKGS LGDGLTAVVKKLDRVLPHEGEKEFITEVNTIGSMHMMNLVRLCGYCSEGS
LLVYEFMKNGSLDKWIFPSYQARDRLLDWTTRFNIAIATAQGIAYFHEQCRDRI IHCDIK
PENILVDENFCPKVSDFLAKLMGREHSHVVTMVRGTRGYLAPEWVSNRPI TVKADVSY
GMLLLEIIGGRRNLDSMFGAEDFFYPGWAYKEMTNGSIIKVADKRLNGAVDEEEVTRALK
VAFWCIQDEVSMRPTMGEVVRLLEDSDINMPMPQTVLELIEEGLDQVYKAMKREYNQS
SSFTITSHLTSHATCSNSTMSPR*

>Glyma.11G036600|Glyma.11G036600.1|2635652|GNA/protein kinase

MLSGTNRRIILYIIQVLTSRVFAKVELNKPLTTDDNNAWRSASGEFAFGFRQLNNDTKLFM
VAIWYNMMPGDQTVVWSAKRGYKLATAPTGSRIQITSEGLVLTGPKGDSIWIANSKDIVS
EGAMLDSGNFVLLNGNSEHVQSFDPYPTDTPNQLQLGGVLTSLRLTDTNFTTGRFQLY

FHKGDSHVLLCPLGWPSQLRYESYHTIDDSGNASQLVFDKSGDIYVET'NGTRIQQGST
 WGNNSLDLDRNYRATLDFTGVFTQYAYPRNSTIAQPGWKIIRYVPGNICEAVNQYSGSC
 CGYNSYCSMENQRPTCTCLYGYSLVDPSPNPFGGCQLNFTLTGADVQAPPDELYEMHEFK
 NFNFPPLADYEKIQPYTRQECQQACLQDCMCALAISGDFCWKKRLPLVNGREPCLKKKVQA
 SSLLETNLHSFSYEALKEATWGFSEELGRGSCGIVYKGKLEAATSCNLIHAVKRLDRLTQE
 REKEFRTELSAIGKTCHKNLVLYEFMSNGTLADILFGQSKAPIWNTRVRLALGIARGLL
 YLHEECDSAIIHCDIKPQNILIDEHFNAKISDFGLAKLLLFQDQSRNTMIRGTRGYVAPE
 SFKNVAVTVKVDVYSFGVLMLEMICCRRSVMTMEAGEEEEKAILTDWAYDCCVEGKLHDLV
 ENDKEALSIDIGRLEKWKIAIWCIQEHPEMRPTMGKVNQMMEGLEVPNPPSPNPDV*

>Glyma.11G036700|Glyma.11G036700.1|2642437|GNA/protein kinase
 MASPTLFFIFSLVFLHVMFVLGNITLSTLSTNDNDAWLSPSGEFAFGFRQLNSTNLFFV
 AIWYDKIPAKTIVWNAKANETLATAPAGSQVQLTLEGLTLTSPKGESIWKAQPSVPLSYG
 AMLDGTGNFVLVKNSTFEWESFKNPNTDILLPNQFLELDGKLTSLRLQDTNYTTGRFQLYFQ
 NGVLLLSPLAWPTQLRYRYYYRIDASHSASRLVFDELGNIIYVERVNGTRIRPQGPTWGNS
 SLDPKEYYYRATLEFNGVFTQYAHPRTNNAQGWITIMRYVPGNICTAIFNEYGSGSGCYN
 SYCSMENDRPTCKCPYGYSMVDPSNEFGGCQPNFTLACGVDVKAQPEELYEMHEFRDFNF
 PLGDYEEKQPYSSQCECRQSCLDHCICAMAVLGGNTCWMKRLPLSNGRVIHVNDQHFVYIK
 TRVRDFYDPGANEELPPGADSKEDGAKPILLGSLIGSLVFISISMLLCAVSWFILLKP
 KLTRLVPAIPSLLETNLHSFTYETLEKATRGFCEEIGRGSFGIVYKGQLEAASCNVIKAVK
 RLDRLAQEREKEFRAELSAIGKTCHKNLVRLIGFCDEGINRLLVYEFMSNGTLADILFGQ
 SKAPIWNTRVGLALGIARGLLYLHEECDSAIIHCDIKPQNILIDEHFNAKISDFGLAKLL
 LFDQTRTNTMIRGTRGYVAPEWFKNIAVTVKVDVYSFGVLMLEIICCRNVLTMEAEESSE
 KVILTDWAYDCYIEGRNIDALVENEDEALSDNGRLEKWKIAFWCINENPEVRPTMGVMV
 LMLEGFVEVPNPPPPFSMHSIS*

>Glyma.11G152200|Glyma.11G152200.1|12092389|GNA/S-locus glycoprotein/PAN/protein
 kinase/SRK
 MLIMVRFFFFCFFISTLLIQGTALAIITPNESIQGNRTLVSAGTFEAGFFNFGNSQGGYF
 GIWYKNISPKTIVWVANKDAPVKDSTAFLLTLTHQGDVPVILDGSRSTTVWFNSSSRIAEKP
 IMQLLDSGNLVVKDGNSSKENFLWESFDYPGNTFLAGMKLRTNLVSGPYRSLTSWKNAED
 PGSGEFSYHIDAHGFPQLVTTKGEILFSRAGSWTGFVFGSVWRRMLS LVTFLSLAINDKE
 VTYQYETLKAGTVTMLVINPSTGFGVQRLWISERTGNWEILSTRPMDQCEYYAFCDVNSLCN
 VTNSPKTCTCLEGFVPKFYEKWSALDWSGGCVRRINLSCEGDVFQKYAGMKLPDTSSSWY
 DKSLNLEKCEKCLKNCSCCTAYANVDVDGRGCLLWFDNIVDLTRHTDQGGDIYIRLAASE
 LDHRGNDQSFNDKKLVGIVVGIVAFIMVLGSVTFTYMKRKKLAKREMLKIFHWKYKREKE
 DVELSTIFDFSTISNATDQFSPSKKLGEFGFPVYKGLLKDQGEIAVKRLAKTSEQGAEQ
 FKNVSTLMMAKQLHRNLVKLLGCSIHQKERLLIYEYMSNRSLDYFIFDSTQSKQLDLTKRL
 QIIDGIARGLLYLHQDSRLRIIHRDLKVSINILLDNDMNPKISDFGLARTFGGDQAEANTN
 RVMGTYGYMPPEYALHGRFSIKSDVFSFGVIVLEIISGRKNRNFQDSEHHLNLLSHAWRL
 WIEEKPLELIDDLDDPVSPHEILRCIHVGLLCVQQTPENRPNMSSVVLMLNGEKLLPDP
 SQPGFYTGTIQYPIQLESSSRVSGACSQNEATVSLLEAR*

>Glyma.11G206200|Glyma.11G206200.1|29046880|GNA
 MGFFSPGNSTRRYLAIWYTNASSYTVVWVANRNTPLQNNSGVLKLNKGIKRELLSATNGA
 IWSSNISSKAVNNPVAYLLDLGNFVVKSGHDTNKNISFLWQSFDPDPTLMSGMKLEWNI
 TGLERSLTSWKSVEDPAEGEYASKIELRGYPQLVRFKGPDIKTRIGSWNGLYLVYN*

>Glyma.11G219800|Glyma.11G219800.1|31465079|GNA/PAN/protein kinase
 MTLSKRMVSFITFTCFHLHTKPSNLREDTLLQGHQLGSTNRLISPSGLYTLRFFQLDDGS
 DANSKFYLGVSSANKFHYVWVANRDNPIDDDPGVLTIDEFSNLKILSSTTTMMLYSVEAE
 NTKSVRATLSDTNGFVHLNPDGIVSVKRLWQSFDPDPTDILPGMKLGYDKNTGHTWS
 ITARRSYRTLWSGSFSLSLDPKTNQLVSRWREAIWSSGEWRNGSFNLNSSSLYKENFN
 FTFFSNESVTYFEYASVSGYFTMEPLGRNLASGAAYSCVDIEIVPGCTMPRPPKCREDDD
 LYLPNWNSLGAMSRRGFIFDERENLTISDCWMKCLKNCSCVAYTYAKEDATGCEIWSRDD
 TSYFVETNSGVGRPIFFFTETKAIEKRKKRASLFYDTEISVAYDEGREQWNEKRTGND
 HIFDLTITILEATDNFSFTNKIEGEGFGFPVYKGLSNGQEI AIKRLSKSSGQGLVEFKNEA
 MLIVKLQHTNLVRLNLGCSIDREERILVYEYMSNKSLLNLYLFDSTKRNVLEWKTRYRIIQG
 VAQGLVYLHQYSRLKVIHRDLKASNILLDNELNPKISDFGMARIFKLTQSEEKTNRVVG
 YGYMSPEYAMSGVISTKTDVYSFGVLLLEIVSGKKNCCDDYPLNLIGYAWKLWNQGEALK
 LVDTMLNGSCPHIQVIRCIHIGLLCTQDQAKDRPTMLDVISFLSNENTQLPPPIQPSLYT
 INGVKEAKQHKSCSINEITNSMTSGR*

>Glyma.12G103700|Glyma.12G103700.1|9277653|GNA/S-locus glycoprotein/PAN/protein
 kinase/SRK
 MVNTKGETRRIIILNWCSSHMLSIFILYSFFFTFSFKHCSATDTISITINNFLQDGGGDT
 LVSKGENFELGFFTPNGSSSGKRYLGIWYYKLTPLTVVWVANRDKPLLDSCGAFGIAEDG
 NLKVLDDKSGKFYWGNTNLEGSQSHRIVMLMDNGNLVVSDEVEDQGNHQVKILWQSFANPT
 DTFLPGMKMDNLALTSWRSYEDPAPGNFSFEHDQGENQYIWKRSIRYWKSSVSGKFVG
 TGEISTAISYFLSNFTLVKSPNNTVPFLTSALYTDTRLVMTWHGQLKYMKMDSEKMWLLV

WGEPRDRCSVFNACGNFGSCNSKYDSMCKCLPGFKPNSIESWNAGDFSGGCSRKTNVCSG
 DAKGDTFSLKMMKVGNPDAQFNAKDEEECMSECLNNCQCYAYSIEDTEKGRLGDSGDVV
 CWIWSEDLNNLEEEYEDGCDLHVRVAVSDIESTGRNCGTCGTNFI PYPLSTGPSCGDPMY
 FSFHCNISTGELDFETPGGTQVVISINPEAQKFLIHRKNVNLCDQSSRDKFLPLNKSFPF
 HLTSNICYADPSIFSSNAPMKHGVIEELSWEQPLEPICSSLLDCKEWPNSTCNTSSDGKKR
 CLCNTNFWLDGLKLNCTLEGNSHYQPERQLSLPKIIVITLTTVIGLILLSTTSTCVYLRK
 RRQAKPQDSRGYVQKNSGINLYDSERYVVDLIESSRFKEDDAQAIDI PYFHLESILDATN
 NFANTNKLGGGFGFVYKGFPGGQEI AVKRLSSCSGGGLEEFKNEVVLI AKLQHRNLVR
 LLGYCVEGDEKMLVYEYMPNRSIDAFIFDRKLCVLLDWDVRFKII LGIARGLLYLHEDSR
 LRIIHRDLKTSNILLDEEKNPKISDFGLARIFGGKETVANterVVGTyGYMSPEYALDGH
 FSVKSDVFSFGVVVLEIISGKRNTGFYQADHELSSLGYAWLLWKEGKALEFMDQTLQCQC
 NADECLKCVIVGLLCLQEDPNERPTMSNVVFM LGSEFNTLPSPKPAFVIRRCPSRRAST
 SSKLETFSRNELTVTIEHGR*

>Glyma.12G104100 | Glyma.12G104100.1 | 9363764 | GNA/S-locus glycoprotein/PAN/protein kinase

MRNNKPQLWLSLSLIITCFSFHTSLAALTITISANQSLSGDETLVSQHGNFELGFFNTGNN
 SNKFYIGMYYKKISQRTYVWVANRDQPVSDKNSAKLTILEGNLVLLDQSQNLVWSTNLSS
 PSSGSAAVALLDTGNLILSNRANASVSDAMWQSFDPHTDWTLPGGKIKLDKKTKKPQYLT
 SWKNREDPAPGLFSLLELDPAAGSNAYLILWNKSEQYWTSGAWNGQIFSLVPEMRLNYIYNF
 TFQSNENESYFTYSMYNSSIISR FVMDGSGQIKQLSWLENAQQWNLFWSQPRQQCEVYAF
 CGGFGSCTENAMPYCNCNLGYEPKSSQSDWNLTDSGGCVKKTQFCENPNSSDKEKDRFL
 PII LNMKLPNHSQSIGACTVGECEAKCLSNCSCTAYAHDNSGCSIWHGDLLNLQQLTQDDN
 SGQTLFLRLAASEFDDSNNSKGTIVIGAVAGAVGGVVVLLILFVFMVLRRRKRHVGTTRTSV
 EGSILMAFGYRDLQNAKTFSEKLGGGGFGSVFKGTLPDSSVAVVKLESISQGEKQFRTE
 VSTIGTVQHVNLVRLRGFCSEGTKKLLVYDYMNGSLESKIFHEDSSKVLDDWKVRYQIA
 LGTARGLTYLHEKCRDCI IHCDVKPENILLDADFIPKVADFG LAKLVGRDFSRVLT TMRG
 TRGYLAPEWISGVAITAKADVSYGMMLFEFVSGRRNSEASEDGQVRFFPTIAANMMHQG
 GNVLSLLDPRLEENADIEEVTRVIKVASWCVQDDESHRRPSMGQVVQILEGFLDVTLPPI P
 RTLQAFVDNHENVVFFTDSSSTQTSQVKSANASAAASSQAKSNISSSNSST*

>Glyma.12G140200 | Glyma.12G140200.1 | 17278442 | GNA/S-locus glycoprotein/PAN/protein kinase

MSIIIVYTLFVSSLVVSI AADTPSNSQFQSLSPGETIVSPRGIFELGFFNLGNPNKSYLAI
 RYKSYPDQTFVWVANGANPINDSSAILKLNSPGSLVLTHYNNHVWSTSSPKEAMNPVAEL
 LDGSLNVIREKNEAKLEGKEYLWQSFDPYPSNTMLAGMKIGWDLKRKINRRLIAWKSDDDDP
 TPGDLSWII VLPYPPEIYMMSGTKKHRLGPWNGLRFGSGMPEMKPNPVFNKYFVSNKDEV
 TYMWTLQTSCLKTKVVLNQTSQQRPYVWSEATRWNFYSTMPGEYCDYGVCGANSFCSS
 TASPMCDCLKGFKPKSPKSWNSMYRTEGCRCLKSPLTCMLDGFVHVDGLKVPD'TTNTSVDE
 SIDLEKCR TKCLNNCSMAYTNSNISGSGSGCVMWFGDLLDIKLYPAPESGQRLYIRLPP
 SELDSIRHKVSKIMYATSVAAAGVILAIYFLYRRKIYEKSMAYNNESYVNDL DPLLD
 LSI IIVATNKFSEGNKIGEGGFGSVYWGKLASGLEIAVKRLSKNSDQGMSEFVNEVKLIA
 RVQHRNLVKLLGCCIQKKEKMLVYEMVNGSLDYFIFDSTKGKLLDWPKR FHIICGIARG
 LMYLHQDSRLRI VHRDLKASNVLDDTLNPKISDFGVAKTFGEENIEGNTNRIVGTYGYM
 APEYAI DQGFSIKSDVFSFGVLLLEIICGKKSRCSSGKQIVHLVDHVWTLWKKDMALQIV
 DPNMEDSCIASEVLRICIHIGLLCVQQYPEDRPTMTSVVLLLGSDVQLDEPKEPGHFVKK
 ESIEANSSSCSSTNAMSITLLTAR*

>Glyma.12G140300 | Glyma.12G140300.1 | 17324801 | GNA/S-locus glycoprotein/PAN/protein kinase

MEIFSFLIFIVSYMLVPSLKISAATLSVSQYVTDGETLVNSGVFELGFFSPGKSTKRYL
 GIWYKNITSDRAVWVANRENPI NDSSGILTFSTTG NLELRQND SVVWSTNYKKQAQNPVA
 ELLDTGNFVVRNEGDTDPETYSWQSFDPYSDTLLPGMKLGWDLRTGLERKLT SWKSPDDP
 SAGDFSWGLMLHNYPEFYLMIGTHKYRTGPWNGLHFSGSSNR TLNPLYEFKYVT'TNDLI
 YASNKVEMFYFSFLIKNSSIVMIVNINETMSDIRTQVWSEVRQKLLIYET'TPRDYCDVYA
 VCGAYANCRITDAPACNCLEGFKPKSPQEWSSMDWSQGCVRPKPLSCQEIDYMDHFVKYV
 GLKVPD'TTYTWLDENINLEECLKCLNNCSMAFANS DIRGGSGCVLWFGDLIDIRQYP
 TGEQDLYIRMPAKESINQEEHGHNSVKII IATTIAGISGILSFCIFVIYRVRRSIADNFK
 TKENIERQLKDL DPLFDLLTITTATYNFSSNSKIGHGGFGFVYKGLADGQQIAVKRLS
 SSSGQGIT EFTVTEVKLIAKLQHRNLVKLLGFCIKRQEKILVYEMVNGSLDSFI FDKIKG
 KFLDWPRRFHII FGIARGLLYLHQDSRLRI IHRDLKASNVL DDEKLNPKISDFGMARAFG
 GDQTEGNTNRVVGTYGYMAPEYAVDGLFSIKSDVFSFGILLLEIICGNKNRALCHGNQTL
 NLVGYAWTLWKEQNVLQLIDSSIKDSCVPEVLRCIHVSLLCVQQYPEDRPSMTLVIQML
 GSETDLIEPKEPGFFPRRFSDEGNLSTIPNHMSSNEELTIT ALNGR*

>Glyma.12G140500 | Glyma.12G140500.1 | 17341802 | GNA/S-locus glycoprotein

MIEEHGERTLCNHPIVLKDDVEKFALDWNYSNEPENFDKSTSSDITWSISDGKTLESTT
 GVIELGFFIPGNSNKRYLGIWYKNIPTDRVWVANGANPINDSSAIKKQAQNPVAELLDN
 GNFMVLYNEETDPDAYVWQSFDPYSDTLLTG MKLGWDLRTGMEQKITSWRSPDNPSPGDF
 SWDLMLNYNPEFYLMNGTKFYRIGPWNELHFSGVSNQNSNWL YELKHVSNKDDMFYSYT
 LKNNSEPI TDSRVCQCLKGFNPKSPQESSQGCVRNKPLTCKDNKYDGLCRPENTRYYTNL

AG*

>Glyma.12G140800|Glyma.12G140800.1|17522247|GNA/S-locus glycoprotein/PAN/protein kinase

MICKQVGHRTQTLRLKFMSLILYINIRNPFYSHKRYVGIWYKNIPIQTVVVWVANKANPI
NDSSGIITLNTGNLVLTONAYLVWYTNNSHKQAQNPVVLLDSGNLVIKNEEETDPEVC
LWQSFDPSTLLPGMKLERNIRTGHEWKLTSWKNPNDPSPGDIYRVLELYNYPELYVMK
GKKKVYRSGPWNGLYFSGLPYLQNNITIFGYNFVSNKDEIYFTFNLLNNCIVYRYVWLEGD
HNWTMHRSYPKFECNDYGLCGAYGNCIINQAQGCQCLKGFSPKSPQAWASSDWSQGCVRN
KPLSCNGEHKDGFKFEGLKVPDITQTWLDKTIGLEECRVKCLNNCSCMAYSNSDIRGAG
SGCVMWYGDILDIRQFETGGQGLHIRMSASESVTNYSKDKSEKDIDLPTFDFSFISNATN
DFSQSEKLGQGGFGSVYKGIILPDGQEIIVKRLSKTSGQGLDEFKNEVMMLIAKLQHRNLVK
LLGCSIQQDEKLLIYEFMPNRSLDYFIFDSTRHTLLGWTKRFEIIGGIARGLLYLHQDSR
LKI IHRDLKTSNVLDSNMNPKISDFGMARTFGLDQDEANTNRVMGTGYGMPPEYVHGS
FSVKSDVFSFGVIVLEIISGKKNRAFYDPHHHLNLLGHAWRLWIEKRPTELMDDLVDNSA
CPSEIIRYIHIGLLCVQQRPEDRPNMSSVTFLNGEKLLPEPNQPGFYTGKAHPTKPNSS
SRNIDVYSFNEMSNSLLEPR*

>Glyma.12G142100|Glyma.12G142100.1|18033116|GNA/S-locus glycoprotein/PAN/protein kinase

MDILSSLIFVASILIPCFKFCIAADTILLSSQISDGMTLVSRGETFELGFFSPENS NKRY
LGIWYKNIPQTVVWVSNRAINDDSSGILTVNSTGNLVLRLQHDKVWYTTSEKQAQNPVAQL
LDGNLVLVRDEGEADSEGYLWQSFDPSTILPGMKLGLNLRTGIEWRMTSWKNPNDPSP
GDFYWGILLLYNYPEFYLMMGTEKFVRVGPWNGLHFSGIPDQKPNPIYAFNYISNKDEKYY
TYSLQNAAVISRLVMNQTSMSIRYVWMENEQYWKVYKSLPKDNCDDYGTGCGAYGTCLIT
GSQICQCLAGFSPKSPQAWNSSDWTQGCTRNQPLNCTNKLNDGFMKVEGVKVPDITHTWL
DETIGLGECRMKCLNNCSCMAYTNSDIRGEGSGCVMWFGDLIDIRQFENDGQDLYIRMD
SELGEQEEHKKVVIIIVSTTIATILVILCIGCYRIYIVRHSITEYSDIVRDQNRGGSEEN
IDLPLLDLSTIVIATDNFSINNKGEGGFGPVYKGRVLSGQEIIVKRLSRGSGQGMTEFK
NEVKLIAKLQHRNLVKLLGCCVQEQDRMLVYFYMTNRSLDWLI FDDTKSKLLDWP KRFNI
ICGIARGLLYLHQDSRLRI IHRDLKASNVLDDQMI PKISDFGIARIFGGEQTEGNTNRV
VGTYGYMAPEYAADGIFSVKTDVFSFGILLLEILSGKRNRGFYLENQSANLVTHAWNWLK
GGRAIEMVDSYLNIEDSCVLSFVLRCHVCLLCVQQAEDRPLMPSVVLMGLSESELAEPKE
PGFYIKNDEGEKISISGQSDLFSTNEITITLLEAR*

>Glyma.12G142200|Glyma.12G142200.1|18094703|GNA/S-locus glycoprotein/PAN/protein kinase/SRK

MAMLTIILLLSKLLSLFSKFVAATDTITQSEFLEDNTTLVSNNGT FELGFFTPGSSSSPNR
YVGIWYKNIPIRTLVWVANRDNP IKNSSKLSINTQGNLVLVNQNNTVIWSNTNTAKASL
VVAQLLDGSLNLVLRDEKDTNPENYLWQSFDPSTFLPGMKLGWDLKKGLNWFLTAWKNW
DDPSPGDFTRSTLHTNNPEEVMWKGTQYRSGPWDGIGFSGIPSVSSDSNTNYTIVSNK
DEFYITYSLIDKSLISRVMNQTRYARQRLAWNIDSQTWRVSELPTDFCDQYNICGAFG
ICVIGQAPACKCLDGFKPKSPRNWTQMSWNQGCVHNQTWSCRKKGRDGFNKFNSVKVPDT
RRSWVNANMTLDECKNKCWENCSTAYANS DIKGGSGCAIWFSDLLDIRLMPNAGQDLY
IRLAMSETAQYQEAHSSKKVVIAS TVSSVIAILLIFIFIYWSYKKNKEIITGIEG
KNNKSQQEDFELPLFDLASIAHATNNFSDNKLGEGGFGPVYKGI LPYGQEVAVKRLSET
SRQGLKEFKNEVMMLCAELQHRNLVKVLGCCIQDDEKLLIY EYMANKSLDVFLFDSSQGKL
LDWPKRFCIINGIARGLLYLHQDSRLRI IHRDLKASNVLDDNEMNPKISDFGLARMCGGD
QIEGKTSRVVGTYGYMAPEYAFDGI FSIKSDVFSFGVLLLEIVSGKKNRFLSPNDYNNLI
GHAWRLSKEGKPMQFIDTSLKDSYNLHEALRCIHIGLLCVQHHPNDRPNMASVVVSLSNE
NALPLPKNPSYLLNDIPTERESSNTSLSVNDVTTSMLSGR*

>Glyma.12G142300|Glyma.12G142300.1|18108745|GNA/S-locus glycoprotein/PAN/protein kinase/SRK

MAMLTIILLLSKLLSLFSKFVAATDTITQSEFLEDNTTLVSNNGT FELGFFTPGSSSSPNL
YVGIWYKNIPIRTVVWVANRDNP IKNSSKLSINTKGYLVLINQNNTVIWSNTNTTKASL
VVAQLLDGSLNLVLRDEKDTNPENYLWQSFDPSTFLPGMKLGWDLKKGLNRVLTAWKNW
DDPSPGDFTL SILHTNNEVVMWKGTQYRSGPWDGTVFSGSPSVSSDSNVNYAIVSNK
DEFYITYSLIDKSLISRVINQTKYVRQRLWNIDSQMWRVSELPTDFCDQYNTCGAFG
ICVIGQVPACKCLDGFKPKSPRNWTQMSWNQGCVHNQTWSCRKKGRDGFNKFNSVKAPDT
RRSWVNASMTLDECKNKCWENCSTAYANS DIKGGSGCAIWFSDLLNIRLMPNAGQDLY
IRLAVSETAQQNQDEKHSSKKKVVIAS TVSSVIAILLIFIFIYWSYKKNKEIITGIEG
KNNKSQQEDFELPLFDLASIAHATNNFSDNKLGEGGFGPVYKGI LPDGQEVAVKRLSRT
SRQGLKEFKNEVMMLCAELQHRNLVKVLGCCIQDDEKLLIY EYMANKSLDVFLFDSSQGKL
LDWPKRFCIINGIARGLLYLHQDSRLRI IHRDLKASNVLDDNEMNPKISDFGLARMCGGD
QIEGKTSRVVGTYGYMAPEYAFDGI FSIKSDVFSFGVLLLEIVSGKKNRFLFYPNDYNNLI
GHAWRLWKEGNPMQFIDTSLKDSYNLHEALRCIHIGLLCVQHHPNDRSNMASVVVSLSNE
NALPLPKNPSYLLNDIPTERESSNTSFSVNDVTTSMLSGR*

>Glyma.12G142400|Glyma.12G142400.1|18209733|GNA/S-locus glycoprotein/PAN/protein kinase

MAMLTIFLLVSKLIFFFSKFAAATDTINQFESLEDNTTLVSNDDGTFFELGFFIPGSTSPNR
YLGIIWYKNIPIRTVVWVANRETPIKDNSSKLNITPEGSLVLLNQNKTVIWSANPTTKGVV
VVAQLLDSDGNLVLRLDEKDTNPENYLWQSFDPNPTDTFLPGMKLGWDLKKGLNTVLTAWKNW
DDPSPGDFDTITLRTNYPEEVMWKGTTKYWRSGPWDGTFKFSGNPSVPSNAIVNYTIVSNK
DEFYATYSMTDKSIIISRIVMNQSLYVRQRLTWNTDSQTWVRVSSSELPDGLCDHYNTCGAFG
ICVAGQAPVCKCLDGFKPKSPRNWNQMNWNQGCVHNQTWSCREKNKDGFTKFSNVKAPDT
ERSWVNASMTLGECEVCKWENCSCMAYANSNIRGEESGCAIWIGDLLDIRLMPNAGQDLY
IRLAVSETAQQSHDQKDNNSKKVVIASSTISSVIAMILIFIFIYWSYRNKNKEIITGIEG
KSNESSQQEDFELPLFDLVLIAQATDHFSDHKKLGEGGFGPVYKGTLPDGQEVAVKRLSQT
SRQGLKEFKNEVMMLCAELQHRNLVKVLGCCFQDDEKLLIYEYMSNKSLLDVFLFDSSRSKL
LDWPKRFCTIINGIARGLLYLHQDSRLRIIHRDLKASNVLLDNEMNPKISDFGLARMCGGD
QIEGETSRIVGTYGYMAPEYAFDGLFSIKSDVFSFGVLLLEIVSGKKNRSLFYPNDYNNL
IGHAWRLWKEGNPMQFIDSSLEDSCILYEALRCIHIGLLCVQHHPNDRPNMASVVLLSN
ENALPLPKDPSYLSKDISTERESSSENFTSVSINDVTISMLSDR*

>Glyma.12G142800|Glyma.12G142800.1|18489474|GNA/S-locus glycoprotein/PAN/protein kinase

MLCIWFFLLLTSTSLDSLAVGQSLRDVENESLVSAGGITELGFFSLGDFSRRYLGVWFR
NINPSTKVWVANRNTPLKKNSGVLKLNKRGVLELLNDKNSTIWSSNISSIALNNPIAHL
DSGNFVVKYQGETNDDSLWQSFDPGNILLPGMKLGWNLETGLERFLSSWTSSNDPAEG
DYAAKIDLRGYPQIIKFQRSIVVSRGGSWNGMSTFGNPGPTSEASQKLVLNEKEVYYEYE
LLDRSVFTILKLTHSGNSMTLVWTTQSSSTQQVSTGEIDPCENYAFCGVNSICNYDGNVT
ICKCSRGYVSPSSPDRWNIGVSSDGCVPKNKSNDNSNSYGDSFFKYTNLKLPTKTSTWFKNT
MDLDECQKSLKNRSCCTAYANLDIRDGGSGCLLWFHGLFDMRKYSQGGQDLYVRVPASEL
DHVGHGNMKKKIVGIIIVGVTTFGLIITCVCILVIKNPGSARKFYSNNYKNIQRKEDVDLP
VFSLSVLANVTENFSTKNKLGEFGFPVYKGT MIDGKVLAVKRLSKKSGQGLEEFKNEVT
LISKLQHRNLVKLLGCCIEGEEKMLIYEYMPNHSLLDYFVFDCTKRKLLDWHKRFNVITGI
ARGLLYLHQDSRLRIIHRDLKTSNILLDANLDPKISDFGLARSFLGDQVEANTNRVAGTY
GYMPPEYAARGHFSVKSDVFSYGVIVLEIVSGKKNRDFSDPEHYNNLLGHAWRLWTEERA
LELLDKLSGECSPSEVVRCTIQVGLLCVQQRPPQDRPHMSSVVLMLNGDKLLPKPKVPGFYT
GTDVTSSEALGNHRLCSVNELSITMLDAR*

>Glyma.12G143000|Glyma.12G143000.1|18512606|GNA/S-locus glycoprotein/PAN/protein kinase

MKENVPKTMENFDILGVCLLFLSLITMSSTLDMVTTIQPIRDGKNENETLVSTNGTFEAG
FFSPENFDSRYLGIWYTNIFPRTVVWVANKEKPLKDHSGVLEVDTDQGILSIKDGTTGAKI
WFSSASHTPNKPVAAYELLESNGMVLKDGDNFLWQSFDPGDTLLPGMKIGVNFKTGQHR
ALRSWRSFTDPTPGNFSGLVDTRGLPQLVITNENTNSNDIAYRPGSWNGLSITGLPGEIT
DQLTKSLFVMNQDEVFYEIQLLNSSTKLMSRLLPEGYQVRFIWSDEKKIWDSSQFPKPF
VCQTYALCGANAICDFNGKAKHCGCLSGFKANSAGSICARTTRLDCKNGGIDKFQKYKGM
KLPTDSSSSWYDRITITLLECEKLCLSNCSCTAYAQNLISGEGSGCLHWFSDIVDIRTLPE
GGQNFYLRMATVASELQLQDHRFSRKKLAGIVVGCTIFIIAVTVFGLIFCIRRKKLKQS
EANYWKDKSKEDDIDLPIFPHFLSISNATNQFSESNNKLGGGFGFPVYKGTLPDGQEIIVKR
LSKTSQGGLDEFKNEVMMLVAKLQHRNLVKLLGCSIQQDEKLLVYEFMPNRSLLDYFIFDST
RRTLLGWAKRFEIIGGTARGLLYLHQDSRLKIHRDLKTGNVLLDSNMNPKISDFGMART
FGLDQDEANTNRVMGTYGYMPPEYAVHGSFVSKSDVFSFGVIVLEIISGRKNRGFCDPHN
HLNLLGHAWRLWIEKRPLELMDSDANLVAPEILRYIHIGLLCVQQRPEDRPNMSSVVL
MLNGEKLPLEPSQPGFYTGGRDHSTVTNSSSRNCEAYSLNEMSDSLLKPR*

>Glyma.12G143200|Glyma.12G143200.1|18578467|GNA/S-locus glycoprotein/PAN/protein kinase

MLLIWFFLFYSYMTTRTSTSVDHAAASRSIRDSQILVSAGNITALGFFSPGNSTRRYLGIWF
RKVHPFTVVWVANRNTPLENESGVKLKLNKRGILELLNGKNSTIWSSSSNKSSKAAKKPIA
QLRDLGNLVVINGPKRNTKKHKTNNGDILWQSFDPGDTLMPGMKLGWTLNGLERSLSS
WKNWSDPAEGEYTLKVDRRGYQDIIIFRGPDIKRRLGSWNGLPVIGYPTSTHLVSQKFVF
HEKEVYYEYKVKKEKVNRSVFNLYNLNSFGTVRDLFWSTQNRNRRGFQILEQNQCEDYAF
GVNSICNYIGKKATCKCVKGYSKSPSWNSSTWSRGCVPIIPMNKSNCKNSYTEEFWKNQ
HMKFPDTSLSLFIETMDYTACKIRCDNCSCVAYANISTGGGTGCLLWFNELLVDLSSNGG
QDLYTKIPAPVPPNNNTIVHPASDPADHRNLKIKTVAITVGVTTTFGLIIIVYWIWIKNP
GAARKFYKQNFVKVKEIDLPFTDLVLANATENFSSKHLGEGGFGPVYKIIIFQGT
IDGKVIYAVKRLSKSKQGLDELKNEVALIAKLQHRNLVKLLGCCIEGEEKMLIYEYMPNL
SLDCFLFDETKKKLLDWPKRFNIISGITRGLVYLHQDSRLRIIHRDLKTSNILLDDNLD
KISDFGLARSFLEDQVEANTNRVAGTCGYMPPEYAAGGRFSVKSDVFSYGVIVLEIVSGK
RNTEFANSENYYNLLGHAWTLWTEDRALELLDDVVGEQCKPYEVIRCIQVGLLCVQQRPPQ
DRPHMSSVLSMLSGDKLLPKPMAPGFYSGTNTVTSEATSSSANHKLWSVNEASITELDAR*

>Glyma.12G143900|Glyma.12G143900.1|18958348|GNA/S-locus glycoprotein/PAN/protein kinase

MMHSTLMCIWFLLLSYLSETCTSLHSLEVNQSIRDGETLVSARGITEVGFFSPGNSTRR
 YLGIWYTNVSPFTTVVWVANRNTPLENKSGVLKLNKGVLMIFDAANSTIWSSSI PSKARN
 NPIAHLSDSANFVVKNGRETNSVLWQSFDPSTLIPGMKIGGNLETGEERLITSWKSAD
 DPAVGEYTTKIDLRGYPQYVVLKGSEIMVRAGPWNGESWVGYPLOTPTSQTFFWNGKEG
 YSEIQLLDRSVFSIYTLTPSGTTRNLFWTTQTRTRPVLSSGEVDQCGKYAMCGTNSICNF
 DGNATCECLKGYVPKSPDQWNIAWSWSDGCVPRNKSNCENSYTDGFFKYTHLKI PDTSSS
 WFSKTMNLDECRKSCLENCFTAYANLDIRDGGSGCLLWFNTLVDMMQFSQWGDLYIRV
 PASELDHVGHGNKKKIAGITVGVITVGLIITSICILMIKNPRVARKFSNKHYKNKQGIED
 IELPTFDLSVLANATENYSTKNKLGEFGFVYKGTLDGQELAVKRLSNNSGQGLEEFK
 NEVALIAKLQHRNLVKLLGCCIEREEKMLVYFYMSNKSLSNYFVFDETKGKLLDWCKRFNI
 ICGIARGLLYLHQDSRLRIIHRDLKTSNILLVDSNWDPKISDFGLARSFLEDQFEAKTNRV
 VGTGYGMPPEYAVRGNFVSKSDVFSFGVILEIVSGKKNREFSDPEHCHNLLGHAWRLWV
 EERALDLLDKVLEEQCRPFVIRCIQVGLLCVQRRPEHRPDMSSVVPMLNGEKLLPEPTV
 PAFYNETIITEVNCKLCSNELSITQLDAR*

>Glyma.12G144100 | Glyma.12G144100.1 | 18975569 | GNA/S-locus glycoprotein/PAN/protein kinase

MLCIWFFLFSYFSGTCTSLHSLAVNQSIRDAENETLVSAGGIIIEVGFFSPGKSTRRYLGI
 WFKNVNPLKVVWVANRNAPLEKNKSGVLKLNKGVLMIFDAANSTIWSSSI PSKAGNNPIA
 HPLDSGNFVVKNGQQPGKDAILWQSFDPDTHTPGMKFGWSFGLERSISSWKSVDPAE
 GEYVVKMDLRGYPQVIMFKGSKI KVRVGPWNGLSLVGYPVEIPYCSQKFVYNEKEVYVEY
 NLLHSLDFSLKLSPSGRAQRMWRTQTSTRQVLTIEEIDQCEYYDFCGENSICNYDGNR
 PTCECLRGYVPKSPDQWNMIPFQSGCAPRNKSDCKNSYTDGFLKYARMKLPDTSSSWFSK
 TMNLNECQKSCLENCFTAYANLDIRNGGSGCLLWFNNIVDMRYFSKSGQDIYIRVPASE
 LDHAGPGNIKKKILGIAVGVTIFGLIITCVCILISKNPMAIRLYCHI PRFQWRQEYLILR
 KEDMDLSTFELSTIAKATNNFIRNKLGEFGFVYKGTLDGQEVAIKRHSQMSDQGP
 EFKNEVVLI AKLQHRNLVKLLGCCVQGGKLLIYEYMPNKS LDYFIFDKARSKILAWNQR
 FHIIGGIARGLLYLHQDSRLRIIHRDLKTSNILLDANMNPKISDFGLARTFGCEQIQAKT
 RKVVGTGYGMPPEYAVHGHYSVKSDVFGFVILEIVSGSKNRGFSDEHSLNLLGHAWR
 LWTEDRPLELIDINLHERCIPFEVLRCIHVGLLCVQQKPGDRPDMSSVIPMLNGEKLLPQ
 PKAPGFYTGKCIPEFSSPKTCKFLSQNEISLTIFEAR*

>Glyma.12G144400 | Glyma.12G144400.1 | 19069606 | GNA/S-locus glycoprotein/PAN/protein kinase/SRK

MLFIWFFLFSYFSGTCTSLHSLAVNQSIRDGENETLVSAGGIIIEVGFFSPGKSTRRYLGI
 WFKNVNPLTVVWVANRNAPLEKNKSGVLKLNKGVLMIFDAANSTIWSSSI PSKAGNNPIA
 HPLDSGNFVVKNGQQPGKDAILWQSFDPDTHTPGIKFGWNFQIGLERSLSSWKSVDPAE
 AEGEYVAKMDLRGYPQVIMFKGSEIKVRVGPWNGLSLVGYPVEIPYCSQKFVNEKEVYVEY
 EYNLLDSLSDFSLKLSPSGRSQRMYWRTQTNTROVLTVEERDQCENYGFCEGENSICNYDG
 SRATCECLRGYVPKSPDQWNMIPFQSGCVPGNKSDCKNSYSDGFLKYARMKLPDTSSSWF
 SKTMNLDECRKSCLENCFTAYANLDIRNGGSGCLLWFNNIVDMRCFSKSGQDVYIRVPA
 SELDHGGPGNIKKKILGIAVGVTIFGLIITCVCILISKNPMAIRLYRHFQWRQEYLILR
 LKEDMDLSTFELSTIAEATNNFSSRNKLGEFGFVYKGTLDGQDVAIKRHSQMSDQ
 LGFEKNEVVLI AKLQHRNLVKLLGCCVQGGKLLIYEYMSNKS LDYFIFDEARSKLLAWN
 QRFHIIGGIARGLLYLHQDSRLRIIHRDLKTSNILLDANMNPKISDFGLAQSFQCDQIQ
 KTRKVVGTGYGMPPEYAVHGHYSVKSDVFGFVILEIVSGSKNRGFSDEPKHSLNLLGHA
 WRLWTEDRPLELIDINLHERCIPFEVLRCIHLGLLCVQQKPGDRPDMSSVIPMLNGEKLL
 PQPKAPGFYTGKCTPESVSSSKTCKFLSQNEISLTIFEAR*

>Glyma.12G144500 | Glyma.12G144500.1 | 19113078 | GNA/S-locus glycoprotein/PAN/protein kinase

MVHIFRMLFIWFLLSYLRNSTSSDNLAVSQYIRDGETLVSEEGTFEVGFFSPGASTGRY
 LGIWRNLSPLTVVWVANRENALQNKSGVLKLNKGVLMIFDAANSTIWSSSI PSKAGNNPIA
 NPIAQILDSGNIVVRNERDINEDNFFWQSFDPDTHTPGMKIGWKTGLDRTLSSWKNE
 DPAKGEYSMKLDRGYPQFFGYKGDVITFRGGSWNGQALVGYPPIRPPTQQYVYDFVFNEK
 EVYVEYKTPDRSIFIIITLTPSGSGFGNVLLWTKQTRNIEVRLGESDQCENYAICGANS
 ICNMDGNSQTCDCIKGYVPKFPEQRNVSYLHNGCVPRNKFDCKSSNTNGFLRYTDLKLPD
 TSSSWLNTMNLDECRKSCLENCFTAYANLDIRNGGSGCLLWFDDLDIMRKFSLGGQDI
 YFRVPASELDHVAFNHGHGNMKNMKGITVGTIILGLTACACIIMILKMQGRIIYRKHFH
 KLRKEGIDLSTDFLI IARATENFAESNKLGEFGFVYKGTLDGQEVAIKRHSQMSDQ
 GLEEFKNEVVLI AKLQHRNLVKLLGCCIEGNERMLIYEYMPNKS LDNFI FHETQRNLVDW
 PKRFNIICGIARGLLYLHQDSRLRIIHRDLKTSNILLDANLDPKISDFGLARTLWGDQVE
 ANTNRVAGTYGMPPEYAAARGHFSMKSDVFSYGVILLEIVSGQRNREFSDPKHNLNLLGY
 AWRLWTEERALELLEGLRERLTPSEVIRCIQVGLLCVQRPEDRPDMSSVVLMLNGEKLL
 LPNPVPGFYTERAVTPESDIKPSNQLSITLLEAR*

>Glyma.12G144800 | Glyma.12G144800.1 | 19170258 | GNA/S-locus glycoprotein/PAN/protein kinase

MVDNFRMLFIWFLILLSYLNKSTSMDSLSPSQSIRDGETLVSDEETFEVGFFSPGTSTRR
 YLGIWYRNVSPLTVVWVANRENALQNKLGVMKLDENGIVIVILSGNNSKIWWSSSTSSKV

KNPIAQLLDYGNLVRDERDINEDKFLWQSFDPNCDKFLPGMKIGWNLVTGLDRIISSWK
 NEDDDPAKGEYSFKLDLKGYPQLFGYKGNVIRFRVGSWNGQALVGYPPIRPVTQYVHELVEFN
 EKEVYYEYKILDRSIFFIIVTLNSSGIGNVLLWTNQTRRIKVISLRSDLCENYAMCGINST
 CSMDGNSQTCDCIKGYVPKFPQWNVSKWYNGCVPRNKPDCCTNINIDGLLRYTDLKLPDT
 SSSWFNTTMSLEECKKSCCLKNFSCKAYANLDIRNGGSGCLLWFDDLDLTRKFSIGGQDIY
 FRIQASSLLDHVAVNGHGKNTRRMIGITVGANILGLTAWAAKIIYRNHFKRKLKKEGIGL
 STFDPIIARATENIAESNKLGEFGFPVYKGRLLKDGLEFAVKKLSKNSAQGLEELKNEV
 VLIAKLQHRNLVKLIGCCIEGNERMLIYEYMPNKSLDLCFIDETRRLVDWPPIRFNIICG
 IARGLLYLHQDSRLRIVHRDLKTCNILLDASLDPKISDFGLARTLCGDQVEANTNKVAGT
 YGYMPPVYVTRGHFSMKSDVFSYGVVLEIVSGKRNREFSDPKHFLNLVGHAWRLWTEER
 ALELLDGVLRERFTPSEVIRCIQVGLLCVQQRPKDRPDMSSVVLMLNGEKLLPNPKVPGF
 YTEGDVTPESDIKLNYSFNQISITMLEAR*

>Glyma.12G145300|Glyma.12G145300.1|19403597|GNA/S-locus glycoprotein/PAN/protein kinase

MVDNFRMLFIWFLLSYLRNSTSLDSLAPSSQIRDSERLVSKEGTFEAGFFSPGTSTRRY
 LGIWRDVSPLTVVWVANREKPYNKSGLVLEERGVLMILNSTNSTIWRSNNISSTVKN
 PIAQLLDSGNLVVRNERDINEDNFWQSFDPYCDTFLPGMKLGWNLVTGQDRFLSSWKSE
 DDPAGKDYSLKLDLRFYEFFGYEGDAIKFRGGSWNGEALVGYPHQLVQQLVYEFVFNK
 KDVIYKYKILDRSIIYIFTLTPSGFGQRFLLWTNQTSKKVLSGGADPCENYAIICGANSIC
 NMNGNAQTCDCKIKGYVPKFPQWNVSYWSNGCVPRNKSCKTSNTDGLLRYTDMKIPDTS
 SSWFNKTMNLEECQKSLKNCSCKACANLDIRNGGSGCLLWFDDLDVDMRQFSKGGQDLYF
 RAPASELVNSHGKLNKLLGTTIGAIMLGLTVCVMILILKKQGLARIIDRNHFHKHLRK
 EDDDLSTFDFAIARATGNFAKSNKLGEFGFPVYKVIWETCHRCFFLKMFLTIVDVALQ
 ARLLDGEYFAVKRLSNKSGQGLEEFKNEVMLIAKLQHRNLVKLIGCSIEGKERMLIYEYM
 PNKSLDYFIDETRRTMTVDWPKHFNICGIAARGILYLHQDSRLRIVHRDLKTSNILLDGN
 FDPKISDFGLARTFWGDQVEANTNRLAGTYGYMAPEYAARGQFSMKSDVFSYGVIVLEIV
 SGKKNREFSDPKHYLNLLGHTWRLWAEERALELLDGVLRERFTPSEVIRCIQVGLLCVQQ
 RPEDRPDMSSVVLMLNGEKLLPNPKVPGFYTEGDVKPESDFSPTNRFSTNQISITMLEAR
 *

>Glyma.12G145400|Glyma.12G145400.1|19598643|GNA/S-locus glycoprotein/PAN/protein kinase

MTLTFRLTSLTTLFLCMFCVNNATYKEYLWMDQSLGTSITLSRSGNFELGFFPAVREN
 STNYYIGIWNKKGSDKNKIMWVANRDYAVQASSAALTIQETEGNIIIDRQMTYHVSQI
 SNNSITYAKLLDSGNLLLLNNFTQELWQSFDPYPTDTLLPGMNLGYDTSQGYTWSLSSWK
 SADDPAAGAFSLKYDFGRATLIINNGSNVFWIDDRSNDTIDNVIISRGVHKERYRRYFTW
 PVDYNSMLVLEVSGELNQQYWSEEEKGWISIQSSKCGTNNLCGAFSICNPQALDPCDCLH
 GFKPFDANSWSKGISAGCVRRKELSCRNGVHSNDVFMPLNKTQLPSTLKGDSKIKIDTE
 RGCEASACSRKCSVAYAYNLNGYCHLWLQIILNLKNISTYVDNSDNTNPIFNLRDLASEL
 VPADSNTANAKEPANDFRKHENWLRILLIVILITLLTFLIFGLFVYWIRKQRRKGEDLLH
 FNVMSMKAEDSELTEARRAKVKKEVKLPLFSFVSVAATNNFSDDNKLGEFGFPVYK
 GILLNGDEVAVKRLSRRSGQWHEELRNEALLIAKLQHNNLVRLGCCIDQEEKMLIYEFM
 PNRSLDVFLFDATKRRLDQSGRVRIIDGIAQGVLYLHQYSRFRIIHRDLKASNILLDTN
 MNPKISDFGMARIFGENELQASTKRIVGTGYMSPEYAMEGVFSIKSDVFSFGVLLLEII
 SGKKNTSFYQTNSLCLGYAWDLWTNNSVMDLMDPTLDDSDSTSSRNHTVPRYVNIGLLC
 VQESPADRPTMSDAVSMIGNDNVALPSPKPPAFLNVRGNQNSILPNSIPESFSLNVITNT
 IVEPR*

>Glyma.12G198000|Glyma.12G198000.1|35923580|GNA/S-locus glycoprotein/protein kinase

MRTDEVLSFSLFSLVLCFQLCSTGDTLKGQKITLNSLENLVSSNRTFELGFFPLSGSS
 SVVKSYLEGIWYHGLEPQTVVWVANRDKPVLDDSSGVFRIAEDGNLVIEGASSESYWSSKIE
 ASSSTNRTVKLLESGNLVLMDDNLGRSNYTWQSFQHPDTDTFLPGMKMDASVALISWRNST
 DPAPGNFTFTMAPEDERGSFAVQKLSQIYWDLELDRDVNSQVVSNNLGN'TTTRGTGSHN
 FSDKTIFTSKPYNYKSRLLMNSSGELQFLKWEDEGEQWEKHHWGPADCECDIHGYCGSFG
 ICNRNNHIGCKCLPGFAPIEQSEGEHQHGCVRKSTSCINTDVTFLNLTNIKVGNADEHE
 IFTETEAEQCSFCISKCPQCAYSYNRSTYSDRSPFTCNITWTQNLVSYLVEEYDRGRDLSI
 LVKRSDIAPTAKTCEPCGYEIPYPLSTGPNCGDSMYNKFNCTKSTGQVNFMMPEGISYQ
 VTRIEEDTRTFIQADASYSCSSRRDQNNTPNFPFNVDVCIQDFGIVKFSWQPAPEPPCN
 RPMDCMNWPHSTCRETRCHCDLKYRWNNSIMSCTQEEPSREHLTHRLTLILTTLGSMAI
 LACITAFVLVRRKKKAHKLDRASTQIQESLYESEKRVKGLIGLGSLEEKDIEGIEVPCYT
 FASILAATVNDFTSNKLGRGGYGPVYKGTFFPGQDIAVKRLSSVSTQGLEEFKNEVILIA
 KLQHRNLVRLRGYCIKGDEKILLYEYMPNKSLSDFIDRTRTLLLDWPPIRFEIIVGIARG
 MLYLHQDSRLRIVHRDLKTSNILLDEEMNPKISDFGLAKIFGGKETEASTERVVGTYGYM
 APEYALDGLFSFKSDVFSFGVVLLEILSGKRNTEGFIQSKQISSLLGHAWKLWTENKLLDL
 MDPSLGETCNENQFIKCALIGLLCIQDEPGDRPTMSNVLSMLDIEAVTMPITPPTFFVN
 KRHSSSASSSSKPETSLQFDSSYQEGR*

>Glyma.12G198100|Glyma.12G198100.1|35933643|GNA/S-locus glycoprotein/protein kinase

MRTDEVLFSSFLSLVLCFQLCSTGDTLKAGQKITLNSFENLVSSNRTFELGFFPLSGSS
SVVKRYLGIWYHGLEPQTVVWVANRDKPVLDSNGVFRIAEDGNLVIEGASSESYWSSKIE
AYSSTNRTVKLLESGLNLVMDNDLGRSNYTQSFQHPDTDFLPGMKMDASVALISWRNST
DPAPGNFTFTMPVEDERGSFAVQKLSQIYWDLDELDRDVNSQVVSNNLGNNTTTRGTRSHN
FSNKTVYTSKPYNYKKSRLLMNSSGELQFLKWDEDEGQWEKRWGPADECDIHDSCGSFG
ICNRNNHIGCKCLPGFAPIEGELQGHGCVRKSTSCINTDVTFLNLTNIKVGNPDEHIFT
ETEAEQCQSFCSKCPCLQAYSYHTSTYGDRSPFTCNIWTONLSSLVEEYDRGRDLSILVK
RSDIAPTAKTCEPCGTYEIPYPLSTGPNCGDPYMKFNCTKSTGQVNFMTPKGISYQVTR
IEEDTRTFFIHTNASYSCSSRRDQSNTPNFPFNVAECIPDVGVLFWRQPAPEPPCNRPM
CMNWPYSTCRETSEGGTRCHCDLKYRWNNSIMSCTQEPPSNRSYKRLELILTIILISTIT
LACIIVLAIIVRRKKNAKPDRASTQIQESLYESERQVKGLIGLGSLEEKDIEGIEVPCYT
YASILAATDNFSDSNKLGRGGYGPVYKGTFFPGGQDIQVRLSSVSTQGLEEFKNEVILIA
KLQHRNLVRLRGYCIIEGDEKILLYEYMPNKSLSDFIDPTRTSLLDWPPIRFEIIVGIARG
MLYLHQDSRLRVIHRDLKTSNILLDEEMNPKISDFGLAKIFGGKETEACTIONGRVMGTFGYM
APEYALDGGFFSTKSDVFSFGVVLLEILSGKNTGFYQSKQISSLLGHAWKLWTENKLLDL
MDPSLCETCNEFEIKCAVIGLLCVQDEPSDRPTMSNVLFMLDIEAASMPIPTQPTFFVK
KHLSSSSASSSSKPDIGQYESSYQEGR*

>Glyma.12G198600|Glyma.12G198600.1|35997653|GNA/S-locus glycoprotein/PAN/protein kinase

MHRNPSTISFLISPYNHMRNPWFICISLLTLFFSLLTHNSLAALTNVSSNQTLTGDQTLLS
KGEIFELGFFKPGGNLVLLDGGSSNQVWSTNITSPRSDSVVAVLRDSDGNLVLTNRPN
DASASDSDSLWQSFHDPTDWTWLPGGKIKLDNKTKKPQYLTSWKNNEDPATGLFSL
ELDPKGSTSYLILWNKSEEYWTSGAWNGHIFSLVPEMRANYIYNFSFVTNENESYFTYS
MYNSSIISR FVMDVSGQVKQFTWLENAQQWNLFWSQPRQQCEVYAFCGAFGSC
TENSMPYCNCPLPGFEPKSPSDWNLVLDYSGGCERKTMLQCENLNPSNGDKDGFVAIP
NIALPKHEQSVGSGNAGECESICLNNCSCKAYAFDSNGCSIWFDNLLNLQQLSQDDSS
GQTLVYKLAASEFHDHDKSKIGMIIGVVVGVVVGIGILLAILLFFVIRRRKRMV
GARKPVEGSLVAFGYRDLQNAATKNFSEKLGGGGFSGVSFVKTLGDSGVA
VKKLESISQGEKQFRTEVSTIGTVQHVNLVRLRGFCSEGA KRLLVYDYM
PNGSLDFHLFHNKNSKVLWDKMRVQIALGTARGLTYLHEKCRDCI
IHCDVKPENILLDAEFCKPVADFGAKLVGRDFSRVLTMRGTRGYLAPEWISGVAITAKADVSY
GMMLEFEVSGRRNSEPSDGVKVTFFPSFAANVVVQGDSVAGLLDPSLEGNAEIEEVTRI
IKVASWCIQDNEAQRPSMGQVVQIILEGILEVNLPPIPRSLQVFVDNQESL
VFYTESDSTQS SQVKS NVSKTSSSHAISNISSASSKSLGGEN*

>Glyma.12G198800|Glyma.12G198800.1|36004701|GNA/S-locus glycoprotein/PAN/protein kinase

MRNPWICISLLTLFFSLFTHNSLAALPTVSSNQTLTGDQTLLSKGGIFELGFFKPGNTSN
YYIGIWKYKVTIQTIVVWVANRDNPVSDKNATLTISGGNLVLLDGGSSNQVWSTNITSPRS
DSVVAVLNDTGNLVLKPNDAASDSDYLWQSFHDHTDFTLPGGKIKLDNKTKKPQYLT
SWKNNQDPATGLFSLDELDPKGSNSYLIWNKSEEYWTSGAWNGQIFSLVPEMR
LNYIYNFSFVMNENESYFTYSMYNSSIMSRFVMDVSGQIKQFSWLEKTQQWNLFWSQPRQQCEVYAF
CGVFGSC TENSMPYCNCPLPGFEPKSPSDWNLVLDYSGGCERKTMLQCENLN
SSNGDKDGFVAIPNMALPKHEQSVGSGNVGECESICLNNCSCKAYAFDGNRCSIWFDNLLNVQQLSQDDSS
GQTLVYKLAASEFHDHDKNR IEMIIGVVVGVVVGIGVLLALLLYVKIRPRKRMV
GAVEGSLLVFGYRDLQNAATKNFSDKLGEFGSVFVKGTLDTSVVAVKKLKSISQGEKQFRTEVNTI
GKVQHVNLVRLRGFCWEGTKKLLVYDYMNGSLDCHLFQNNNCKVLWDKTRYQIALGTAR
GLAYLHEKCRDCI IHCDVKPNLILLDAFCKPVADFGAKLVGRDLSRVITAVRGTKNYI
APEWISGVPITAKVDVYSYGMMLFEFVSGRRNSEQCEGGPFASFP IWAANVVTQCDNVLS
LLDPSLEGNADEEVTRMATVALWCVQENETQRPTMGQVHILEGILDVNLPPIPRSLQV
FVDN*

>Glyma.12G240300|Glyma.12G240300.1|39899116|GNA/protein kinase

MASSTFLHSYSLLLLIILPFLPSVFSATSSNCSANSIHLNSTLVNHTWNSPSGLFAFGF
QNVLSNKEFMSVLAVWFPKDPHRTIVWYAKYKQTSDLGTMHAVSSMQKSLAFPSDSTVKL
TNKGIVLYDQNGQEMWHRPKNNSIALVRCASMLDSGNFVLLDETGHVWESFEEPTDFTL
PGQILAKPKSFRARHSNTSFYDGSFELAWQSDYNFVLYYSPQSSVTREAYWATQTN
SYDESLLVFNESGHMYIKRSNTGKVIREVLYGGSEEFYMARIDPDGLFRLYRHRKDDDTIADS
CSSGWWSVVD RYPKDICLSITMQTGNAICGYNSYCITINGNPSCECPDIFSSFDH
DNNLKTCPRPDFPLPSCNKDGEQNKDLVDFKEYQNLWDPLSDYDKLVGTAMDKDMCRQK
CLEDCFCVAVAIYEGEQCKWKYPLSNGRKHNPVTRIALVKIPKTGLNKDGTGSLGNGREQSTIVLV
ISILLGSSVFLNVILLVALFAAFYIFYHKLLNSPNLSAATIRYYTYKELEEAT'TGFKQM
LGRGAFGTVYKGVLSKDSYRYVAVKRLDKVVQEGEKEFKTEVSVIGQTHHRNLVRL
LGYCDEEHRLLVY EYMNNGSLACFLFGISRPHWNQRVQIALGIARGLTYLHEECSTQI
IHCDIKPQNILLDELFTPRIADFGAKLLLAEQSKATKTGLRGTVGYFAPEWFRKASITTKVDVY
SFGVVLLEIICKSSVSFAMASEEETLIDWAYRCYSQGVAKLVENDEEAKKDIKRVEKH
VMVAIWCIQEDPSLRPSMKKVTQMLEGVTTVSLPPRPAIFSSSSFETSFTL*

>Glyma.13G160900|Glyma.13G160900.1|27666836|GNA/S-locus glycoprotein/PAN/protein kinase

MISTSTSVDSLAVDQLIRDGETLVSASGITEVGFSLSPGDSKRRYLGIWYRNISPLTVVWV
ANRNTPLQNTSGVLKLNQKGFVLVLLNATNSAIWSSNILSTALGFGKFCRMKLGWNLETGL
ERYGLSWKSVENPAEGDYTVKIDLGGYPQMVI FRVPDIKTRIVPWNGLSIVGYPGPNHLS
LQEFVINEKEVYYEYELLDRSVFSLYTLAPSGTGQGLFWTTEISTRKVVSI GEQDQCENY
AFCGTNSICSYEGNYSTCECVKGCVPKFPQYWNLSIWSNGCVPRIKSNCKNGYTYGFLKY
TQMKLPDTSSSWFNKTMKLEDCHKLCLENCSCLAYASLDVRGGGSGCLLWFNNLADLRKF
SQWGQDLYIKVPASDLYHVATGHENIKKKIVGITVGVTTFGLIITCVCILIIKNQRAARK
IYNKHYKSKQII EDIDLPTFALSALANATENFSTKNKLREGGFGPVYKGTLMMDGKVLAVK
RLSKKSIQGLDEFKKEVALIAKPQHRNLVKLLGCCIEGEEKMLIYEYMPNQSLDYFVFG
LYLHQDSRLRIIHRDLKTSNILLDANLDPNISDFGLARSFFGDQVAGTYGYMPPEYAARG
HFSCLKSDVFSYGVILLEIVSGNKNREFADPENYNLLGNARLWTEERTLEILDDVLEEK
CTPHERPIVPGFYTQNDVAFEADHNLCSVNELSITVLDAGLERKAGKC*

>Glyma.13G166900|Glyma.13G166900.1|28169255|GNA/S-locus glycoprotein/protein kinase

MAFIPVVLSSLFMLFAEQGTGKRVIELGSRLSPEGNQSSWASSSGHFAFGFYSQGDGFAV
GIWLVNVS PAENTIVWTANRDSPLSSNSTLQLTKTGLLFFQDGRQGVLLSNFVDVTSS
ASMLDSGNFVLYDDTHNTVWVQSFEPHTDTILGGQNLINAKLVSSVSNSSHSSGRFFLL
MQGDGNLVAYPVNSPETGGDAYWASNTKGSTFQHLNVLGFLCLSGPGNLHCFNHSIS
PGMKLQNKTSIYRSTVDVDGNLRLYEHQLEGNGSSHVQVLWSTPLKKCETKGC GFNSYC
SIVTGHAMCECFPGFVPSKNGSVSLDCVLAHSGKSGCKSSEDAMISYKITMLENMSFSDS
DDPYWVSQMKKEECEKSFLEDCDCMAVLYLNGNCRKYRLPLTYGRTIQNQVAVALFKVPS
GIVDSSTPNNSTLKPRIIVDNKKRLVMVLAITLGCFLLLSLALAGFI FLIYKRKVYKYTK
LFKSENLGFTKECSLHPFSFDELEISTRSTEEIERGSFGAVYRGTIGDTNTSIAVKRLE
TIADEGEREFRTETAIARTHKKNLVKLIGFCINGARKLLVYEVVSNGLASLLFNDEKH
MSWRDLKIALDVARGVLYLHEECEVRIIHCITWAKISDFGLAKLLKLDH SRMKNEDEET
SKYLAP EWQKDAPISVKFDIYSFGMVLL EIVCRRRSIEMNVSSVEEIHLSWVYQCFAAG
QLNKLKVEDESTVDWRILERMVKVGLWCVDSPPLRPSIKNVILMLEGLKDIPIPPPAE
TSLNKYS*

>Glyma.13G167000|Glyma.13G167000.1|28174907|GNA/S-locus glycoprotein/protein kinase

MKDDAEPSAGDVMLEIYGTRVEMKQIQPGASLVPNTTLAWWPSPSGQFAFGFY PQEQGDA
FVIAIWLVS GENKIVVWTARRDDPPVTSNAKLQLTKDGKFLIDEHGEEKSIADI IAKAS
SASMLDSGNFVLYNNNSSIIWQSF DYPDTLLGGQSLPNGHQLVSASSNNSHSTGRYRFK
MQDDGNLVMPVSTDTALDAYWASSTNSGFKTNLYLNQTGLLQILNDSGSIIMKTLYH
HSSFPNDGNRIIYRSTLDFDGFRLYKHFDNGSFQKAHHWPDENACAVKGC GFNSYCTF
NDTQPLCTCLPDFELIYPTDSTRGCKRSFQNEDCNGQKDSATFYDMKPMEDTFVGTDNPY
FKAKMPKEDCSSACLADCSCEAVFYDDTEESCMKQRLPLRYLRRPGQDEFGVNQALLFLK
VGNRSLNNGTGNDNPVPEQPSPTPIKTTRNKATVQIVVITSVFSLLLCSTIVISSHYMYK
IRILSYERLMEMGNWGLSEELTLKRFSYSELKRATNNFKQKLGRGSFGAVYKGGNLKGSF
GAVYKGGNLKGRRLIAVKRLLEKLV EGEREFQAE MRAIGKTHHRNLVRLLG FCAEGSKRL
LVY EYMPNGSLENLIFGAQSQRRPGWDERVRIALEIAKGILYLHEECEAPIIHCDIKPQN
ILMDEFWTAKISDFGLAKLLMPDQTRTITGARGTRGYVAPEWDKLNIPISVKVDVYSYGI
VLL EILCCRRNIEVHVSEPEAALLSNWAYKCFVSGQLNKLFLWESVDNKTSVENIVKVAL
WCIQDEPFLRPTMKS VVLMLEGITDIAIPPCPNSSYV*

>Glyma.13G248300|Glyma.13G248300.1|35640626|GNA/S-locus glycoprotein/PAN/protein kinase

MDFTSLILALVIVCCFCQCLSSGNDTITPGQFIRD PHTLTSANSAFKLGFFSPQNSSNRY
LGIWYLSDSNVIWVANRNQPLKSSSGTVQISEDGNLVVLD SNKRAVWSTNLTHNIATNS
TAKLLETGNLVLLDDASGQTTWESFRHPCHALVPKMKFGSNQKTGEKIRITSWRASDPS
VGYYSTTLEHPNTPEMFFWLNETRPYHRS GPWNSQIFIGSTEMSPGYLSGWNIMNDVDDE
TVYLSYTLPNQSYFGIMTLNPHGQIVCSWWFNEKLVKRMVMQRTSCDLYGYCGAFGSCSM
QDSPICSC LNGYKPKNVEEWNRNKNWTS GCVRSEPLQCGEHTNGSKVSKDGFLRLENIKVP
DFVRRLDY LKDECRACLES CSCVAYAYDSGIGCMVWSGDLIDIQKFASGGVDLYIRVPP
SELEKLADKRKHKRFIIPVGVITGTTITLVGC VYLSWKWTTKPTGNVYSLRQRMNRDHNEV
KLHDQLPLFSFEELVNATNNPHSANELGKGGFGSVYKGQLKDGHEIAVKRLSKTSGQGLE
ECMNEVLVISKLQHRNLVRLLGCCIKKKENMLVY EYMPNKS L D VILFDPVKKKDLDPKR
FNIEGISRGLLYLHRDSRLKIIHRDLKVS NILLDGELNPKISDFGMARIFGGNDIQNT
RRVVGTFGYMPPEYAFRGLVSEKLDVFSFGVLLLEIIISGRKISSYDHDQSMSLLGF AWK
LWNEKDIQSVIDPEISNPNHVNDIERCIHIGLLCLQNLATERPIMATVVSMLNSEIVNLP
RPSHPAFVDRQIVSSAESSRQNHRTQSINNVTVTDMQGR*

>Glyma.13G248400|Glyma.13G248400.1|35651954|GNA/S-locus glycoprotein/PAN/protein kinase

MIMDITSLILALFIVYCFQCCLSSANNTITSGQYITDPHTLISPNSVFKLGFFSPQNSSN
RYLGIWYLSDSNVIWVANRNQPLKTSSSGTVQISEDGNLVVLD SNKRVVWSSNVTHNIAT

NSTAKLLETGNLVLIDDATGESMWESFRHPCHALVPKMKLSITQKTYEKVRITSWRSPSD
 PSLGYYSATLERPNIPEVFYWINETQPYRTGPWNGQIFIGSPQMSRGYLYGWNMMNDED
 DGTVYLSYNLPSQSYFAVMTLNPQGHPTIEWWRDRKLVWREVLQGNSCDRYGHCGAFGSC
 NWQSSPICNCLSGYKPKYVEEWNRNKNWTS GCVRSEPLQCQEQTNGSEVSKDGFRLLENMK
 VSDVFQRLDCEDECEQAQCLENCSCVAYAYDNGIGCMVWSGDLIDIQKFSSGGIDLYIRV
 PPSESELEKHS DKRRHKI ILIPVGITIGMVALAGCVCLSRKWTAKSIGKINSQRQGMNED
 QKQVKLNDHLPFFSFEEVLNATNNFHSANELGKGGFGSVYKQGLKDGHEIAVKRLSKTSG
 QGLEECMNEVLVISRLQHRNLVRLLGCCIEQEENMLVYEYMPNKS L D V I L F D P A K K Q D L D
 WPKRFNII EGISRGLLYLHRDSRIKI IHRDLKVSNIILLDGE L N P K I S D F G M A K I F G G N D M
 QANTRRVVGTFGYMPPEYAFQGLVSEKLDVFGFVLLLEIISGRKISSCFDHDQSLSLLG
 FAWKLWNEKDIQSLIDPEISNPNVNDIVRCIHIHGLLCSQELAKERPLMATVVSMLNSEI
 VDLPPPLNPAFIKRQIVSCADSSQQNHITQSINNVTVTGIQGR*

>Glyma.13G248500|Glyma.13G248500.1|35658070|GNA/S-locus glycoprotein/PAN/protein kinase

MNHGIDINLVNCTVAWFKKTSSHYIHSSADTVTVLSTNIMGFLNALLIVFPIIFLGLTSA
 TDTLTSSQSIRDSETVVTSND SVFKLGFFSPQNSTHRYVGIWYLSDSNVIWIANRNKPLL
 DSSGVLKISKDGNLVLVDGKNHVIWSSNVSNTATITSTAQLSRSGNLVLKDDSTGQTLWE
 SFKHPCD SAVPTMRI SANRITGEKIRFVSRKSADPSTGYFSASLERLDAPEVFLWINGT
 RPYWRTGPWNGRIFIGTPLMSTGYLYGWNVGYEGNETVYLTYSFADPSSFGILTLPQ GK
 LKLVRYYNRKHTLTLDLGISDCDVYGT CGAFGSCNGQNSPICSLSGYEPRNQEEWSRON
 WTSGCVRKVPLK CERFKNGSEDEQEDQFLKLETMKVPDFAERLDVEEGQCGTQCLQNCSC
 LAYAYDAGIGCLYWTRDLIDLQKFQTAGVDLYIRLARSEFQSSNAQEHTNKTRGKRLIIG
 ITVATAGTIIFAICAYLAIRRFNSWKGTAKDSENQSQRVTEVQKPAKLDELPLDFFEVVA
 NATDNFHLANTLGKGGFGPVYKGLLPDQGEIAVKRLAKASGQGLEEFMNEVGVI SKLQHR
 NLVKLLGCCVEGDEKMLIYEFMPNKS L D A F I D P L R Q K L L D W T K R F N I I E G V A R G L L Y L H
 RDSRLKIIHRDLKASNILLDAEMNPKISDFGLARIYKGEDEVNTKRVVGTYGYMSPEYAM
 EGLFSEKSDIYSFGVLLLEIISGKRNTSFRNDDQSLSLIGYAWN LW N E D N I S F L V D P E I S
 ASGSENHIFRCIHIAPLCVQEVAKTRPTMTTVLSMLNSEISHLPPPRQVGFVQKQSSSSL
 ESSSQENQFNSSNNHVTLTTEMQGR*

>Glyma.13G248700|Glyma.13G248700.1|35668869|GNA/S-locus glycoprotein/PAN/protein kinase

MGFSTGGNTLPVFLILSNFYMNWVTALDIIITVSRLMKDPETVTSNDGAFKLGFFSPGNTS
 NRYVGIWYLSSESNIWVANRGQPLEDSSGVVTISDDRNLVVLNGRKQVWSSNVSNIESN
 STAQLLNTGNLVLLDNITGKTIWESFKHPSNTFTPNMIISTNQVTGEKVKVT SWKSLSDP
 AIGTFSGSLERLSVPEVFVWNQTQPCSGPWNGQVFIGLATMYTSAYLNGFSVERENSVTV
 QITYTLPNDSFFGTIFLSPEGRMVYTSWINRQLVGKRVIQQSNCDIYGF CGAYGSCDSNK
 LPIIICSLRGFEPRNREEWNRQNWTS GCVRREALQCKRSGASKEDGFVKLQMSKVPDFAH
 QSSVSVDTCRTECLNNCSTAYAYDAAIGCMSWSGELIDIVRFSRGGVDLYIRQAHS E L D
 VGRNMTSIIIVTVIVGTLLVATCAYFLWTWTSKSSARMESQPSLVLRTPPENRNAGLSG
 DLNQVKIQDLPVFNFENIATATNYFNLANKLGQGGFGSVYKGVLDGQGEVAVKRLSRTSR
 QGTEEFMNEVTVISKLQHRNLVRLLGCCIEGEEKMLIFEYMPNKS L D F Y L F D P V K K V L D
 WQKRFNII EGISRGLLYLHRDSRLRI IHRDLKPSNIILLDGE L N P K I S D F G M A K I F G G S E D
 EANTRRVVGTYGYMSPEYAMEGLFSEKSDVFSFGVLLLEIISGRKNSSFRNHELSSLG
 YAWKLWNEEEIVSLVDPEIFSPDNVYHTLRICIHIHGLLCVQELAKERPTMATVVSMLNSEI
 VNFPPPPQPPAFIQRQIELRGESSQQSHNSNSINNVTVTNLQGR*

>Glyma.13G248800|Glyma.13G248800.1|35677452|GNA/S-locus glycoprotein/PAN/protein kinase

MAAAMMISFYFLFSLFHNLFSLAASSKIRITQGVITIRDKEHETLVSEELNFAMGFFSFDN
 SSSRYVGIWYDNIPGSEVIWVANRDKPINGTVGAITIAN DGNLVLVDGAMNHVWSTNVS I
 DDNNKNSSATLRDDGNLVLTCERKEVWQSFENPTDTYMPGMKVS V G G L S T S H V F T S W K S A
 TDPSKGNYTGMVDPEGLPQIVVWEGEKRRWRS GYWDGRMFQGLSIAASYLYGFTLNGDGK
 GGRFYIYNPLNGTDKVRFQIGWDGYEREFRWNEDEKSWNEIQKGPFH E C D V Y N K C G S F A A
 CDVLTLSPEDLVVCTCIRGFEPKHKDQWDKGNWSGGCTRMTP L K A Q R I N V T S G T G V S V G
 EDGFLDRKSMKLPDFALVVGTDNCDRECFSDNSCTAYANVNLGCMVWHGDLVDIQHLES
 GGNTLYIRLAHSDLDGDKTNRIVIISTVVAGLICLGIFVWLVRFKAKLKVLP TVSSVS
 CCKSSNVLPVFDENKSREMSAEFSGSADLTLEGNQLSGPEFPVFNFS C I S I A T N N F S E E N
 KLGQGGFGPVYKGLPGGEQIAVKRLSRRSGQGLEEFKNEMMLIAKLQHRNLVRLMGCSI
 QGEEKLLVYEYMPNKS L D C F L F D P V K Q T Q L P W T R R F E I I E S I A R A L L Y L H R D S R L R I I H R
 DLKASNILLDENMNPKISDFGLARIFGGNQNEANTNRVVGTYGYMAPEYAMEGLFSVKSD
 VYSFGVLLLEILSGRRNTSFRHSDSSLI GYAWHLWNEHRAMEL L D P C I R D S S P R N K A L R
 CIHIGMLCVQDSAAHRPNMSAVVLMLESEATTLPMP T Q P L I T S M R R T E D R Q F Y M D G L D V S
 NDLTVTMVVG R *

>Glyma.13G248900|Glyma.13G248900.1|35685233|GNA/S-locus glycoprotein/PAN/protein kinase/SRK

MPGFLFFLFCFFLASSQHITISFSADTLTSTQILLTNQTLISPSQVFALGFFPGTNSTWY
 LGTWYNNINDRTIVVANRDNPLENSNGFLTIAENGNI V L T N P S M K K Y P V W S S N A T T K A N

NNNRVLQLLDTGNLVLREANITDPTKYLWQSFYPTDTLLPGMKMGWNLDTGVEKHLTSW
 KATGSDPSSGDYSFKIDTRGIPEIFLRDDQNITYRSGPWNGERFSGVPEMQPNTDTITFD
 FSYDKDGVYYLFSIGSRISLRLVLTSGGELQRLTWVPSRNTWTWKFYARKDQCDGYREC
 GPYGLCDSNASPVCTCVGGFRPRNLQAWNLRDGS DGCVRN TDLD CGRDKFLHLENVKLPE
 TTYVFANRTMNLRECEDLCKRNCSC TAYANIEITNGGSGCVTWTGELIDMRLYPAGGQDL
 YVRLAASDVDDIGSGGGSHKKNHIGEVVGITISAAVILGLVVI FWKKRKL LSI SNVKAG
 PRGSFQSRDL LTTVQRFSTNRKNSGERNMDDIELPMFDFNTITMATDNFSEANKLGQG
 GFGIVYRGRLMEGQDI AVKRLSKSSMQGV EEFKNEIKLIVRLQHRNLVRLFGCCIE MHER
 LLVYEYME NRSLDSILFDKAKKPILDWKRRFNIICGIARGLLYLHHSRFR I IHRDLKAS
 NILLDSEMNPKISDFGMARLFGSNQTEANTSRVVGTYGYMSPEYAMDGNFSVKSDVFSFG
 VLVLEIITGKKNRGFYYSNEDMNLGNAWRQWRDGSAL ELIDSS TGD SYSPSEVLRCIHV
 GLLCVQERAEDRPTMSSVLLMLSSSVLMPQPRNPGFSIGKNPAETDSSSSKKDESWSVN
 QVTVTLLDAR*

>Glyma.13G249000 | Glyma.13G249000.1 | 35692094 | GNA/S-locus glycoprotein/PAN/protein kinase

MNKVVTTIIFALVCQPILQKASYAGAALTQTSSITDGOELISARQIFSLGFFT PRRSSSR Y
 IGIWYKNVKPQT VVWVANRDNPLNDISGNLTIAADGNIVLFDGAGNRIWSTNIYRSIERP
 IAKLLDSGNLVLMDAKHCDSDTYIWQSFYPTDTMLPGMKLGWDKTS DLNRCLTSWK TAK
 DPSPGSFTYSFLHIEFPFLIRQGM DITFRSGIWDGTRFNSDDWLFNEITAFRPHISVSS
 NEVVYWDPEGDRLSRFVMRGDGLLQRYIWDNK TLMWIE MYEIRKDFCDNYGVCVNGVCN
 IEDVPVYCDCLKGFIPCSQEEWDSFNRS GGCIRRTPLNCTQDDGFQKLSWVKLPMPLQFC
 TNNSMSIEECRVECLKNCSC TAYANSAMNGGPHGC LLWF GDLDIRQLINEKGEQLDLYV
 RLAASEIEAIAKASKRRKIALIISASSLALLLLCII FYLCKYIKPRTATDLGCRNHIEDQ
 ALHLFDIDIILAATNNFSGIENKIGEGGFGPVYRGKLSSRQEI AVKRLSKTSKQGIS EFMN
 EVGLVAKFQHRNLVSVILGGCTQGDERMLVY EYMANSSLDHFI FDAVHRKLLKWRKRYEII
 LGVARGLLYLHQDSNLTI IHRDLKTSNILL DKEFNPKISDFGLAHIFEGDHSTVTTKRIV
 GTVGYMSPEYAVNGLLSLKSDVFSFGVIVLEILSGIKNNNFNHPDDSNLLGQAWRLWIEG
 RAVEFMDVNLNLAAPSEILRCLHVGLLCVQKLPKDRPTMSSVVFMLS NESITLAQPKQP
 GFFEEVLQSQGCNNKESFSNNSLTITQLEGRT*

>Glyma.13G249200 | Glyma.13G249200.1 | 35701949 | GNA/S-locus glycoprotein/PAN/protein kinase

MRRRRVRMNKIVII FACLSMLQKMAYAADALTPTSSINDGQELISAGQNFSLGFFT PGIS
 KSRYVGIWYKNIMPQT VVWVANRDYPLNDSSGNLTIVAGNIVLFDGSGNRIWSTNSSRSS
 IQEPMAKLLDSGNLVLMDGKSSDSDSYIWQSFYPTDTTLPGLKLGWDKTSGLNRYLTSW
 KSANDPSAGSFYTGFFHNEITEFVLRQGMKITFRSGIWDGTRLNSDDWIFNEITAFRPII
 SVTSTEALYWDPEGDRLSRFVMRKDDGMLQRYIWDNKVLKWI EMEYARKDFCDDY GACGVN
 GICNIDKVPVYCDCLKGFIPKSGEWN SFNRS GGCIRRTPLNCTQGDRFQKLSAIKLPKL
 LQFWTNNSMNLEECKVECLKNCSC TAYANSAMNEGPHGC FLWF GDLDIRKLINEEAGQL
 DLYIKLAASEIESTANA I KRRKIALIISASLVALLLLCII LYLSKKYIKERTTTDLVAGN
 RNHNEHQASPLFHIDTILAATNNFSTANKIGEGGFGPVYRGKLADGQEI AVKRLSKTSKQ
 GISEFMNEVGLVAKLQHRNLVSI LGGCTQGDERMLVY EYMANSSLDHFI FDP TQRKFLNW
 RKR YEIIMGISRGLLYLHQDSKLTIIHRDLKTSNILL DSELNPKISDFGLAHIFEGDHST
 VTTKRIVGTVG YMSPEYAANGLLSLKSDVFSFGVIVLEILSGIRNNNFYHSDHERNLLVQ
 AWRLWKEGRAVEFMDANLDLATIRSELLRCLQVGLLCVQKLPKDRPTMSSVVFMLS NESI
 TLAQPKKPEFIEEGLEFPGYSNNSMTITLLEARN*

>Glyma.13G249300 | Glyma.13G249300.1 | 35712072 | GNA/S-locus glycoprotein/PAN/protein kinase/SRK

MERTEFTLLFLVTCCYLLSLFPTALEAEDAITPPQTISGYQTLVSPSQNFELGFFSPGNS
 THIYLG IWKHPKQTVI WVANRDKPLVNSGGSLTFSNNGKLILLSHTGSVVWSSNSSGP
 ARNPVAHLLDSGNFVLKDY GNEGLWESFDYPSDTLIPGMKLGWNFKTGLNRHLTSWKSS
 SNPSSGEYTYGVDPRGIPQLFLHKG NKVFRSGP WYGQ QFKGDPVLSANPVFKPIFVFDS
 DEVSYSYETKDTIVSRFVLSQSGLIQHFSWNDHHSSWFSEFSVQGDRCDDYGLCGAYGSC
 NIKSSPVCKCLKGDFPKLPQEW EKNWSGGCVRKNSQVFSNGDTFKQFTGMKLPDAAEFH
 TNYTISSDHCEAECMNCSCVAYAKLDVNASGKGCIVWFGDLFDIREVSVNGEDFYVRVP
 ASEVGKKIKGICSRSMSCFSPILAVFRNMAHLFLSPNVDGNKRKKLILFPVTA FVSSTII
 VSALWLI IKKCRKRKAKETDSQFSVGRARSERNEFKLPLFEIAIIEAATENFSLYNKIGE
 GGFGHVYKQQLPSGQEI AVKRLSENSGQGLQEFKNEVILISQLQHRNLVKLLGCCIHGED
 KMLVY EYMPNRSLDSLLFDETKRSVLSWQKRLDIIIGIARGLLYLHRDSRLRI IHRDLKA
 SNVLLDGEMNPKISDFGMARMF GGDQTEAKTKRIVGTYGYMSPEY AIDGHFSFKSDVYSF
 GVLLLELLSGKKNKGFIHPDHKLNLLGHAKLWNEDRALELMDALLENQFPPTSEALRCIQ
 VGLSCIQQHPEDRPTMSSVLLMFDSESVLVPQGRPGLYSERFFSGTNSSSRGGLNSGSN
 DITVTLVEGR*

>Glyma.13G270100 | Glyma.13G270100.1 | 37204783 | GNA

MASVPQPKISLLTLFFSSFTIIAHAIVPQNETFKFENS GELGPYIVEYGADYRMISIFN
 SPFQVG FYNTTPNAFTLALRVGLQRSEQLFRWVWEANRANPVGENATFSLGTDGNLVLAD
 ADGRIAWQTNTANKGVVAFRLLSNGNMVLLDAQGGFVWQSF DHPDTLLVVGQYLRAKGPS

KLVSRLSEKENVDGPYSVLLEPKGLALYYKSKNSPKPILYWFSDDWFTIQRGSLENVTFT
SDPETFELGFDYHVANSSSGGNRILGRPNNSTITYLRLGIDGNIRFYTYFLDVRDGVWQ
VTTYTLFDRDSEDECQLPERCGKFGLEDNQCVACPLENGLLGSNNCTAKAVTSCKASD
FHYYKIEGVEHYMSKYTTGDRVSESTCGNKCTKDCKCVGYFYHKENSRCWVAYDLQTLTR
GANSSHVGYIKVPNK*

>Glyma.13G270200|Glyma.13G270200.1|37209460|GNA
MASLPQPKTSPLTLFFFSFTIIAHAIVPQNETFKFENSSELGPYIVEYGVDMISIFN
SPFHRMGLRRSEQLFRWVWEANRGNPVGENATFSLGTDGNLVLAEADGRIAWQTNTANKG
VVAFRLLPNGNMVLLDAQGKFLWQSFDPHTDTLLNDQYLRPKGPSKLISRLSEKENVDGP
YSLVLEPKRLALYYKSKNSPKPILYWYKLFQQGSSSSSTNEFRMTATGFGNI PVGVMGMP
VNNSTLTYLRLGIDGNIRLHTYFLGVRSGVWQVTTYTLFNDRSHDEFECQWPEKCGKLGN
CTAKPVKSCKARDFHCYKVEGVRHYLSKYTEGGKVRESTCGNKCTKDCKCVGCFYHGEVK
VLDSL*

>Glyma.13G283100|Glyma.13G283100.1|38451885|GNA/S-locus glycoprotein/PAN/protein
kinase
MQNLRTQFWFFLFCISRTSTSLDSIAPNQSIDGETLISHEKTFELGFFSPGSSSKSRY
LGIWYNNINPRTMVVANREAPLNTTSGVLKLSDDQGLVLVNGTNNIVWSSNMSTTAETEN
TIAQLLDSGNLVVKDGNSEYEHYLVQSFDPHCDTLLPGMKLGNWLEKGEELFLSSWKSAD
DPSHGEYSFKIDPRGCPQAVLWKGTLNLSNRFGPWNGLYFSGSLIDSQSPGVKVDVFLNKK
EIYYQFQVLNKSLSYRFWVTPNRNALVSLWESQISDWLILYSQSPFCEYYGRCGANSIC
NAGNPRCTCLDGFRRHMNSKDCVTRTIRLTCKNDRFRKYTGMLPDTSSSWYNKNMVL EE
CAEMCLQNCSCCTAYANLDISGGGSGCLLWYHDLIDL RHYPQAQGGQDIYIRYSDSEL DHS
QKNGLSKSKIASIVTGSTTFVSMILGLVIWLWKRKVEMEEMKKQLYQSHHNNLRKEEP
DLPAFDLPVIAKATDNFSDTNKLGEGGFGPVYKGTILGGQDI AVKRLSNNSGQGLKEFKN
EVALIAKLQHRNLVVKLHGYCTQEEKMLIYEYMPNMSLDYFI FDEIRTKLLDWSKRFHI I
GGIARGLVYLHEDSRLRVIHRDLKTSNILLDENMNPKISDFGLARTLWGDQVDANTNKIA
GTYGMPPEYAVHGHFSKSDVFSFGVMVLEIVSGKKNRDFSDPNHCLNLLGHAWRLWTE
GRPTNLMDAFLGERCTSSEVIRCIHVGLLCVQQRPNDRPDMSAVVLMNLNGEKSLPQPKAP
GFYNGRDKADLFGPFSNNDA SLTVLEAR*

>Glyma.13G283200|Glyma.13G283200.1|38458232|GNA/S-locus glycoprotein/PAN/protein
kinase
MDSYEVMIWFSLLFSLIPSISTRSSITLQPLHHNETLVSASGTFEAGFFSTGSSQRO
YFCICYKNISPRTIWVANRNTPLDNNFTGVFKVSDGNLVVLDGIGASVWSSNASTTSQ
KPIVQLLDSGNLVVKDGGTNSPEKVWQSFDFPGDTLLPGMKLRSSLVTGAHSSLT SWRD
TEDPALGEYSMYIDPRGFPQRVTTKGGTWLYRAGSWNGYQFSGVPWQLLHNFNYYFVLT
PKEVYEEYELLEPSVTRFVFNQEGLGQRFTWSERTQSWELFASGPRDQCENYGLCGANS
VCKINSYPICECLEGLLPKPFEEKWRSLDWSGCVRGTKLGCDGDFVKEYEGMRLPDTSS
SWFDTSM SLDECESVCLKNCSCCTAYTSLDIRGDSGCLLWFGNIVDMGKHVSQGEIYIR
MAASELDQTHWKRHASTKLVLILATITATFIVGLILGSVIYIRKLGKPGKTNI IDQMHS
IKHEKDDIDLPTLDLSTIDNATSNFASNILGEGGFGPVYKGVLANGQEI AVKRLSKNSG
QGLDEFNRNEVVLIANLQHRNLVKILGCCIQDDERILIYEFMPNRS LDYIFDRTRKLLD
WNKRFOIISGIARGLLYLHDSRLRI IHRDIKTSNILLDNDMNPKISDFGLARMLVGDHT
KANTKRVLVGTGYPPEYAVYGSFSVKSDFVFSFGVIVLEIVSGRKN TKFLDPLNQLNLIG
HAWRLWSEGR TLELIDESLDDSIIESEVLKIVHVGLLCVQERPEDRPNMSSVVLMLNGDR
PLPRPKLPAPYPHQEDFSSSSKCEFSNELSITLEAR*

>Glyma.13G283400|Glyma.13G283400.1|38473895|GNA/S-locus glycoprotein/PAN/protein
kinase/SRK
MEGFTLLLLFCLALLNSIAAATVRETISTLQSINDDQIIVSPGKTYALGFFSPGNSKNRYV
GIWYNEIPTQTVVWVANRDNPLADSSGVLKLN ETGALVLLNHNKSVWSSNASKPARYPV
AKLLDSGNLVVQDNDTSETKDLLWQSFDPYGDITILPGQKFGRLVTGLNRFMSSWNSTD
DPSQGEYSYQIDISGYPQLVLEGAFAKRYRFGSWNGIQFSGAPQLKQNNFTRFSFVSDEE
ELYFRFEQTNKFVFRMQSLSTDGYILGDYWNTEEKVWSLHGKIPVDDCDYDYDKCAYASC
NINNVPPCNCCLDGFVSKTDDIYGGCVRRTSLSCHGDGFLKLSGLKLPTERSWFNRSISL
EDCRTLCMNNCSCCTAYAAALDVSKGPTGCLLWFDDLVDIRDFTDVEDIYIRVAGTEIEAI
EGKQLHKSSIRKPQTVFISCVLFIAILILCLTFIIYRRWKTRQKGGKMKDKLERDASVIY
EHEKDDLELPMFEWSTITCATNNFSPDNKLGEFGGFSVYKGILDDGGEI AVKRLSKNSSQ
GLQEFKNEVMHIAKLQHRNLVRLLG YCIQAEERLLVYEFMANKSLDSFI FDENKSMLLDW
PRRSLIINGVARGLLYLHQDSRHRIVHRDLKAGNVLLDSEMNPKISDFGLARSFGGNEIE
ATTKHVVGTGYLPPEYIIDGAYSTKSDVFSFGVLILEIVSGKRNKGFCHQDNLLAHVWR
LFTTEGKCEIVDATI IDSLNLPVFLRTI HVGLLCVQLSPDDRPNMSSVVLMLSSESELPQ
PNLPGFFTSTSMAGDSSSSSSSYKYQTNNDMT VSIMSAR*

>Glyma.13G284100|Glyma.13G284100.1|38509353|GNA/S-locus glycoprotein/PAN/protein
kinase/SRK
MKNHIMPFMRIIFLCYHILVYLSGISLALDSISQDLSLSDDGKNTTLVSKDGT FELGFFT
PGNSQKRYLGIWYRKIPIQTVVWVANRLNPINDSSGILRMNPSTGT LVLTHNGTVI WSTA

SIRRPESPVALLLNSGNLVIRDEKDANSEYDLWESFNYPTDTFLPEMKFGWDLRTGLNRK
 LIAWKSPDDPSPSPDFSGMVLNNYPEAYMMKGDQKFYRSGPWNGHLHSSGSPQVKANPIYD
 FKFSVSNKDELYYTYSLKNSSMISRLVLNATSIVRKRYVWIESKQRWEVYTSVPLDLCDY
 SLCGANANCVISDSPVCQCLQGFKPLPEAWSSMDWSHGCI RNKELSCENKNKDGFNKL
 LLKTPDTHSWLDQTIGLEECKAKCLDNCSMAYANSDISGQSGSCAMWFGDLIDIRQFA
 AGGQDVYVRIDASELEHANEGHKKGGVLVAVTVTLALAAVAGILII LGWCYRKKSRCSVK
 ERSDFSIKSNQNSGMQVDDMDLPVFDLSTIAKATSNFTVKNKIGEGGFGPVYRGS LTDGQ
 EIAVKRLSASSGQGLTEFKNEVKLIAKLQHRNLVKLLGCCLEGEKMLVY EYMLNGSLDS
 FIFDEQRSGLDWSKRFNICGIAKGLLYLHQDSRLRI IHRDLKASNVL DSELPNKISD
 FGMARIFGVDQQEGNTKRIVGTYGYMAPEYATDGLFSVKSDVFSFGVLLLEIISGKRSRG
 YYNQNHSQLIGHAWKLWKEGRPLELIDKSIEDSSSLSQLHCHIVSLLCVQQNPEDRPG
 MSSVLLMLVSELELPEPKQPGFFGKYSGEADSSTSKQQLSSTNEITITLLEAR*

>Glyma.13G303400 | Glyma.13G303400.1 | 40047660 | GNA/S-locus glycoprotein/PAN/protein kinase

MVPNSAFTILLGSPVTRVGPVPFIIISLLLIICLLHCSLQLLIGVRATPMYSMRNQRFVYL
 LTLFFNLFTHNFLAALTITSTNQTLTGDTLVSEAGVFELGFFKPGNSSNYIIGIWKRV
 TIQTIVVWNRDNPVSDKSTAKLTISGGLVLLDASSNQVWSTNITSPMSDSVVAVLLD
 SGNLVLTNRPNGASASDLSWQSFHDLTDTFLPGGKIKLDNKTKKPQYLT SWKNNQDPATG
 LFSLELDPEGSNAYLISWNKSEFYWTSGAWNGHIFSLVPEMRLNYIFNFSFVSNENESYF
 TYSLYNTSIIISRLVMDVSGQIKQLSWLENAQQWNLFWSQPRQQCEVYAFCGAFGSC TENV
 MPYCNCLTGFEKPSFDFWNLDVYSGGCKRKTQLQCENS NPFNGDKDGFIAIPNLVLPKQE
 QSVGSGNEGECE SICLNNCSTAYAFDSNGCSIWFDNLLNVQQLSQDDSSGQTL YVKLAA
 SEFHDDNSRIGMIVSVVGVIVGIGVLLALLLYVKIRKRMVRAVEGSLVAFRYRDLQN
 ATKNFSEKLGEGGFGSVFKTGLDGTGVAVVKLESTSHVEKHFQTEITTI GKVQHVNLVR
 LRGFCEGSKLLLVYDYMNGSLDFHLFQNKNSKVLWDWKTRYQIALGTARGLAYLHEKCR
 ECIIHCDVKPGNILLDADFCKPLADFG LAKLVGRDLSRVVTAARGTTNYIAPEWISGVPI
 TAKVDVYSYGMMLFEFVSGRRNSEQCEGGPFAFFPTWAANIVAHGDNVLSLLDPNLEGNV
 DAEVTRMVTVALWCVQENETQRP TMGQVIHILDGILDVNLPIIPRSLKVFVDN*

>Glyma.13G303800 | Glyma.13G303800.1 | 40087141 | GNA/S-locus glycoprotein/protein kinase

MRTGELLFFSFLVSLALWFQLCFAGDTLIAGQEITQNR TGNLVSSSRTFELGFFSLSGE
 KKYLLGIWYRELEKETQKAVVWNRDKPVEDSSRVFRIAEDGNMVEGASSKRYWSSKLE
 ASSSTNRTVKLLDSGNLVLMDNLGITSYLWQSFQNP TDTFLPGMKMDANLSLISWKDAT
 DPSPGNF SFKLIHGQKFVVEKHLKRYWTLDAIDYRIARLLENATSGKV PYPKLSGITLNP
 RAYRYGKSMMLNYSGEIQFLKWEDEDRQWDKRW SRPADKCDIYNCCGSFGFCNKNLNL
 NLEPCRCCLPGFRRRPA GEIQDKGCVRKSTSSCIDK KDV MFLNLTNIKVGDLPDQESFDGT
 EAECQSLCLNNNTKCSSESQCAYSYNSSTS YDRDHSSTCKIWRDRDLSTLLERYNSDFLEE
 FVPGPILSILVKRSDIVPYAKSCEPCGIYVIPYPLSTGPN CGDPMYNNFN CNKSTGQVTF
 KILGGTSHQVIWIDEDTRMFYIQPNGSYPCNSSNQ NITPNFPFNVT DQCSEADDDGKIKI
 TWLPAPPEPCTELIDCHNWP HSTCRETSEGGSR CRCDSNYKWNNTIMSCTLEEHS TNQLE
 LILIVILSGMAILACTIAFAIVRRKKKAHELQANARIQESLYESERHV KGLIGLGS LAE
 KDIEGIEVPCYTFASILAATANFSDSNKLRGGYGPVYKGT FPGQDIAVKRLSSVSTQG
 LQEFKNEVILIAKLQHRNLVRLRGYCIKGDEKILL YEYMPNKS LDSFI FDRTRTLLLDWP
 MRFEIILGIARGLLYLHQDSRLRVIHRDLKTSNILLDEDMNPKISDFGLAKIFGGKETE A
 STERIVGTYGYMAPEYALDGFFSIKSDVFSFGVLLLEILSGKKNTGFYQSKQISSLLGHA
 WKLWTEKKLLDLMDQSLGETCNENQFIKCAVIGLLCIQDEPGDRPTMSNVLYMLDIETAT
 MPIPTQPTFFVNKH FSSASSSSSKPEISLQFESSYQEGR*

>Glyma.13G365400 | Glyma.13G365400.1 | 45150280 | GNA/protein kinase

MGIFRCGLTFHFVLLLFRTCLAKDQHVSQIYPGFSASQPDWSDHNGFFLLSNSSAFAGF
 FTTLDVSSFVLVVMHLSSYKVVTANRGLLVGTSDKFVLDH DGNAYLEGGNGVWATNTR
 GQKIRSMELLNSGNLVLLGENGT TIWQSF SHPTDTLLPGQDFVEGMTLKS FHNLSNMCHF
 LSYKAGDLVLYAGFETPQVYWSLSGEQAQGS SKNNTGKVHSASLVSNLSL SFYDISRALLW
 KVVFS ESDPKSLWAATLDPTGAITFYDLNKG RAPNPEAVKVPQDPCGIPQPCDPYYVCF
 FENWCICPKLLRTRYNCKPPNISTCSRSTELLYVGEELDYFALKYTAPVSKSNLNACKE
 TCLGNCSCLVLFENSTGRCFHFDQTGSFQRYKRGAGAGGYVSFMKVS ISSASDDGHG NK
 NGRNDMVLVVVIVLTVLVIVGLITGFWYLFKRKKNVAKYPQDD LDEDDDFLDSLSGMPAR
 FTFAALCRATKDFSSKIGEGGFGSVYLGVL EDGTQLAVKKLEGVGQGAKEFKAEVSIIGS
 IHHVHLVKLKGFC AEGPHRLLVY EYMARGSLDKWIFKNSENTFLLNWDTRYNIAIGTAKG
 LAYLHEECDVRIIHCDIKPNVLLDDNFTAKVSD FGLAKLMSREQSHVFTTLRGTRGYLA
 PEWITNYAISEKSDVFSYGM LLEIIIGGRKNYDQWEGA EKAHFP SYVFRMMDEGKLKEVL
 DPKIDIDEKDERVESALKIALWC IQDDVSLRPSMTKVAQMLDGLCPVPDPPSLSQSGTYS
 AFMKLSSGEATSSGQASFFSNVPMSCVQLSGPR*

>Glyma.14G054300 | Glyma.14G054300.1 | 4312928 | GNA/S-locus glycoprotein/PAN/protein kinase

MVRSIIMLCIWFFIFFDLPGTSTLIDSLAAGQSIRDGETLVSAGGITKVGFSPGNSTRR
 YLGIWYTNVSPITVVWVWNRNSPLENNSGVLKLNK GILELLNGKNSTIWSSNISSKAVN

YPIAQLLD SGNFVVKYQGEITNEDSVLWQSFDYPCDSLMPGMKLGWNLETGLERYLSSWR
SVDDPALGEYTVKIDLRGYPQIIKFKGPDII SRAGSWNGLSTVGNPGSTRSQKMVINEKE
VYFELPDRSEFGISSLTSPGTSLLIYWTQTRSTRQAVLSNADKDQCGSYAFCGANSIC
IYDGNVPTCECLRGYAPKHPDQWNIAIWSGCVPRNKSNCNTNSYTDGFLKYTNMKLPDTS
SSWFSKTMNLDECQKSKLNCSCCTAYANLDIRDGGSGCLLWFNTLVDLRNFSELGQDFYI
RLSASELDHGGQRKINKKIVAVGVITFGLIITCVCILVIKNPGAARKIYNKNYRNILR
KEDIDLPTFSFVLANATENFSTKNKLGEQGYGPVYKGLLDGKELAVKRLSKKSGQGLE
EFKNEVALISKLQHRNLVKLLGCCIEGEEKILIEYMPNHSLDYFVFDESKRKLDDWDR
FDIISGIARGLLYLHQDSRLRIHRDLKTSNILLDENLDPKISDFGLARSFLGDQVEANT
NRVAGTYGYMPPEYAAARGHFSVKSDVFSYGVIVLEIVTGKKNREFSDPECYNNLLGHAWR
LWTEEMALELLDEVLGEQCTPSEVIRCVQVGLLCVQQRPDPRPNMSSVVLMLNGEKLLPK
PKVPGFYTEAEVTSEANNSLGNPRLCSVNELSI TMFDAR*

>Glyma.14G054500|Glyma.14G054500.1|4351031|GNA/S-locus glycoprotein/PAN/protein kinase

MAFLVIVILVSKLIFFSSNFLAATDMINQFQSLEDNTTLVSNDDGTFFELGFFTPGSTSPNR
YLGIIWKYKNIPIRTVVWVANRDNPIKDNSSKLSINTAGNFILLNQNNNTVIWSTNTTTKAS
LVVAQLLD SGNLVLRDEKDNPNENYSWQSFDYPSDTFLPGMKAGWDLKKGLNRVLTAWKN
WDDPSSGDF TANSSRTNFP EVMWKGTS EYRSGPWDGRKFSGSPSVPTNSIVNYSVVS
KDEFYATYSMIDKSLISRVVVNQTLVYRQRLTNEDSQTWRVSSSELPGDLCDNYSTCGAF
GICVAGQAPVCNCLDGFKPKSTRNWTQMNWNQGCVHNQTWSCMEKNKDGFKKFSNLKAPD
TERSWVNASMTLDECKNKCRENCSCCTAYANFDMRGEESGCAIWFGLDLDIRLIPNAGQDL
YIRLAVSETDEKDDSKKKVVIASIVSSVVATLLIFIFIYWSNAKNIKEIILGIEVKNNE
SQQEDFELPLFDLVSAQATDHFSDHNKLGEQGYGPVYKGTLPDGLAVAVKRLSQTSGQG
LKEFKNEVNLCAKLLQHRNLVKVLGCCIQENEKLLIYEYMANSLDVFLFSDRSKLLDWP
KRFYIINRIARGLLYLHQDSRLRIHRDLKASNVLLDNEMNPKISDFGLARMCGGDQIEG
KTRRVVGTYGYMAPEYAFDGLFSIKSDVFSFGVLLLEIVSGKKNNRLFYPNDYNNNLIGH
AWSLWNEGNPMEFIATSLSDSCILYEALRCIHIGLLCVQHHPNDRPNMASVVVLLSNENA
LPLPKYPRYLITDISTERESSSEKFTSYSINDVTISMLSDR*

>Glyma.14G116500|Glyma.14G116500.1|14152829|GNA/protein kinase

MKGQWSLFSVMDTLLCLLLSSEVVLTSFLNVGKVYPRIEGSQMNWIDRDGILLVSNKGE
FGFGLVTTANDSTLFLLAIVHKYSNKVVWVANRALPVNSDKFVFDEKGNVILHKGESV
WSSDTSGBKGVSSMELKDTGNLVLLGNDSRVWQSF RHPTDTLLPMQDFNEGMKLVSEPGP
NNLTIVLEIESGNVILSTGLQTPQPYWSMKKDSRKKIINKNGDVVTSATLNANSWRFYDE
TKSMLWELDFAEESDANATWIAGLGSDGFTTFSNLLSGGSIVASSTRIPQDSCSTPESCD
PYNICSGDKKCTCPSVLSSRPNCQPGNVSPCNSKSTTELKVVDDGLNYFALGFVPPSSKT
DLIGKPTSCCANSCCLAMFLVSSSGNCFLLDRIGSFEKSDKDSGLVSYIKVVSSEGDIRD
SSKMPIIVVVIIVIFTLFVISGMLFVAHRCFRKKQDLPEPQEDLEDDSFLESLTGMPIR
YSYNDLDPATSNFSVKLGEQGYGFSVYKGVLPDGTQLAVKKLEGIGQGKKEFWVEVSIIGS
IHHHHLVRLKGFCAEGSHRLLAYEYMANGLDKWIFKNIEEFVLDWDTRYNIALGTAKG
LAYLHEDCDSKIHCIDIKPENVLDDNFMVKVSDFGLAKLMTREQSHVFTTLRGTRGYLA
PEWITNCAISEKSDVYSYGMVLEIIGARKNYDPSETSEKSHFPSFAFRMMEEGNLREIL
DSKVEYENDERVHIAVKVALWCIQEDMSLRPSMTKVVMQMLEGLCIVHKPAICSVLGSRF
YSTSEVGTSSGSPDCNSEANLSAVRLSGPR*

>Glyma.15G007800|Glyma.15G007800.1|643762|GNA/protein kinase

MGI FRGALFFYVLLLFRTCLAKDQHVSIYPGFSASQPDWSDHNGFFLLSNSSAFAGF
FTTLDVSSFVLVVMHLSSYKVWVTANRGLLVGTSDFVLDLRDGNAYLEGGNSVWVATNTT
GQKIRSMELLD SGNLVLLGENGTAIWQSF SHPTDTLLPRQDFVDMTLKSFHNSLNMCHF
LSYKAGDLVLYAGFETPQVWWSLSGEQAQGSRRNTGKVHSASLVSNLSLFYDINRALLW
KVVFSEHSDPKSLWAATLDPTGAI TFYDLNKGRAPNPEAVKVPQDPCGIPQPCDPYYVCF
FENWCICPKLLRTRFNCKPPNISTCSRSTELLYVGEELDYFALKYTAPVSKSNLNACKE
TCLGNCSCVLVFFENSTGRCFHFDQTGSFQRYKRGAGAGGYVSFMKVISISSASDDGHGK
NRRNDAVLVVVIVVLTVLVIVGLIMGFWYFYKRKKNVAKYPQDDLEDDEDDFLDSLGM
RFTFAALCRATKDFSTKIGEGGFGSVYLGVEEDGIQLAVKKLEGVGQGAKEFKAEVSIIG
SIHHVHLVKLKGFCAGPHRLLVYEYMARGLDKWIFKNSDNTFLLNWDTRYNIAIGTAK
GLAYLHEECEVRIHCIDIKPQNVLLDDNFTAKVSDFGLAKLMSREQSHVFTTLRGTRGYL
APEWITNYAISEKSDVFSYGMVLEIIVGGRKNYDQWEGAEKAHFPSYVFRMMDEGKLKEV
LDPKIDIDEKDERVEAALKVALWCIQDDVSLRPSMTKVAQMLDGLCPVPDPPSLSQSGTY
SAFMKLSSGEATSSGQASFFSNVPMSCVQLSGPR*

>Glyma.15G064900|Glyma.15G064900.1|4941726|GNA/S-locus glycoprotein/PAN/protein kinase

MKKVVIIIFALACLSILQKTSYAADVLTPTSSIKGGQELISAGQNFSLGFFTPGTSKSR
VGIWYKNILPQTIWVANRDSPLNDTSGNLTVAADGNIVLFDGAGNRIWFTNSSRP IQEP
IAKLLD SGNLVLIDGKNSDSDSYIWQSFYPTDTMLPGLKLGWDKTSGLNRYLTSWKSAN
DPSPGNFTYRFDQKEFPPELVIRQGMNITFRSGIWDGIRFNSDDWLSFNEITAFKPQLSVT
RNEAVYWDEPGDRLSRFVMRDDGLLQRYIWDNKILKWTQMYEARKDFCDTYGACGANGIC
NIKDLPAYCDCLKGFI PNSQEEDWSFNWSGGCIRRTPLNCTEGDRFQKLSWVKLPMLLQF

WTNNSMSLEECHVECLKNCSCTAYANSALNEGPHGCLLWFGNLIDIRLLITEEDAGGQLD
 LYVRLAASEIESTANASKRRKIALIISASSLALLLLCIILCLSKKYIKRRRTTTDLGHRN
 HNEDQAPPLFEIYITILAAATNNFSIENKIGEGGFGPVYRGKLAHQEIIVKRLSKTSKQGI
 SEFMNEVGLVAKLQHRNLVSVLGGCTQGEERMLVYEMPNSSLDHFIIDPKQKTKLWKRK
 RYDIIVGIARGLLYLHQDSKLTIIHRDLKTSNILLDNELNPKISDFGVSRIVEGDHFAVT
 TNEIVGTIGYMSPEYAVNGLLSVKSDVFSFGVIVLEILSGTKSNNFKVKHPDHDHNLGQ
 AWRLWNEERAVEFMDVNLDTTIPSEFMSCLQVGLLCVQNLPEDRPTMSSVVFMLSNEI
 ALGQPKKPDFFEKLEYRGYSEKESFSNNAMTITLLEARN*

>Glyma.15G065100|Glyma.15G065100.1|4949613|GNA/S-locus glycoprotein/PAN/protein kinase/SRK

MPGFLFFLFCFFFASSQHIAISFSTDTLSSQTILLTNQTLVSPSHIFALGFFPGTNSTWY
 LGAWYNNITDDKTVVVANRDNPLENSSGFLTIGENGNIIVLRNPSKKNPVWSSDATKANN
 PVLQLLDTGNLILREANITDPTKYLWQSFYPTDITLLPGMKMGWNLDTGAEKHLTSWKNT
 GSDPSSGDYSFKIDTRGIPEIFLSDDQNIAYRSGPWNGERFSGVPEMQPDTDSITFDFS
 DKHGVYYSFSIGNRSILSRLVVTSGGELKRLTWVPSSKTWTTFWYAPKDQCDGYRACGPY
 GLCDSNASPVCTCVGGFRPRNQAWNLRDGSDGCERNITDLDCGSDKFLHVKNVCLPETTY
 VFANGSMNLRECQDLCLRDSCSTAYANIQITNGGSGCVTWSGELEDMRLYPAGGQHLVYR
 LAASDVDDIVGGSHKKNHTGEVVGITISAAVILGLVVI FWKKRKLFSISNVKTAPRGSF
 RRSRDLLTSERMFSTNRENSGERNMDDIELPMFDFNTITMATDNFSEANKLGQGGFGIVY
 RGRLEMEQDIAVKRLSKNSVQGVVEEFKNEVKLIVRLQHRNLVRLFGCCIEEMDEKLLVY
 MENRSLDSILFDKAKKPILDWKRRFNIICGIARGLLYLHHSRFRIIHRDLKASNILLDS
 EMNPKISDFGMARLFGTNQTEANTLRVVGTYGYMSPEYAMDGNFSVKSDVFSFGVLVLEI
 ITGKKNRGFFYSNEDMNLGNAWRQWRDGTLELIDSSIGDSCSQSEVLRCIHVGLLCVQ
 ERAEDRPTMSSVLLMLSSESAIMPQPRNPFGSIGKNPVETDSSSSKKDQSWSVNQVTVTL
 LDAR*

>Glyma.15G065200|Glyma.15G065200.1|4960133|GNA/S-locus glycoprotein/PAN/protein kinase

MAAATIIYFYFFLFSFVSFHHLLFSFAASSKTRITQGVITIRDKEHETLVSEELNFAMGFF
 SSDNSSSRVGIWYDNIPGPEVIWVANRDKPINGTGGAITISNDGNLVLDGAMNHVWSS
 NVSNINSNNKSSASLHDDGNLVLTCCKVWVQSFENPTDYMGMKVPVGGGLSTSHVFT
 SWKSATDPSKGNITMGVDPPEGLPQIVVWEGEKRRWRSGYWDGRMFQGLSIAASYLYGFTL
 NGDGKGGRYFIYNPLNGTDKVRFIGWGDGYEREFWRNEDEKSWSEIQKGPFECDVYNKC
 GSFAACDLLTLSPSSDLVPVCTCIRGFEPKHRDQWEKGNWSGGCTRMTPLKAQRINVTSS
 GTQVSVGEDGFLDRSMKLPDFARVVGTTNDCERECLSNCSCTAYANVGLGCMVWHGDLVD
 IOHLES GGNTLHIRLAHSDLDVKKNRIVIIISTTGAGLICLGI FVWLVRFKGKLVLP
 VSSVSCCKSSDALPVFDANKSREMSAEFSGSADLSLEGNQLSGPEFPVFNFSICISIATNN
 FSEENKLGQGGFGPVYKGLPGGEQIAVKRLSRRSGQGLEEFKNEMLIAKLQHRNLVRL
 MGCSIQGEKLLAYEYMPNKS LDCFLDPVKQKQLAWRRRVEIIIEGIARGLLYLHRDSRL
 RIIHRDLKASNILLDENMNPKISDFGLARIFGGNQNEANTNRVVGTYGYMAPEYAMEGLF
 SVKSDVYSFGVLLLEILSGRRNTSFRHSDSSSLIGYAWHLWNEHKAMELLDPCIRDSSPR
 NKALRCIHIGMLCVQDSAAHRPNMSAVVLWLESEATTLPITQPLITSMRRTEDREFYMD
 GLDVSNDLTVTMVVG*

>Glyma.15G065500|Glyma.15G065500.1|4976617|GNA/PAN/protein kinase

MVYRISIPHSSTKQKHFPGLWISQVNYLFESNVIWVANRNQPLKKSSSGIIQIYENDNLV
 VLDSNKRVVWSSNVAHIATNSTAKLLETGNLVLDDATGESIWESFQHPCDALVPKCLKS
 IKKKHVRNGCVRSEPLQCGEHINGSEVCKDGFRLLENMKVPDFVQRLDCEDECRAQYLE
 NCSCVVYAYDSGIGCMVWNGNLIDIQKFSSGGVDLYIRVPPSESELGMFFFGQLKDGHEI
 ALKRLSKTSGQGLEECMEENLVISKLQHRNLVRLGCCIEQEENMLVYEFMNEVVVISKL
 QHCNLVKLLSGQVEGDEKMLIYEFMPNKS LDAFIFDPLRHKLDDWTKRFRNIEGVARGLL
 YLHRDSRLKIIRRDLKASNVLDDAEMNPKISDFGLARIYKGEVEVNTKRVVGTYGYMPPE
 HAMEGLFSEKSDVYSLGVLLLEIISGKRNTSFRNDDQSLSLIGYAWNLWNEDNIRYLVD
 EISASGSDSHILRCIHIAFLCVQEVAKTRPTMTTVLSMLNSEISHLLHPRQVGFVQKQSS
 SSLDSSSQEN*

>Glyma.15G213600|Glyma.15G213600.1|34069137|GNA/PAN/protein kinase

MVCYKLGESHFLVLTLCLWLWLWSTRIHVIAAYHSLRPGDTLNTTELCSSENDKYCLGF
 SQFSSAHNSTYLRIYAKGKGDWNMWIGNRNQPLDMSAVLSLSHSGVLKIESKDMEPIL
 YSSTQPSNNTVATLMNTSNFVLQRLQPGGTSTVLWQSFYPTDKLLPGMKLGVNHKTGR
 NWSLVSSMGYANPALGAFRLEWEPRRRELLIKQRGQLCWTSGELGKNIGFMHNTHYMIVS
 NDDESFTITTLNEELTRWELLKTGQLINRNGDDNVARADMCYGYNTDGGCQKWEDIPFC
 RNPGDALFELKEVYLNLLNKLNFANSSYSPDCRDTCWKNCSCDGFDTDYDDGTGCI FVYL
 NLTEGADFASGGEKFYILVKNTHHKGTKKWIWISILIVAALFSICAFILYLALKKRKLRF
 EDKNRKEMEINKMEDLATS NRFDYDARDPEDEFKKRQDLKVFSYTSVLLASNDFSTENKLG
 QGGFGPVYKGIQPNGQEVAIKRLSKTSSQGTAEFKNELMLIGELQHMLNVQLLGYCIHGE
 ERILYIYEMHNKSLDFYLFDGTRSKLLDWKKRFNIEGISQGLLYLHKYSRLKVIHRDLK
 ASNILLDENMNPKISDFGLARMFTRQESTTNTSRIVGTYGYMSPEYAMEGVFSVKSDVYS
 FGVLLLEIVSGRRNTSFYDGRFLNLIGHAWELWNEGACLKLIDPSLTESPDLEDEVQRCI

HIGLLCVEQNANNRPLMSQIISMLSNKNPITLQRPAPFYFGSETFDGIISSTEFCTDSTK
AITTSREIESSEHQWGEEARNQLHFS*

>Glyma.15G213700|Glyma.15G213700.1|34098941|GNA/PAN/protein kinase
MVSCKTQFLLVFVYLWLWWTTCSHVISAHSLKPGKLNKSTNICSENGIYICISFSSSTG
DCYLQIVRKRGDSWSVWFANRNEPVDASAVLLLDHSGVLKIESKHRELPIILYFSPQPA
NNTMATLLDTGNFVLQQLHPNGTKSVLWQSFQDYPDNLPGMKLGVSYSKTSNWSLVSWL
TSEIPNLGAFSLEWQPRTRELI IKRREQLCWTSSELNRNKEGFMHNTHYRIVSNENESYFT
ITTSNEELTRWVLETTGQLINRNGGDDVARADMCYGYNTDGGCQKWDEIPICRHRGDAFE
DRLGYPSTNMESYLANSSYGPSCQDICWKNCSIAYSYDGNNETGCTFYHWNSTKGTN
LASGGMKFRLLVKNTDRKGTKKWIWITILIVATLVVISAFVLFLALKNRKLLFKEERRKG
MKTNKMTDLATANRFYDVKDLEDEFKKRQDLKVLNYTSVLSATDDFSTENKLGQGGFGPV
YKGILPTGQEVAKRLSKTSTQGIVEFKNELMLISELQHTNLVQLLGFCHIEEERILIYE
YMPNKSLLDFYLFDCSTRSMLLDWKKRFNIEGISQGILYLHKYSRLKIIHRDLKASNILLD
ENMNPKISDFGLARMFMQQUESTGTTSRIVGTGYMSPEYAMEGTFSTKSDVYSFGVLLLE
IVSGRKNTSFYDVDHLLNLIGHAWELWNQGESLQLLDPSLNDSDPDDEVKRCIHVGLLCV
EHYANDRPTMSNVISMLTNEAPVTLPRRPAFYVERKNFDGKTSSKELCVDSTDEFTAST
Y*

>Glyma.15G213800|Glyma.15G213800.1|34233827|GNA
MANTCKQKGSHLFLVLGYSWLWWTTCNVVAARTQILKPGDTLNSITKLCSESSKYFMKFS
ETGSGAGAYLFINQPVADASVVLSDLGQLKIESNNTKTII LYSSPPPSNNIVATSLDI
GNFLLQHHRSDVTESELWKSFDYPTYTLPGMMLGVNFKTGPN*

>Glyma.15G214400|Glyma.15G214400.1|34499742|GNA/PAN/protein kinase
MCLQRPQIFKFAAEFEGGAYRSCEKLVIRFGITLLTSISFSIFEAGYEAYGNFVLQQLH
PNTNTLLWQSFQDYPSTLIPTMKLGVNHKTGHWVLVSSSLTDVLNPGAFSLEWEPKGQE
LVIRRRGKVCWQSGKLRNNRFEYIPEEAQRMKYTIVSNGDEDSFSFNSTNDKLTTPRWSF
SRSGRLSCNEGYVKADLCYGYNNTGGCQRWQDLPKCRNPGDLFVKKTLFPDYENVTFEMN
PAFGYSDCEASCWSNCSNCDGFSALWVNETGCTFYHWNSSKNFVDTSVAGVELYMLENTGN
ITPHNGTKRWIWL SAVIATLLLIIFLSILCLLKKRKYLGQEKKRKEMVMKMPHSTICDGL
SSIEDFGNVFKKGHELVNFVDTLVMATNGFSSSENKLGQGGFGPVYKILPTGQEVAVKR
LSKTSTQGIMEFKNELTLICELQHMLNVQLLGCCHIEEEKILIEYMPNKSLLDFYLFDS
RSKLLDWNKRFINIEGIAQGLLYLHKYSRLKVVRDLKASVIP*

>Glyma.15G221800|Glyma.15G221800.1|40112860|GNA/S-locus glycoprotein/PAN/protein
kinase/SRK
MVTTLFIWFFLFSHMTRASTSVDSLAVDESIRDGETLVSAGGIEAGFFSPEKSTRRYLG
LWYRNVSPFTVVVWVANNRNTPLENKSGVLKLNKLGILVLLNATNTTIWSSSNNTVSSKARN
NPIAQLLDGSGNFVKNQSGNKKDDSGDVLWQSFQDYPDNLPGMKIGWNLETGLERFLT
KSVDDPAEGEYIVKMDVQSGYPQLMKLKGTDIRFRAGSWNGLSLVGYPATASDMSPEIVFN
EKEVYYDFKILDSSAFIDSLTPSGNLQTLFWTTQTRIPKIIISTGEQDQCENYASCGVNS
ICNYVDNRPTCECLRGYVPKSPNQWNI GIRLDGCVPRNKSDCKSSYTDGFWRYTYMKLPD
TSSSWFNKTMNLDECRKLCLQNCSTAYANLDIRDGGSGCLLWFSTLVDLRKFSQWGQDL
FIRVPSSSELDHGHGNTKKMIVGITVGVITFGLIILCPCIYIIKNPGAARKFYNRNYQHIL
KKEDIDLPTFDLSVLVNATENFSTGNKLGEFGFPVYKGTLMDGKVIKRLSKKSGQGV
DEFKNEVALIAKLQHRNLVKLFGCCIEGEEIMLIYEYMPNQSLDYFVFDKTRKFLFWHK
RFKIIISGIARGLLYLHQDSRLRIVHRDLKPSNILLDDNLDPKISDFGLARPFLGDQVEAN
TDRVAGTYGYMPPEYAARGHFVSKSDVFSYGVIVLEIVTGKKNWEFSDPKHYNNLLGHAW
KLWTEERVLELLDELLEEQCEPFVIRCIQVGLLCVQQRPDQDRPDMSSVVLMLNGDKLLP
KPKVPFGFYTETDNKSEANSSLENYKLYSVNDISITMLDAR*

>Glyma.15G250200|Glyma.15G250200.1|47824041|GNA/S-locus glycoprotein/protein
kinase
MASPLLFPFLFLSMVLLPFQHINVMAQTKSNIAIGDSHTAGASTSPWLVSPPSGDFAFGFL
PLEDTPDHFMLCIWYAKIQDKTIVWFANRDKPAPKGSKVVLTAADDGLVLITAPNGNQLWK
TGGLTVRVSSGVLNNTGNFVLQDGDSTNTVWESFKDYRDITLLPYQTMERQKLLSKLRNY
FNKGRFVLFQNDGNLVMHSINLPSGYANEHYYESGTVESNISSAGTQLVFDGSGDMYVL
RENNEKYNLSRGGSGASSTQFFYLRLATLDFDGVFTLYQHPKGSSTGGWTPVWSPDNI
CKDYVASAGSGVCGYNSICSLRDDKRPNCCKPKWYSLVDPNDPNGSCKPDFVQACAVDEL
SNRKDLYDFEVLIDTDWPQSDYVLQRPFNEEQCRQSCMEDCMCSVAIFRLGDSCKKKLP
LSNGRVDATLNGAKAFMKVRKDNSSLIVPTIIVNKNRNTSILVGSVLLGSSAFLNLILLG
AICLSTSYVFRYKKLRSIGRSDTIVETNLRCFTYKELEKATDGFVKLGKGAFGIVYEG
VINMGSDTRVAVKRLNTFLLEDVHKEFKNELNAIGLTHHKNLVRILGFCETEEKRLLVYE
YMSNGTLASLLFNILEKPSWELRLQIAIGVARGLLYLHEECSTQIIHCDIKPQNILLDDY
YNARISDFGLAKLLNMNQSRNTAIRGTKGYVALEWFKNMPITAKVDVYSYGVLLLEIVS
CRKSVEFETEDKEKAILAEWAYDCYTERTLHALVEGDKEALDDMKNLKLVMIALWCVQE
DPDLRPTMRNVQMLEGVVEVKVPPCPSQISDQYS*

>Glyma.15G258400|Glyma.15G258400.1|48923351|Thaumatococcus/GNA/protein kinase

MCRSIIIVPISSSSKCNSTGCAVDMNRVCPTELKTIQNGQVVGCCQNPCGRRSQERYFCCIG
 GDARSNCKPSVYYSKIFKTSCPOAYSHPKGDQTSMFSCYDPVDYNIVFCPTSSNSRSVGD
 SLMAGNGTSRWLSPSGDFAFGFYQLPNEFFLLAVWYDKMPNKTIIWFANGDNPAPIGSRL
 ELNDSGLVLNNPQGLELWRNFSASGTIFNGLMNDGDNFQLLDQNAVSLWETFTHTPTDTLV
 PNQVMELNGKLFSSRRGEFNFHGRFKLHLQEDVNLVLSLINLPSNYSYEPYDGTADAN
 NQTNIGMKLIFDKSGFLYILKKSSEKIFYITKPNETISTNDFYKATINYDGVFTVSYPK
 DLRRKGQGWVTTKTIPENICLSSTFTDGEVCGFNSCIENLKADQRPICNCPERYSLIDSNN
 MYGGCVPNFQVVCQGGGYMVSQDDYIMKELRNTDWTSDYETLSPYSLKECTKSCLQDCL
 CVLVTFSGSSCWKKKLPLTNGRRDKGVNATSVIKLMKNDYLLTSFPNPNGKKDHDVLIIV
 LSVLLAGSVLIILMLVGALYFGFSCNRKKIESSTNKSVAKKNLHDFTFKELVEATNNFR
 EELGRGSFSIVYKGTIEMTSVAVKKLDKLFQDNDREFQTEVNVIGQTHRNLRVLLGYCN
 EGQHRLLDYEFMSNGTLASFLFSSLSKNWQRFDIAGIARGLVYLHEECCTQIIHCDIK
 PQNILLDDQYNARISDFGLAKLLINQSRTEGTIRGTKGYVAPDWFRSAPITAKVDTSYF
 GVLLEIICCCKNVEKELVNEEKGIILTDWAYDCYKTRRLEILLENDDEAINDIKSFEKLV
 MIAIWCIQEHPSLRPTMKKVLLMLEGNVEVLTTPSPYHLHGSISEN*

>Glyma.16G034900|Glyma.16G034900.1|3273872|GNA/S-locus glycoprotein/protein kinase
 MSLSLFFLLILIFSSSTSSSTTIILQGNNTLKSPNNTFQLGLFSFSFSFYLAIRHTSLPF
 PNTTWANRLHPSPTQTGSILHLTQTGSLILTHSNTTLWSTAPTNTSSNLSLKLLDSGN
 LILSAPNGLVLWQSFDSPTDTWLPGMNLTRFNLSLTSWRTQTDPTPGLYSLRLKPPFFGEF
 ELVFNDTVSYWSTGNWTDGKFLNIPEMSIPLYSFHFLSPFSPAAEFGFSEASETGTQP
 PTMFRVEFPFGQIRQYTWNQAGSWKMFWSMPEPVCQVRGLCGRFGVCIGETSKLCECVSG
 FEPLDGDGWSGSDYSKGCYRGDAGCDGSDGFRDLGDVRFSGFNVSLIKGKSRSFCEGECL
 RDCGCVGLSFDEGSGVCRNFYGLLSDFQNLTGGSSEGGFYVRVPKGGSGGRKKVDFRQVL
 SGVIVGVVVGLGVVFMALLVMVKKRGGGRKGLEEEEEEDGFVPVLNLKVFSYKELQLATR
 GFSEKVGVGFGFTVFGELSDASVAVKRLERPGGGEKEFRAEVSTIGNIQHVNLVRLRG
 FCSENSHRLLVYEYMQNGALNVYLRKEGPCLSWDVRFVAVGTAKGIAYLHEECRCCI
 CDIKPENILLDGDFTAKVSDFGLAKLIGRDFSRVLVTMRGTWGYVAPEWISGVAITTKAD
 VYSYGMTLLELIGGRRNVEAPLSAGGGGGGGESGDEMGGKWFFPPWAAQRIIEGNVSDVM
 DKRLGNAYNIEEARVALVAVWCIQDDEAMRPTMGVMVVKMLEGLVEVSVPPPPKLLQALV
 TGDSFHVGVKADSGNGASSTGGSLSDGDLEVSTADSESYTGNVFSPLDVNVNVSVR*

>Glyma.16G093900|Glyma.16G093900.1|15240450|GNA/S-locus glycoprotein/PAN/protein
 kinase
 MVTILVRSTTIEHQLQREFWWQTWNQTPQTQSCCISIHKESTIIQRTSRFSTFKTIRFMG
 FLTLTNYLIFLLIFSSFYMGVISVNDTITSTRFIRDPEIISSNGDFKLGGFFSPEKSTHR
 YVAIWYLAETYYIIWIANRDQPLSDLSGPGVFVKIHKDGNLVLNAQNRVIWSTNVSITATN
 TTAQLDDSGNLLIRDVTNGKTLWDSFTHPADAAVPSMKIAANRLTGKKIEYVSWKSSSDP
 SSGYFTGSLERLDAPEVYFWYNTKPYWRTGPWNGRVFLGSPRMSTEYLYGWRFEPNDSG
 TAYLTYNFENPSMFGVLTISPHGTLKLVEFLNKKIFLELEVDQNKCDLYGTCGPFSGCDN
 STLPI CSCFEGFEPRNPEEWNRENWTS GCVRNVQLNCGKLNNTSDVQQDRFRVYQNMKVP
 DFAKRLLGSDQDRCGTSCLGNCSCLAYAYDPYIGCMYWNSDLIDLQKFPNGGVDLFIRVP
 ANLLVAAAGGKKRRENMGLLIGITGAIGALIIAVGAYLLWRKFTPKHTGNQPQNMITGDQ
 KQIKLEELPLFEKLSLATNMFHLANMLKGGFGPVYKQGLDNGQEIIVKRLSKASGQG
 LEEFMNEVVVISKLQHRNLVRLLGCCIERDEQMLVYEFMPNKSLSDFLFDPLQRKILDWK
 KRFNIEGIARGILYLHRDSRLRIIHRDLKASNILLDEMHPKISDFGLARIVRSGDDDE
 ANTKRVVGTGYGMPPEYAMEGIFSEKSDVYSFGVLLLEIVSGRRNTSFYNNEQSLSLVGY
 AWKLWNEGNIKSIIDLEIQDPMFEKSIILRCIHIGLLCVQELTKERPTISTVVLMLISEIT
 HLPFPRQVAFVQKQNCQSSSESSQKSQFNSNNNVTISEIQGR*

>Glyma.16G157400|Glyma.16G157400.1|31817018|GNA/S-locus glycoprotein/protein
 kinase
 MFLKTQFLFLLTLVLATSTVTTAIDPGSTLSASSNQTWSSPSGTFSLLFIPVQPPTTPP
 SFIAAIAYTGPNPVVWSAGNGAAVDSGGSLLQFLRSGDLRLVNGSGSAVWDAGTAGATSAT
 LEDSGNLVISNGTGTLWSSFDHPTDTLVPSQNFVSGVKLTSEYFSFSLSSIGNLTLTWNN
 SIVYWNQGNSSVNASSDSPVLALSPIGLLQLSYAKLSTVALVAYSSDYKNDGVFRVLKL
 DNDGNLRIYSSSLGGGTPSVRWTAVSDQCEVYAYCGNYGVCYNDSSPVCGPCSQNFEMV
 DPNDSSRRGCRRKVSLSDCQRNVTVLTLDTTVVLSYPPEAASQSFFIGLSACSTNCLNSNG
 ACFAATSLSDGSGQCVIKSEDFVSGYHDPSTSYIKVCPPLAPNPPPSIGDSVREKRS
 RVPWVWVVIILGTLGLIALEGGGLWMWCCRHSRLGVLSAQYALLEYASGAPVQFSYKE
 LQQATKGFKELGAGGFGAVYRGTLVNKTVVAVKQLEGIEQGEKQFRMEVATISSTHHLN
 LVRLIGFCSEGRHRLLVYEFMKNGSLDDFLFLTEQHSKGLLNWEYRFNIALGTARGITYL
 HEECRDVCVCDIKPENILLDENYVAKVSDFGLAKLINPKDHRHRTLTSVRGTRGYLAPE
 WLANLPITSKSDVYGYGMVLEIVSGRRNFDVSEETNRKKFSIWAYEEFEKGNISGILDK
 RLANQEVDMEQVRRAIQASFWCIQEQPSPHRPTMSRVLQMLEGVTEPERPPAPKSVMEGAV
 SGTSTYLSSNASAFSVGVSPPGPSSSSSFQTSVAVSTFTSGRNLEKTTSSLLQSDT*

>Glyma.16G157500|Glyma.16G157500.1|31824629|GNA
 MPIFHSISLLPSNTLFKSQFLPLLHMQNKKHKPSTKITMLKIKDLLLLSLTLFIISVVAIS
 PGSTLYASNTNQAWSSPNNFTSLNFLQVQPPISPPSFMVGIHSGGVGGGTLDVSRGSFQ

LLSIGSLQLVDGSGAILWNSGTSHFCVFSTFLDEQGNFVLSNGTSTVWSSFDHPTDTPLC
HLRFSLLT*

>Glyma.17G148900|Glyma.17G148900.1|12352255|GNA
MLSAGFFAVGENAYSFVWVYSEPYGQTRNTTVSHVWSSNTISLSSSMLLFLNNTGNLVL
QTESIGVVLWLSFDFPTDILLPQQVFTRHAKLVFERSKTNKSLGFYTLFFDNKNILHLLL
YDGPEVSGL*

>Glyma.17G211200|Glyma.17G211200.1|34877467|GNA/protein kinase
MGRQWSLFSAMDITLLLCILLSSEVLTSTYQNVGKVYPGIEGSQMNWIDRYGILLESYN
FGFGLVTTANDSTLFLLAIVHMTPKLVWVANRELPSVNSDKFVFDEKGNVILHKGESV
WSTYTSKGKVSSMELKDTGNLVLGLNDSRVWQSFHPTDITLLPMQDFIEGMKLVSEPGP
NNLTYYVLEIESGVSILSTGLQTPQPYWSMKKDSRKKIVNKNQDVVASATLDANSWRFYDE
TKSLLWELDFAEESDANATWIAVLGSDGFITFSNLLSGGSIVASPTRIPODSCSTPEPCD
PYNICSGEKKCTCPSVLSSRPNCKPGFVSPCNSKSTIELVKADDRNLNYFALGFVPPSSKT
DLIGCKTSCSANCSCLAMFFNSSSGNCFDFDRIGSFEKSDKDSGLVSYIKVVSSEGDTRD
SGSSKMQITIVVVIIVITLTFVISGMLFVAHRCFRKKEDLLESPQEDSEDDSFLESITGMP
IRYSYTDLETATSNFVRLGEGGFGSVYKGVLPDGTQLAVKKLEGIGQGKKEFRVEVSI
GSIHHHHLVRLKGFCAEGSHRVLAYEYMANGSLDKWIFNKNKEEFVLDWDTRYNIALGTA
KGLAYLHEDCDSKIIHCDIKPENVLDDNFRVKVSDFGGLAKLMTREQSHVFTTLRGTRGY
LAPEWITNCSISEKSDVYSYGMVLLLEIIGGRKNYDPSETSEKSHFPPSAFKMVEEGNVRE
ILDSKVETYENDERVHIAVNVALWCIQEDMSLRPSMTKVVMLEGLCTVHKPPTCSVLGS
RFYSTSEVGTSSGSPDCNSEANLSAVRLSGPR*

>Glyma.18G037600|Glyma.18G037600.1|2995717|GNA/PAN/protein kinase
MLYSSSKPESNSNSTIITSAILODNGNFVLQEIINQDGSVKNILWQSFQDPTNMLLP
GMDRKTGQNWSTSWRSKGSPSLGSLGLDHKTKEVMVMWREKIVWSSGQWSNGNFANL
KSSLYEKDFVFEYYSDEDETYVKYVPVYGYIIMGSLGIYGGSSGASYSCSDNKYFLSGCS
MPSAHKCTDVSILYLGSSSESRVGMAGKGFIDAKEKLSHFDCWMKCLNNCSCEAYSVN
ADATGCEIWSKGTANFSDTNLITGSRQIYFIRSGKAEKRKKQKELLTDIGRSTAI
GERKEQRKDGNTSDETYIFDFTQITILEATANFSSTHKIEGGGFGPVYKGLSNGQEI
LSKSSGQGLIEFKNEAMLIVKLQHTSLVRLGFCIDREERILVYEYMPNKSLLNLYLFD
SRNMLEWKIRQCIEGVAQGLVYLHQYSRLKVIHRDLKASNILLDNELNPKISDFGTAR
FELAESEEQTNRIVGTGYGMSPEYAMRGVISTKIDVYSFGVLLLEIVSGKKNSDDYPL
VYAWKLWNEGEALNLTDTLLDGCSPPIQVLRVYIHLGLCTQDQAKERPTMVQVVSFL
EIAELPLPKQPGFCSSSESMEEIEQPKSCSNEITMSLTSEQRKDGRSTDDMHIFNFQ
TILEATAHFSSTNKIREGGFGPVYKGLLIGQEVAKRLSKRSGQGLIEFKNEAMLIVELQ
HTNLVSLFIFTRNRDSIIPMHF*

>Glyma.18G171500|Glyma.18G171500.1|40396636|GNA/S-locus glycoprotein/protein
kinase
LLLSFKCSSLLSLNKGSLFSVEKHAEDVIVSQNMFCAGFSQVRENAFSFDIWFNESH
HNNSNTVWVIANREQPVNGKLSKISLLNSGKVVLVNAGQIITWSSNTAPHAPVELHLQD
GNLVLRELQGGKICGKFRFHNRYSSSRQTNLSSGFYKLLFDDDNVLRPVYDGSVDSST
YWPHPWLRSWEAGRFYNSSSRVAVLDSLGNFNSSDSYAFSTDDHGRVMPRRLTLDSDG
NVRVYSRNEALKKWYVSWHFIPTCTILGICGANSSSNYDPQKQRRCSCLPGYRVKNHSD
WSYGDGDEGYSCYTKILLNNGRRSQRFKGTIYLRPLPKNKNFSREESVSADHVCSVKL
PRDNVRKPANPLELICFFMIWSFLIWNRRQKSGADQQGLHLAEVGIRKFSHFELKEAIK
GFSQEIIGGAGGVVYKDILSDQRHAAIERLYDTKQGEGEFLAEVSIIGRLNLMNLIEMW
GYCAEGKHRLLPKVADFGLSKLLNKNLNNSSFSMIRGTRGYMAPEWIYTLPTISKVDV
SSFGIVLLEMITGKSPTMDIETVDGTEPHDGRLVTVWREKKRRTSWIEQILDPSIEP
SCDVNKMEILATVAFDCVEEDKDVRPTMKQVIEMLQSYESDA*

>Glyma.18G210600|Glyma.18G210600.1|49690288|GNA
MLLLLLPLMRLFPFLLLLLLLVLLFNFGFSESGVAGYQLMVAVPVEYEVDFKGRAFL
VETNQTAPNFRVALSIEAINGKYSCSLEVFLGDVKVWDSGHYSRFYITEKCLLELTMDG
DLRLKGPKEVRVGWKTGTSGQGKVRLEIQRGTGNLVLIDALNNIKWQSFNFPNTNMLR
GQQQLDVATRLTSSQSNSSSLFYYSFEIEDKKVALYLYNKGKLRYSYWGFOPTMNR
SITYIKLSSRGLVLFVVKYKIAQIPSEGIHPLRLFLALNNETGKLGLYYSPKKGKFEAS
FQALNSTCDLPIACRPYGICTFSNSCSCIQLLTNEDKGGADCGWAISGGFCNGKEAEM
LELDNVSSVLKNVTKVVNITKKACENLCFQDCKCAAALYFGNASTDEAECYLYKLVLGL
KQVEKGTGFSYMKVVPKGTVKNHERHNVKRWVFWVAGVVDGLIILLVGGFGYWLVKRR
SHALHSRASTT*

>Glyma.19G141400|Glyma.19G141400.1|40269449|GNA/S-locus glycoprotein/protein
kinase
MLEQECLFRPPFLCILLVGLLHPVVSTVIPLNSKLSMVDNNCWSSNGDFSFGFFN
ISDEPNQFSAGIRFNSKSIPIYDQQTVVVRVAGAHDKVSNMSYFQLTPEGELILRG
TGNRAVASATLRDNGNLVLIDTEQNIWQSFDTPTSDITLLPGQSLSVYETLRAMTKN
PMSSTYTLYMNPSSQLQLQWDSHIYWTSESPSSASNLTAFLTAGGALQLQDPSLKAV
WSVFGEGHNDYVNYRFLRLDVGNLCLYSWIEASQSWRSVWQAVEDQCKVFATCGQ
RGVCVFTASGSTDCRCPF

VTESNQCLVPYDQECESGSNMLTYKNTYLYGIYPPDDSVVISTLQQCEQLCLNDTQCTVA
TFSNNGRPQCSIKKTKYVTGHADPSLSSISFIKRCSGPFAVNPGLTKSPPPKLPRLCVP
CLMGALGIIIFIIRRNKSTMQNVALAFTSPNPKGLNVFSFSEIKSLTRDLKDRIGPNMFK
GKKGSSRLRSAMVKLGNIHHKNLVKLEGCCCFNLRFLVYFYAKNGSLHKYIGDGTLCRKR
LWTRKRVEICSSVAKAICYMHTGCREFGSHGNLKCENVMLENSVAKVCEYGFAIEDGEA
TYCGFSAEKDVGDFGKLVLTLLTGCDHEQLCEWAYTEWMEGRAVNVVDKRIDGVVNAEE
LERALRISFWWCLQMDERRRPSMEEVVRVLDGTLNVDP PPPQPYETSSVMC*

>Glyma.19G192000|Glyma.19G192000.1|44928945|GNA/S-locus glycoprotein/PAN
MFNMLQTHHLQFLAILFLYTLTTCSETATTSIPQELHIGFSVTPESWTTTPFQAVLSDHSGN
FSLGFLRVNQNLALAVLHVASSEPFVWVANPSHAPSWSDNTRLFFNGSLVLSDPETLVLVW
STATNGDRVLLNSSNLQVHHNGIPLWESFHFPPKNTLVQDQNFSTNMTLLSSNGIYSMLR
GNDFMGLYENHVQLYWKRTPLGAKAEVKEGQGPIYARVNPEGYLGMYQTDEKPTDVQKF
NTFQQTSSFLFVRLEPDGNLKGYYWDGSTWQLNYQAITACDLPRSCGSYGLCTPGGSGC
SCLENRTRFEPDGCCKFDVGGESSGDLCSSEGIIGGSKSSYWVLRRTGVEAPHKELVRHLTT
SSWADCEGLCQNNCSCWGALYSNATGFCYMLDYPITQTMVGTGDGSKVGYFKVKKEERGKN
RVWIRVGVVVTVLVGVGVIIIGTGFCVTRWRKRRGVKEEEWGSPPGYKNLGSASFRFIEM
SNAHDARGDACAQS*

>Glyma.20G164200|Glyma.20G164200.1|40172633|GNA/S-locus glycoprotein/protein
kinase
MANADSSLICYFWVILALGLCCFSGCISGQIGLGSRLAREAQTWVSENGTFALGFTPAE
TDNRLFVIGIWFARLPGDRTLWVSPNRDNPVSQEALELDTTGNLVLMDGHMTMWTSTNTS
GADVQTAIMAETGNFILHNSNNHVSQSFSPSDTLLPNQLLTVSSELTSSKSSSQGGYY
SLKMLQQPTSLSLALTYNLPETYQASDESYTNYSYWQGPDISNVTGEVIAVLDAQSGFI
VYGDSSDGAIVYVYKNDGDDAGLSSAVHQSAPLTVLRLTLEKNGNLRLYRWDEVNGSRQW
VPQWAAVSNPCDIAGVCGNGVCNLDNRKTKATCTCLPGTSKVGRDGGQCYENSSLVGNCNG
KHENLTSQFRISAVQQTNYFFSEFSVITNYSIDISNVSKCGDACLSDCDCVASVYGLNEER
PFCWVLRSLSPGGFEDTSSTLFVKVRANGSWTSEGQAGGSNSSSDGMGSAKEKAVIIPV
LSMVVLIIVLLSLLLYFSVHRKRTLKREMESSLILSGAPMSFTYRNLQIRTCNFSQLLGTG
GFGSVYKGLDGTLLVAVKKLDRVLPHEGEKEFITEVNTIGSMHHMNLVRLCGYCSEGS
LLVYEFYKNGSLDKWIFPSYQGRDLRLDWTRFNIAIATAQGIAYFHEQCRDRIIHCDIK
PENILVDENKCPKVDGFLAKLMGREHSHVVTMVRGTRGYLAPEWVSNRPITVKADVSY
GMLLLEIIGRRNLDMFSGAEDFFYPGWAYKEMTNGSIKQVADRRLNGAVDEEELTRALK
VAFWCIQDEVSMRPTMGEVVRLLLEDSDINMPPMPQTVVELIEEGLDHVYKAMKREYNQS
SSFTLTSLHTSQATCSNSTMSPR*

>Glyma.20G173600|Glyma.20G173600.1|41121090|GNA/S-locus glycoprotein/protein
kinase
MKLQTHQLLSFVLFSAVIISTISGTTITISPGTTLTYASNTTQSWSSPNDTFLSHFLPLH
PPTFPSPSTAADVHSGGAPAVWSAGNAAVDSAAAFQFLPAGNLVLVNGSGSTVWDSGTS
NMGVSSATLHDNGLVLSNATSSVWSSFDNPTDITVSFQNFVGMVLRSGSFSFVLSGG
NLTLKWSDSVPYWDQGLNFSMVMNLSSPVLGVEPKGVLQFLYPNLSAPVVVAYSSDYGE
GSDVLRVLKLDGDGNLRVYSSKRGSGTVSSTWVAVEDQCEVFYCGHNGVCSYNDSSSSP
ICGCPSONFEMVNPDSRKGCRKVRLEDVCGKVAMLQLDHAQFLTYPPQFLINPEVFFI
GISACPSQNFEMVNPDSRKGCRKVRLEDVCGKVAMLQLDHAQFLTYPPQFLINPEVFFI
GISACPSQNFEMVNPDSRKGCRKVRLEDVCGKVAMLQLDHAQFLTYPPQFLINPEVFFI
APSLNHAHWRHLHGVALVVLSTLLCFLVFQGGWLWCCRNRRQRFGGFAAQYTLLEYASGA
PVHFSYKELQRSTKGFKEKLGDGGFGAVYKGTLFNQTVVAVKQLEGIEQGEKQFRMEVST
ISSTHHLNLVRLIGFCSEGHRLLVYEFMKNGLDNFLFVDEEQSGKLLNWGYRNFNIAL
GAAKGLTYLHEECRNCIVHCDVKPENILLDENYNKVSDFGLAKLLRPVDCRHRTLTSVR
GTRGYLAPEWVSNRPITVKADVSYGMLLLEIIGRRNLDMFSGAEDFFYPGWAYKEMTNGSIKQVADRRLNGAVDEEELTRALK
VAFWCIQDEVSMRPTMGEVVRLLLEDSDINMPPMPQTVVELIEEGLDHVYKAMKREYNQS
PKINSNAAPISTIATSSAPNYSSSSSLFTFEASPLALAI*

>Glyma.20G246600|Glyma.20G246600.1|47659069|GNA/protein kinase
LPYVSATNVSIGETLVAGNGGKRWLSPSEDFAFGFHQLDNDLYLLAISYQNIIPRDSFIWY
ANGDNPAKPKGSKLELNQYTLGLVLKSPQGVELWTSQSLISGTISYGLMNDTGNFQLLDENSQ
VLWDSFSNPTDTLVPTQIMEVKGTLSSRQKEANFSRGRFQFRLLPDGNAVNLNPINLPTNY
TYDAHYSISATYDSTNTTNSGFQVIFDNSGLATINFDGTFTISNYPKNPASNPSTVMKTL
PDNICMNLGNTGGSGVCGFNSICTLKADQRPKCSCPEGYSPLDSRDEYGSCKPNLELGC
GSSGQSLQGDLYFMKEMANTDWPVSDYELYKPYNSCEDCKTSCLQDCLCAVSI FRDDSCYK
KKLPLSNGRRDRAVGASAFIKLMKNGVSLSPNPFIIEKKYKQDQTLITVISVLLGGSV
FFNLVSAVWVGFFYYNKKSSNTKATATESNLCSFTFAELVQATDNFKEELGRGSCGIVYK
GTTNLATIAVKKLDKVLKDCDKFEKTEVNVIGQTHHKSRLVLLGYCDEEQHRIILVYEFLS
NGTLANFLFGDFKPNWNQVRQIAFGIARGLVYLHEECCTQIIHCDIKPQNILLDEQYNAR
ISDFGLSKLLKINESHTETGIRGTKGYVAPDWFRSAPITTKVDVYSFGVLLLEIICCRN
VDGEVGNEEKAILTDWAYDCYRAGRIDLLENDDAIDDTNRLERFVMVAIWCLQEDPSL
RPPMKKVMLMLEGIAPVTIPSPSPYTSVSVSCG*

>Glyma.U042800|Glyma.U042800.1|49659|GNA/S-locus glycoprotein/protein kinase

MSIIVYILFSPSLIVFIAAETSSITLSQSLSYGKTLVSPSGIFELGFCNLGNPNKIYLG
 WYKNIPLQNIWVWANGGNPIKDSFSILKLDSSGNLVLTHNNTVWSTSSPEKAQNPVAEL
 LDGSLVIRDENEDKEDTYLWQSFDPSTNTMLSGMKVGWDIKRNLSTCLIAWKSNDNDPTQ
 GDLSWGITLHPYPDIYMMKGTKKYHRFGPWNGLRFSGMPLMKPNNPIYHYEFVSNQEVVY
 YRWSVKQTSSISKVVLNQSTLELPENGQSLYIRLPASEIDKPKKNENIERQLEDLDVPLF
 HLLTITTATNPNFSLNNKIGQGGFGPVYKGLVDGREIAVKRLSSSSGQGITEFITEVKLI
 AKLQHRNLVRLLGCCFRGQEKLLVYFYMVNGSLDTFIFGHHNESGNPESNIMLDVEITKS
 AIR*

Hevein

>Glyma.02G042500|Glyma.02G042500.1|3995112|Hevein/GH19
 MKNMKLCSVMLCLSLAFLLGATAEQCGTQAGGALCPNRLCCSKFGWCGDTSYCGEGCQS
 QCKSATPSTPTPTPSSGGDISRLISSSLFDQMLKYRNDGRCSGHGFYRYDAFIAAAGSF
 NGFGTTGDDNTRKKEIAAFLAQTSHETTTGGWASAPDGPYAWGYCFINEQNQATYCDGGNW
 PCAAGKKYYGRGPIQLTHNYNYGQAGKALGLDLINNPDLVATDATVSFKTALWFWMTAQG
 NKPSSSHVDVITGRWTPSSADSSAGRAPGYGVITNIINGGLECGHGQDNRVQDRIGFYRRYC
 QMMGISPGDNLDCNNQRPFA*

>Glyma.12G049200|Glyma.12G049200.1|3533167|Hevein/GH19
 MMMMGNVHVSIGVIGVMVSGVLVMMVSKGVSRAQNCGCEAELCCSKYGYCGSGDDYCGK
 GCKEGPCYGTATPNDDVSVADIVTSEFFNAIIDQAEDHCAGKNFYSRDAFLDALIAYDQF
 AKTGSVDDSKREIAAAFAHFTYQSRHFCYIEEIEGASKDYCDKTNRHYPCAHNKGYYGRG
 PIQLSWNFNYGPAGENNGFDGLNAPETVASDPVISFKTALWYWTQNVSPVMKHGFGATIR
 AINGHLECDGANPETVQARVNYYTEYCSQLDVAPGDNLTC*

>Glyma.13G346700|Glyma.13G346700.1|43705650|Hevein/GH19
 MIGKKFLCVVVAFAFVMTKVPQNVSAQNCGCAEGLCCSQHGYCGNGEYCGTGCKQGPC
 YSSTPSTNNVNVADIVTPQFFSGIIDQADSGCAGKNFYSRDAFLNALNSYNDFGRLGSQD
 DSKREIAAAFAHFTHETGHFCHIEEINGASQDYCDENTISQYPCLSNRGYYGRGPIQLTW
 NFNYGPAGQSNDFDGLNAPETVGNPDVISFKTALWYWMQHVRPVINQGFATIRAINQGL
 ECDGANPSTVQARVNYTDCRQFGVATGDNLTC*

>Glyma.16G119200|Glyma.16G119200.1|26625538|Hevein/GH19
 MGNMKLCPLMLCLLLAFLLGAAQNCCTQVGGVICPNGLCCSQYGWCGNTEAHCGRGCQS
 QCTPGSTPTPTPSSGGDISNTISRSQFEEMLKHRNDAACPGRNFTYDAFIAAARSFNGF
 GTTGDIITRRREIAAFFGQTSHETTTGGWASAPDGPYAWGYCFINERNQADYCTSGTRWPC
 APGKKYYGRGPIQLTHNYNYGLAGEQLNLLNLDLVSRLPDAFRTAIWFWMTAQGNK
 PSSHSVIIGTWNPSADWQAGRVPGYGVITNIINGGLECGRGPDSRVQSRIGFYERYCQI
 FGVSPGNLDCNNQRPFA*

>Glyma.19G245400|Glyma.19G245400.1|49238744|Hevein/Barwin
 MGKAWVGLVLLCLIVTAIAEQCGRQAGGQTCPNLCCSQYGWCGNTEEYCSPSKNCQSN
 CWGGGGGGGGGGGASASNVRYTYHYEPEQHGWDLNAVSAYCSTWDASKPYSWRSKYWG
 TAFCGPVGPRGRDSCGKCLRVTNTGTGANTIVRIVDQCSNGGLDLVDGVFNRIIDTGRGY
 QQGHLIVNYQFVDCGNELDLTKPLLSILDAP*

>Glyma.19G245500|Glyma.19G245500.1|49241284|Hevein/Barwin
 MEKVGVRLLVLLCFIVTAAMAQNCGRQAGGQTCGNLCCSQYGWCGNSEDHCSPSKNCQS
 TCWGSGGGGGGGASASNVRYTYHYEPEQHGWDLNAVSAYCSTWDAAKPYSWRSKYGWTA
 FCGPVGPRGRDSCGKCLRVTNTGTGANIIVRIVDQCSNGGLDLVDGVFNRIIDTGRGYQQ
 GHLIVNYQFVNCGD*

Jacalin

>Glyma.02G227500|Glyma.02G227500.1|41437909|Jacalin/Jacalin/Jacalin
 MSFEDSSKKHQSVGPWGNGGSRWDDGIYSGVRQLVIVHGTGIDSIQIEYDKKGSSIWSE
 KHGGSGGRKTDKVKLDCPNEFLTAKIHYGYSSNQRGPNFVRSLSFESNKKTYGPFVGELG
 TYFSVPLTGAKIVGFHGRGCGWYVDAIGVYLKSSKQPNPSKTLAHSQSSITNISENFGYSV
 IQGTLNENYDIVLALKQKDDFNKPSAKNVSGKISFVKESNNIEHKEKMAHVEKSSPKVGD
 VVTHGPGGIGGYVFDDGTYTGRQINLSRNVGIVWIRVFYDYHGETIWGSKQGGTGGYK
 NDKIVDFDPYEALTHISGYGYPLMYMGPSVIRSLTFHTTKRKYGPYGEEQGTFTTKVKE
 GKIVGIHGRKGLFLDAFGVHVVEGKIVVPVATPPKEITSRESSIGEIGSAQWPTKLVLAK
 PSAAEEVSCGVVKEPAPCGPGPWGGDGGRSWDDGVFSGIKQIYLTKVSEIGCSIQIEYDR
 NRQSVWSVKHGGSGGDTMHRIQLEYPNVEVLTCSIGYYGPIAKDEQHIIMKSLTFNTSRGS
 MVHLVKK*

>Glyma.11G173800|Glyma.11G173800.1|18905184|Jacalin/Jacalin/Jacalin

MSFEEKPVSVGPWGGNGGYRWDDGVYSTVRQLVIVHGEIDSIQIEYDKQGSSIWSLKYG
 GSGGYKIDKIKLDYPDEFLLTSIDGYYSLSQWGPFI FIRSLSFESNKKLYGPFGEQGT
 SLPMTGGKIGFHHGRYGHLDAGINVKSSQQQKPSKALSFSQNYMTNTNDNASYSVIQ
 SVGQGYDIVLALKQKDDFGKSPVTKISSFKEPNNVPEKEKVVVFVEKVPVPMVEGVV
 TYPGWGGTGGYVFDGDPYTGVVRQIDMSRNVGIVWIRALYDLGEPVWGYKHGGAGG
 FKHEKIIIFDFFPYEVLTHISGGYGSMLMYMPAVIRSLTFHTTKRPYGPFGDEYGT
 YFTTKLREGKVVGIHGRSGLFLDSLGVHAIEGKVIIVPVATAPSMETISKEPNI
 SEIDNPQRPVVAKPAPIEQASRCVIKEPAPCGPGPWGGDGRPWDDGVFSGIKQI
 YMTKAPEGICSIQIEYDRYKQSVWSVKHGGNGGNTMHRIKLEYPNEVLSCISG
 YGSITADEQPIIIKSLTFHTSRGQYGPFGDEVGKYFTSTTTTEGKVVLHGRSS
 MYLDAIGVHMQLHGLGGIQKTSKLSFFKLF*

>Glyma.13G352300|Glyma.13G352300.1|44119294|Jacalin
 MEGKSRKKNVIVGPWGGNGGNSWDDGI FTGVREIKLVYGHCDISIQVYDRNGKPF
 TAEKHGGVGGNKTAIEIKLQFPDEFLLVSVSGHYCPVVRGGTPVIRSLTFKSNHRT
 FGPYGVVEGT LFTFSIDGGCVVGFKGRGDWYLDIAFTLCNTRSKSLFQKVQRSLL
 WLTTTAPKSTSSKDG*

>Glyma.15G022500|Glyma.15G022500.1|1756942|F-box/Jacalin
 MISGSKRKRSLGDNLDVREAAARLKETPGEKDSDEMDTSDDGSVDRISQFPD
 HVIHHILSLRNVNDIAIRTSVLKRWRELWYSYSVLIFDERKFAAKIGHEDSSNK
 GMMFRDYVSNSLLTSNAKNLQIRKLVHMTSFDDLLEDAPCLELWLNIAIYRNIKE
 LDHVGINKGECYTLPQTVFSSKTLTGIRLSGCKLGTCCNNIKLPYLQKLYLRKIPL
 VENFIQNLISSCHSVEDLRIIKCSGLKHLHVSNLIRLKRAEIHHC
 IQLKKEISAPNLDTFWYCGKKTSPCKVSLEGCTSLKRLTLEHPQVTRDFCENQ
 FSNFPLLEKLDLSMSNNKSRFIIISNPHLEKFTLKGCCKLGI
 VLVEAPNLLSFECKGETMPWVEIHFPFGLTQAKLSFVPKSEPRVVGYGDKI
 WIRMKSFQKFNRRERFKLVLYSNKSIIVIHEDLNNVILPPVPDLGCEIINSSAC
 IDDALNSLLRKLHPVTLSIISPTDSKFPKLVYEMMKNKDKDPICCIIYSTSKNKC
 WRHLLKDVNFEDLNDVKFEDIEEGKSRKRSIILGPWGGNGGNSWDDGTFT
 GVREIKLVYGHCDISIQVYDRNGKPLTAKKHGGVGGNKTAIEIKLQFPDEFLL
 VSVSGHYCPVVRGGTPVILSLTFKSNRKTFGPYGVVEGT
 PFTFSIDGGCVVGFKGRSDWYLDIAFTLCNTRSKSLQKVQRGLFWLTSTAPKSS
 SKDG*

>Glyma.18G061800|Glyma.18G061800.1|5612390|Jacalin/Jacalin/Jacalin
 MSFEEKPVSVGPWGGNGGYHWDDGVYSTVRQLVIVHGEIDSIQIEYDKQGSSIW
 SLKYGSGGGYKIDKIKLDYPDEFLLTSIDGYYSLSQWGPFI FIRSLSFESNKKLY
 GPFGEQGT SLPMTGGKIVGFHHGRYGHLDAGVNLKSSQQQKPSKALSYSQNNMT
 NNTTNDNGRYSVIQSVGQDYDIVLALKQKDDFGKSPVTKISSFKEPNNIEPKEK
 IVFVEKAPSMVEGVVTYGPWGGTGGYVFDGDPYTGVVRQIDLSRNVGIVWIRAL
 YDLGEPVWGYKHGGAGGFKHEKIIIFDFFPYEVLTHISGGYGSMLMYMPAVIR
 SLTFHTTKRSYGPFGDEYGT YFTTKLREGKVVGIHGRSGLFLDSLGVHAIEGK
 VIIVPVATSPSMEIISREPSISEIDNPQWLVAKPAPVEQASRCVIKEPAPCGPG
 PWGGDGRPWDDGVFSGIKQIYLTKAPEGICSIQIEYDRYKQSVWSVKHGGNGG
 NTMHRIKLEYPNEVLTCISGYGSVTADEQPIIIKSLTFHTSRGQYGPFGDEVG
 KYFTSTTTTEGKVVLHGRSSMYLDAIGVHMQLHGLGGIQKTSKLSFFKLF*

Legume

>Glyma.01G020600|Glyma.01G020600.1|2067151|Legume
 MASHAAQNPKSVFLMTFLLLITSAKSDSFSFNLPRFEPDALNILLDGSAKTTGG
 VLQLTKKDRGNPTQHSVGLSAFYAALHLSDAKTGRVANFATEFSFVNTKGAPLH
 GDGFTFYLASLDFDPPDNSSGGFLGLFNKKTAFNNTSLNQVVAVEFDSFANEWD
 PNPFPESDSPHIGIDINSIRSVATAPWPLDIQPQGSIGKARISYQSSTKILSVSV
 AYPNPVLKNATVLSYPVNLGAVLPERVLFGFSAATGDLVETHDILSWSFNSFL*

>Glyma.01G020700|Glyma.01G020700.1|2069065|Legume
 MAFPNSKPNLLQSLSPLIKFFIPFLLLLQHHSVKSQQQPPSPMSAYETVGI
 DFSFFDKDDPNVLLIGNASVSGGALRLTNTDQLGKPVPHSVGRVVHITPIHLW
 NKNNGHLADFTSDFS FVVPKGSALRGDGF AFFLTSANLNFLIPKNSSGGYLGL
 FKPETALDPKSNQIVAEFDSFTNDWDPNSPNQSPHVGIDVDSIKSVATVPWP
 SELEPDNAVAHASLNYNSEDKRLSVFVGYPDNRNATVSAIVDLRNVLP
 EWISVGFSASTGDLVETHDILNWSFEAAL*

>Glyma.01G099900|Glyma.01G099900.1|33275414|Legume/protein kinase
 MTLRGVAEMESNGIVKLTDDSSRFMKNGLHHAFTIASFENLKALPSPYLGLLN
 SSGNGNSSNHLFAIEFDTTQDFELGDTDDNHLSRPKKHSTSVIIGVSVSGLLAL
 CAILFGIYIYSYQELKKTTKGFKDKELLGQGGFGSVYKGTLPNSNTQLLLKRIS
 HDSKQGLRKVFSEIASIGPLHHWNLVRLLGWCLRRGDLLLVDYDFMENGSLDKH
 LFDEPETILSWEQRFKVIKDVASALLYLHEGYEPVVIHRDVKANNVLLDGD
 FGLARLYEHGANPSTTRVVGTFGYIAPEVPRTGKSTPSSDVFAFGALLLEVAC
 GLRPVDPKAMPKDVVLVDCVWDKYRQGRILYVVDPKLNGAFNERVEVLMVLK
 LGILCSNGAPTFRPSMRQVVRFLGEVGLPDELKPKGEVGYQEGFDEF
 LNSLEPSSFFYHMSTSSYDIKTDMARFPFIDTSLYTLHARGETR*

>Glyma.01G101000|Glyma.01G101000.1|33518924|Legume/protein kinase
 MATKLNMLLKLPLLVFLLIIPVSSQPNQLFYAGFKGLGSNNMTLDGVAEIEPNGVLKLTN
 DSSKVMGHAFYPTPFRFKNSSGGKAFSFSFSSALAIVPEFPKLGGHGLAFTIAPSKDLKA
 HPSQYLGIILDSSNIGNFNSHNLFAVEFDTAKDFFEGDIDDNHVGDIDINSLASNASASAGYY
 TGDDDDSSKQNLTLQSRVPILAWVDYDAAKSVVHVITISASSTKPKRPLLSYHVDLSPIKE
 SMYVGFSASTGLLASSHYILGWSFKINGPAPPLDLSSLPQLPGPKKKHTSLIIGVSVSVV
 VLALCAVLFGIYMYRRYKNADVIEAWELEIGPHRYSYQELKKATKGFKDKELLGQGGFGS
 VYKGTLPNSNTQVAVKRISHDSNQGRLREFVSEIASIGRLRHRNLVQLLGWCRRLLGDLVV
 YDFMENGSLDKYLFNEPETILSWEQRFKVIKDVASALLYLHEGYEQVVIHRDVKASNVLL
 DGELNGRLGDFGLARLYEHGTNPSTTRVVGTGLGYLAPEVPRGTGKATPSSDVFAFGALLLE
 VACGLRPLEPKAMPEDMVLVDCVWNKFKQGRILNMVDPKLNQGVFNEREMLMVLKGLLLCS
 NGSPTARPSMRQVVRFLGEVGVPELDRKPGEGGYQEGFDEFHLSLESSSFDQMNTGSYG
 RNRDMDSSFFSLTGTSLFSPHGKGQTM*

>Glyma.01G109200|Glyma.01G109200.1|37229455|Legume
 MAPFPTSHYYFRAFTFSILFLKTLAFDPIPLFYAGFGKDLKFTPNVALFGNAKVLNEGS
 GIHFSGSGSSGDTGRVVMYKKPIKLFQGKPRQLVSFSTYFAFSVSLDGGGLAFVMAKPGS
 EGDMPYQSSYGLNSRKFEVVGVEFSASKGGRKGVSSSCHVNMNIGGFVAKSNTSISGEKL
 HWWIDYEASSKRLEVRLSQHGKSRPSYPLLWQSIDLSNVLKEKEMLVGFSSVKGNDSQAC
 FLYSWSFVLNRPHSMHSEPLDPKVFVKNTESPVVKQRSDCFLRVLAAMI FGTGCGALTA
 FIVLYLWTIFGNMKRAVVPEESVVQPVDEYRKNNRIVVDKTIEDGKK*

>Glyma.01G155600|Glyma.01G155600.1|49302837|Legume/protein kinase
 MFPLQCSNHPMCAFSAAVTTILLFLPAAATSQAQILKKETYFFGPFNQSYFTTFAVLPSAA
 INLGALQVTPDSTGNVSLANQSGRIFSTPFTLWDDENLNGKLVSFNTSFLINVFRPQNN
 PPGEGLIAFLIAPSSSTVPNNSHGQFLGLTNAATDGNATNKFIAVELDTVKQDFDPDDNHI
 GLDINSVRSNVSVSLTPLGFETAPNVTRFHVLWVDYDGRKEIDVYIAEQPDKDVPIVAK
 PAKPVLSSPLDLKQVLNKVSYFGFSASTGDNVELNCVLRWNITIEVFPKKNNGKAYKIG
 LSVGLTLLVLIVAGVVGFVRVYWKKKKRENEQILGTLKSLPGTTPREFRYQELKKATNNF
 DDKHKLGQGGYGVVYRGTLTPKENLQVAVKMFSDKMKSTDDFLAELTIINLRHKNLVR
 LLGWCHNRNGVLLLVYDYPNGSLDNHIFCEEGSSTTPLSWPLRYKIITGVASALNYLHNE
 YDQKVVRDLKASNIMLDSNFNARLGDGFLARALENDKTSYAEMEGVHGTMGYIAPECFH
 TGRATRESDVYGFVAVLLEVVCGQRPWTKNEGYECLVDVWVHLHREQRILDAVNPRLGND
 CVVEEAERVLKGLACSHPIASERPKMQTIVQILSGSVHVPPLPPFKPAFVWPAMDLSL
 ASDLTQTQTTTTEYTPMSSDTHSMHVQFSDSSSLV*

>Glyma.02G012600|Glyma.02G012600.1|1123507|Legume
 MATSKLKTQNVVVSLSLTTLVLVLLTSKANSATVSVFVWKNFVVKQPNMILQGDIVTS
 SGKLQLNKVDENGTTPKPSYSLGRALYSTPIHIWDKETGSVASFAASFNTTFYAPDTKRLAD
 GLAFLAPIDENKTPQTHAGYLGLFNENESGDQVVAVEFDTFRNSWDPPNPHIGINVNSIRS
 IKTTSWDLANNKVAKVLITYDASTSLLVASLVYPSQRTSNILSDVVDLKTSLPEWVRIGF
 SAATGLDIPGESHDVLSWSFASNLPHASSNIDPLDLTSFVLHEAI*

>Glyma.02G042900|Glyma.02G042900.1|4015752|Legume/protein kinase
 MLATTEHFHYLKTCLLLSIIIFMILRIVQPLSFNITNFSNPESASRIQYTGVAKIENGSI
 LNPLINNGVGRAIYGQPLRLKNSSKGNVTDFTSRFSFTIDARNKTNYGDGLAFYMAPLAF
 DYQTPPNSSDGFRLGLYGSQDNIVAVEFDTCVNEFDPPMQHVGINNNSVASLEYKKFDI
 ESNIKMGHALITYNASAKLLAVSWFFEGTSSGFTPNDSLHQIDLMEILPKWVTVGFSG
 ATGSSKEENVIHSEWFSNLDLNSTNQEANNENFIIITKYKVQKVVVVAVICSNIVVLV
 VISIITWLI IKKRRTEDEGFDLKLAFMPRRFGYKELVAATNGFADDRRLGEGGYGQVYKG
 FLSDLRTHVAVKRI FSDVEDSEEIFANEVKIISRLIHRNLVQFIGWCHERGESLLVFEYM
 TNGSLDTRVIGDNRRTLTWGVRYKIALGVARALRYLHEDAEQCVLHRDIKSANVLLDAD
 FNTKISDFGIAKLVDPRLRTQKTRVVGTYGYLAPEYINQGRVSKESDMYGFVGVVLEIAS
 GRKTYNHDVPLVNRVWKHYVEGNILNVADKDLKMDFAVEMTCLLTVGLWCTLQDHKKRP
 KAEQVINVLKQEVPLPNIDRV*

>Glyma.02G043000|Glyma.02G043000.1|4018144|Legume/protein kinase
 MAATLPHTRRHQDGLSLLRTTSAPVGLIFQLTVSPAPRGYRIPPNPVAVGTGLGLFNATTN
 VYIPNNHVHVAEFDTFNGTIDPPFQHVGDIDNSLKSVAVAEFDIDRNLGKNCNALINYTA
 SSKTLFVSWFSNNSNSNTSLSYKIDLMDILPEWVDVGFSAAATGQYTQRNVIHSEWFSST
 ASKKHNNVLLIVVTCSTVLVVVVAVSVAVWAMITKKRKATQVKFDLDRATLPRRFDY
 KELVVATKGFADDVRLGRGSSGQVYKGFSLGLGRVVAVKRIFTNFENSERVFINEVRIIS
 RLILMHRNLVQFIGWCHEQGEFLLVFEFMPNGSLDTHLFGEKKTALWDIRYKVALGVVLA
 FRYHHEDAEQSVLHRDIKSANVLLDMDFSTKLGDGFMAKMEGPRLRTQRTGVVGTYGKES
 DIYSFGVLALEIACGRRIRISQDGEFHVPLVNWVWQLYVEGNVLGVVDERLNNFEVDVEITS
 MIVVGLWCTNPNDKERPKAAQVIKVLQLEAPLPVLPDLMHNASHPSLVTDAAQSTYNSSYS
 VPFTNSFVSVGR*

>Glyma.02G156800|Glyma.02G156800.1|16787594|Legume
 MKVLCIIEFEKQIKAMATSNFSIVLSVSLAFLVLLTKAHSTDTVSFTFNKFNVPQPNIM

LQKDASISSSGVLQTLTKVGSNGVPTSGSLGRALYAAPIQIWDSETGKVASWATSFKFNIF
 APNKSNSADGLAFFLAPVGSQPQSDDGFLGLFNSPLKDKSLQTVAIEFDTFSNKKWDPAN
 RHIGIDVNSIKSVKTASWGLSNGQVAEILVTYNAATSLLVASLIHPSKKTSYILSDTVNL
 KSNLPEWVSVGFSATTGLHEGSVETHDVISWSFASKLSDGSSNDALDLP SFVLNEAI *

>Glyma.02G172200|Glyma.02G172200.1|27235922|Legume/protein kinase
 MHLPLVLVKYQLASTIFIITLTKVTCFYFNFPFQKDNESSELLSKNSQIYFDAIQVTPD
 IRGPIQDYSGRAFYKKPKYLWNKKKNQIASFNNTTFVLNIKPETTPGGEGLAFILTSDTTL
 PQNSSGEWLGI V N A T S N G T S Q A G I L A V E F D T R K S F S Q D G P D N H V G V N I N S I N S I Q Q V P L I
 NTG V N V S S G I N V T F K I Q Y L N D T I T V F G S M T G F E E S M E T L L V S P P L N L S S Y L H E V V Y L G F S
 A S T S N Y T E L N C V R S W E F S G V D I A D D D N K S L L W V Y I T V P I V I V I V I I G G M V I F L L C W Q R K R
 H M E R P E D A Y P R I E D Q I Q Y S S M A P K K F K L R E I T K A T G G F S P Q N K L G E G G F G T V Y K G L L E N K
 E V A V K R V S K N S R Q G K Q E F V A E V T T I G S L H R N L V K L T G W C Y E K R E L L L V Y E F M P K G S L D K
 Y L F G D K N F G N N T L E E G Y S L T L N W E T R H S V I H G V A Q A L D Y L H N G C E K R V L H R D I K A S N I M L
 D S D Y N A K L G D F G L A R T I Q Q R N E T H H S T K E I A G T P G Y M A P E T F L T G R A T V E T D V Y A F G V L V
 L E V V C G R R P G S V Y A Q D D Y K N S I V Y W V D L Y G K G K V G A V D A K L K K E E I K E E E V E C V L V L G
 L A C C H P N P H R P S M R T V L Q V L N G E A T P P E V P K E R P V F M W P A M P P S F K E A E D S S L V Q G T L A
 P F T E I T G R *

>Glyma.02G221900|Glyma.02G221900.1|40932876|Legume/protein kinase
 M I G I S F V L S H A A M A S L S N I L L M F C L L N L L A F P V S V H S A G E V P I N V T K H F S F Y N F S F S N N P
 R L V H D M K L L G S A K F S N E K G A L Q I P N E S E E D I R H Q A G R G I Y S F P I R L L D P S T K T P A S F Q T T
 F S F Q M N N S T A S E Q A A Y G G S G L T F I I V P D E F T V G R P G P W L G M L N D A C E N D Y K A V A V E F D T R
 K N P E F G D L N D N H V G I N L G T I V S T K V I N V S D V G L S L N D G S V H R A W I T Y D G P Q R R M D I R L G R
 A N Q E D Y D Y P P K P L F S E S M D L S P F L N E Y M F V G F S A S T G N H T Q I H N I L S W N F T S T S Q A F L R L
 P S S E T C Q G K I L L E N S T A S T E V P P T S H K S S K N E P P R S F L I F V A A V A L A L A L F L G F Y F I S K H
 R R N A A K L N T S V E A E L H M P R P P N K P R F A F S Q L S S S T R S F S E I E L L G S D N R G E Y Y R G K L S N
 G S Q V A V K R F S A Q F L S T H G S D K K R L L K E I K G V S H V R H P N L L L V R G W C Q D N H E I M V V Y D F V P
 N G S L D K W L F G A G V L P W T R R F K V I K D V A D G L S F L H T K Q L A H K N L K C S S V F L D V N F R A V L G D
 F G F V L M G A E S K H F E S Q V C Q G A D V F E F G V L V L E V I A G R V R D E K E E G N P E E R N L L D Y A W N L H
 Q I D E K V K L V D R R M G S L I N L E Q A I R V L E I G L L C T L N E N K G R P S M E Q V V E F L L N M D K P I P E L
 P R T R P V A L F P Y N S A N T G L C N A Y S C T F *

>Glyma.02G241500|Glyma.02G241500.1|42993453|Legume/protein kinase
 M L L S I F C F F N S V T A A T E F D F G T L T L G S L K L L G D A H L N N N T V S L T R D L A V P T S S A G R A L Y S
 R P V R F R Q P G N R F S A S F T T F S F S V T N L N P S S I G G G L A F V L S P D D D T I G D A G G F L G L G G G G
 G F I A V E F D T L M D V E F K D I N G N H V G V D L N S V V S S E V G D L A N V G V D L K S G D L I N A W I E F D G S
 S K G L S V W V S Y S N L K P K D P V L T M N L D V D K Y L N D F M Y V G F S A S T Q G S T E I H R I E W W S F G S S F
 A A A E A A P P P P A S A P P P L S L A P S H S E E K E S I S K S S C H N G C V K R V N K F D S L G S E I I K M P K Q
 F S Y K E L K S A T K C F A N A N R I I G H G A F G T V Y K G V L P E N G D I V A V K R C S H S S Q G K N E F L S E L S I
 I G S L R H R N L V R L Q G W C H E K G E I L L V Y D L M P N G S L D K A L F E A R T P L P W A H R R K I L L G V A S A
 L A Y L H Q E C E N Q V I H R D I K T S N I M L D E G F N A R L G D F G L A R Q T E H D K S P D A T V A A G T M G Y L A
 P E Y L L T G K A T E K T D V F S Y G A V V L E V A S G R R P I E K D A N G G G K G G I S C N L V E S V W S L H R E G R
 L L M A A D P R L G G E F D D G E M R R V L L V G L A C S H P D P L T R P T M R G V V Q M L V G E A E V P L V P R T K P
 S T G F S T S H S H L L L S L Q D S V S D C D G I I T I S T S T S E N S F N L G D I V *

>Glyma.03G051100|Glyma.03G051100.1|6684296|Legume/protein kinase
 M A P K N L F G L L I F L I L L V T C T A F S F Q F H G F H N S E R N L T R E G D S N V T P Q G I L Q L T K R E N N I V
 G H A F Y N K P I K I L E K T N S S V P Q T K F S S F S T C F V F S I V S P N S G L G G F L A F T I A P T T Q F P E A
 E G G H F L G L F N N S N D M N T S N H I L V V E F D T V N G Y K D N T D T V G N H V G V N I N G M Q S K I A E P A A Y
 F E E G M D A K F E S S T M E K E D A S C A W I E Y D G E T E I L N V T I A P L K V S K P S K P L I S Q A I H D I K F V
 M K E T M F F G K S A S T G K R K A V S H Y I L G W S V S V N G G I A P P L N F S L L P K P P P K E K D A S S F P W V K
 V A V A M L S A L T F T L L C L L F I V T R Y K R Y M M F E T L E D W E L D C P H R F R Y R D L H I A T K G F I E S Q L
 I G V G G F G A V Y K G V L P S T G T E V A V K R I M R S P M Q G M R E F A A E I E S L G R L R H K N L V N L Q G W C K
 H K N D L I L I Y D Y I P N G S L D S L L F N D N I A L D W D Q R F N I I K G V A A G L L Y L H E E W E Q V V I H R D V
 K S S N I L I D G E F N A R L G D F G L A R L Y S H D Q V S H T T S V V G T I G Y I A P E L T R T G K A S A S S D V Y A
 F G V L L L E V V A G T R P V G S S G Q F L L V D W V L E N C Q L G Q I L E V V D P K L G S A Y D E E E M E L V L K L G
 L L C S Q Y K A E Y R P S M K Q V A R Y L N F D D S L P D I S D W R Y Y D S Q S S T N S L S F L E A M S T G K I A S S Y
 S L S S I G S R S T L P I K T G R *

>Glyma.03G068600|Glyma.03G068600.1|14238074|Legume/protein kinase
 M A I N I L N P Q K A Q A S P S N L S I F E V L D F P H L L M A T N L N M L L K F L S L L V F L L I P V S S Q Q N Q L F
 Y A G F K G L K S N M T L D G V A E I E P N G V L K L T N D S S K V M G H A F Y P T P F R F K N S S G G G N K A F S F
 S S S F A L A I V P E F P K L G G H G L A F A I A P T K E L K A H P S Q Y L G L L D S T G I G N F S N H L F A V E F D T
 A K D F E F G D I D D N H V G I D I N S L S I A S A S A G Y Y S G D E D S T K Q N V T L Q S G V P I L A W V D Y D A A
 Q S V V H V T I S A S S T K P K R P L L S Y H V D L S P I F E D L M Y V G F S A S T G M L A S S H Y I L G W S F K I N G
 P A L P L D L S S L P Q L P G P K K K H T S L I I G V S A S V V F L V L C A V L L G I Y M Y R R Y K N A D V I E A W E L
 E I G P H R Y S Y Q E L K K A T K G F K D K G L L G Q G G F G S V Y K G T L P N S N T Q V A V K R I S H D S N Q G L R E
 F V S E I A S I G R L R H R N L V Q L L G W C R R R G D L L L V Y D F M E N G S L D K Y L F D E P E I V L S W E Q R F K
 V I K D V A S A L L Y L H E G Y E Q V V I H R D V K A S N V L L D G E L N G R L G D F G L A R L Y E H G T N P S T T R V

VGTLGYLAPEVPRGTGKATPSSDVFAFGALLLEVACGLRPLEPKAMPEDMVLVDCVWNKFK
QGSILDLVDPKLNGVFNEREMLMVLKGLLCSNSSPTARPSMRQVVRFLGEVGVDPDELK
KPGEGGYQEGFDEFHLSLESSSFDQMSTGSYGRTRDMDSSFPSLTDTSLFSPHGKGQTM*

>Glyma.03G069300|Glyma.03G069300.1|14502541|Legume/protein kinase
MANLNMLLQQFLHVLFLLLIPVSSQPNQLFYDGFGLGSNIMSLRGVAEIESNGILKLTDDSD
SRVVGQAFYPTGLRFRKNSSDGYTGGDDNSTKQNLTLTSGEPIIAWVDYDASQSVNVNTI
SESSTKPKRPLLSHHVDLSPIFEDLMFVGFSASTGLLASSHYILGWSFKINGPAPPLELS
SLPQLPGPKKKHTSLITGVSISGFLALCGFLFGIYMYRRYKNADVIEAWELEIGPHRYSY
QELKKATKGFKDKELLGQGGFGSVYKGTLPNSNTQVAVKRISHDSKQGLREFVSEIASIG
RLRHRNLVPLLGWCRRRGDLLLLVYDFMENGS�DKYLFDPGPKTILSWEQRFKVIKDVASAL
LYLHEGYEQVVIHRDVKASNVLDDGGLNGRLGDFGLARLYEHGANPSTTRVVGTFGYMAP
EVPRTGKSTPNSDVFAFGALLLEVACGLRPLEPKALPEDVVLVDCVWNKYKQGRILDLDVD
PKLNGAFNEREVLMLVKGILGILCSNAAPARPSMRQVVRFLDGEVGLPDELKPEEVGYQE
GFDEFMNSLEPSSFYQMSTSSYAIKTDMARFPFIDTSLYTLHARGETR*

>Glyma.03G074300|Glyma.03G074300.1|18511826|Legume
MAPFPTSHYFRAFTFSILFLKTLAFDPIPLFSYAGFGKDLKFKPNVALFGNAKVLNEGSG
IHFSGFGSSRGTTGRIMYKKPIKLSQKPRQLVSFSTYFAFSVSLEDGGGLAFVMAPKGSQ
GNVFYQSSSSGLNDGKFEVVGVEFSASKSGRKGVSSSCDVNMNIGGSVVAKKSNTSİGEK
LHVWIDYEASSRRLVRLSQHGKARPSYPLMWHSIDLSNVLKENEMFVGFSVKGNNDSQ
ACDLYSWSFVLNRNPHSMHSEPLDPKVFVKNTESPAKQRSDCFLSVLAAMIFGTGCGAL
TAFIVLYLWTIFGNNKRAVVPEESLVEPVDVDRKKVKIVVDKTIEDGKK*

>Glyma.05G041300|Glyma.05G041300.1|3710746|Legume/protein kinase
MSPSNSPVAEETLFSGTVFLILLHLSLFLTPTLSLDFLNSFAGVTNLTTLIKDARVDASV
IRMNDSNQYSYGRAFYPIKIPMTKTNSSİSSFSTSFVFSİLPQİSTSPGFGLAFVLCNT
TNPPGALASQYFGLFTNATSPSVFPLVAVEFDTGRNPEFNDİDDNHİGİDLNNİESİNAT
TAGYFNSSGAFVPMRMTGQNIHAWİDFNGENLEFNVTVPVGVSRPTKPSLSYQNPAİA
DYVSADMYVGFSASKTNWİEAQRVLAWSFSDSGPAKELNTTNLPVFQLESİSSİSİGGAI
AGİVVGCFVFVLİCASGFYLWWRMNKAKEEDEİEDWELEYWPHRFSEELSSATGEFRK
EMLLGSGGFGRVYRGTLPNHTQİAVKCVNHDSKQGLREFMAEİSSMGRQLQHKNLVQMRGW
CRKGNELMLLYDYMNGSLNKWVFDKSEKLLGWEQRRRİLDVDAEGLNYLHHGWDQVVIH
RDIKSSNİLLDADMGRGLGDFGLAKLYTHGEVPNTTRVVGTLGYLAPELATVAAPTSASD
VYSFGVVLLEVACGRRPIETSVAEEEVVLİDWVRELYAKGCAREAADAWİRGEYDEGDVE
MVLKGLACCHPDPPQRRPTMKEVVALLLGEEPQEAPGKVLSDLVRGKDMDETAPLQPS
PPV*

>Glyma.06G292100|Glyma.06G292100.1|48095366|Legume/protein kinase
MSTSTFLİSLLVFITNLTLİLLLTİSVSCTEFİYNTNFNSTNTLLHGNATİESSİLTİLTNS
STFSVGRAFYPPKİPTKPSNSSSTPLPFSASFİFSİAPFKDLLPGHGFVİLTİPSAGTTGV
NSAQHLGLFNİYTNNGDPNNHVFGVEFDVFDNQEFNDİNDNHVGVDİNSLSSFASHDAGFW
GGSDNDEFEDLKLNDGENYQVWİEYLDİRVNVTMAPAGQKRPQRPLİSEİVDLSEVLLDE
MFVGFCGATGQQLVESHKİLAWSFSNSNFSİGDALVTİTNLPİSFVLSKESİLRSTGFİVGİİ
VGVLİFVLSAAVİFVFİLRRKRSKRKDEEİEDWELEYWPHRVSYEDİYSATKGFSDQHVİ
GFGNGKİYKGLLQGVQVAVKRIİPCDSEHGMRFLSEİSSLGRİLKHNNVPMRGWCKKDR
SLİLİYDYMDNGSLDKRİFDİDİNTİFGEKRIKVLKDVİAHGVLYLHEGWEVKVLHRDİK
SSNVLİLDKGMNARİLGDFGLARMHNHEQİAHTSQVİGTVGFMAPELİHTGRASTQTDVFSF
GVİLİLEVVCGRRPNEENKPLVAVLWRLKQRGEECSALDERLKKRGECNİDEVKRVİLHLGL
LCTHHDPHVRPSMREVVEKGR*

>Glyma.07G135400|Glyma.07G135400.1|16041248|Legume/protein kinase
MSLKVVTVVFLLATİVVASDYTSFTYNGFQSSHLİLDGSAEFTTNGMVKLİTNHTKQKKGH
AFFPSPİVFKNİTNGSVFSFSTTFVFAİRSEFPNLSGHGİAFVVSPTKEVPHSLPSQYLİG
LFDDTİNNGNNSNHVFGVELDİTLNTEFGDİNDNHVGİDVNELKSVKİSASAGYİSDGGFKN
LSLİSGYPMQVWVEYDGLKKQİDVTİAPİNVGKPERPLLSLNKDLİRİLNSSMYVGFTSS
TGSİLSSHYVLGWSFKVNGKAQQLAİSELPMPLRLVGKQESKVLİVGLPLİLİLİLİLMVA
LAVVHAİKRKKFVELLEDWEQDYGPHRFKYKDLİSLATKGFREKELLGSGGFGRVYKGVMP
İSKİEİAVVKVSHESRQGMREFVAEİASİGRLRHRNLVPLİGYCRRKGELLVYDYMİNG
SLDKYLYNKPRVTİLWNİSQRFRTKGVASGLFYLHEEWEQVVLHRDİKASNVLİLDAELNGR
LGDFGLSRLYEHGTDPHİTHVVGTLGYLAPEHTRTGKATTSSDVFAFGAFMLEVVCGRRP
İEQGRESGSEİLVDWVYNCWKKEİLEARDPNİLGANYRPDEVELVLKALİLCSHSEPLAR
PSMRQVVQYLEKDVPLPDLİSMLİLSSİGLTFGLHEDFQDCPMİSYSSMDRPIİHTSSİAE
SLLSGGR*

>Glyma.07G135600|Glyma.07G135600.1|16050761|Legume/protein kinase
MATLLKİLSLLVLLİPVSİCQVDQVLYSGFKDVİGASNLİTMNGVTİTİERNİLİLİLTNESSR
SİGHAFYPSFQİKNSTSGKALSİSSİFAFAİVPEYPKİGGHGLAFTİATSKDLKALPNQ
YLGLİNSSDNGNFSNİİFAVEFDTVQDFEFGDİNDNHVGİDİNSMQSNTSİANVSLVGLTİL
KSGKPIİAWVDYDSRLNİLİSVALSPNİSSKPKTİPLİTİFNVDLSPVFHDİTMYVGFSASTGLL

ASSHYILGWSFKINGPAPPLDLSSLPQLPKPKKKQTS LIIGVSVSVVVIVLLAISIGIYF
YRKIKNADVIEAWELEIGPHRYSYQELKKATRGFKDKELLGQGGFGRVYKGTLPNSKIQV
AVKRVSHESKQGLREFVSEIASIGRLRHRNLVQLLWGCRRQGDLLLVDYDFMANGSLDKYL
FDEPKIILNWEHRFKI IKGVASALMYLHEGYEQVVIHRDVKASNVLLDFELNGRLGDFGL
ARLYEHGANPSTTRVVGTLGYLAPELPRGTGKATTSSDVFAFGALLLEVVCGRRIEPKAL
PEEMVLVDVWWEKYKQGRILDVDPKLNHGFDEKEVMVVLKGLMCSNDVPAARPSMRQV
VRYLDGEVEVPEDLKKPGAVSHHEGFEEFLHSLASSSFDKMSSGSNFGNRDMDSSFLSFS
NSPHSLHSGSTN*

>Glyma.07G143000|Glyma.07G143000.1|17040669|Legume
MPTSIMAPFSTSHHFTAFTFLILFLKTQAFDPLSSFSFTDFQKDPNFKSSVGLYGNKAVV
YNGSEVLLSGNGGGRVMYKPKFLVHGEARELVSFSTYFGFSMSLDGEKNGLAFVMVPSG
IEGEVFGNSSYGSFGLKEREFKVIQVFSAYGRNGGSGSCIVSINVGSVPVKTNASS
VIMGLGSEGKLHAWIDYEASSKRLEVRNLQFGQSRPVDPLLWHSMDLSNVWGTEEMFAGF
STVKGNNTSQSCFLYSWSFIVRHFPHWMHSEPLDPKFLAKKTETPTVKYYSFCLLRVLA
AMIFGAGCGALTAFIVLYLWTIFGNKRPVVP EYAMQPVD FDKYKVNIVVDKTT*

>Glyma.07G154100|Glyma.07G154100.1|18942248|Legume/protein kinase
MASPTLVFVFLFLSLLPQVIASKAVIFEGFDDENSELNLEGSSIIKTSRLLKLTNRSTN
IVGHAFYATPFQMLNNTNQPYAYSFSTNFVFSIVSPSSSGSGFGLAFTIAPSTQFPGA
GHYLGVLNSTNDGNESNHFPAVEFDTMNGYKDDSDTEGNHVGVNINGMDSNITEPAAYIK
EGTDKVKEDFRMAKVDVAVQAWIEYDGENKTLNVTIAPLSKPRPSKPIIKNHIIDLYNME
ESMYVGFSASTGQETSSHLLGWSFAVNGVAPQLKISNLPNPPKEKEPTSPFWVNIAIG
VLSASTFCLLCILFCITCYRRYMDFEVLEDWEMDCPHRFYKDLHLATKGFIESHLIGV
GGFGAVYKGVLPSTGAEVAVKRIVRSPFHGMREFAAEIESLGRRLRHKNLVNLQGCNKK
DLLLVDYDFIPNGSLDYVLYKPNNNNFVLNWGQRFNILKGISAGLLYLHEEWEQVVIHRDV
KTSNILIDAHNLARLGDGFLARLYNHGQLSHTTSVVGITIGYIAPELRTGKASTSTDVYA
FGVVLLEVATGKRPLDSDQFFLVEWVIEKYHLGQILEVVDPKLDSLYDEEEIELVLKGL
LCTQHRADYRPTMKQVTRYLNDFDEPLPDIVDWGHGVSGSSRLSSGFLEVITYSMGTVETLG
YLSSISMSTKSIDAGRQQII*

>Glyma.07G183900|Glyma.07G183900.1|35144343|Legume/protein kinase
MQLPPSKGYLHNSISTPSNINSLVMAASRYCKKSYVHASFHAITLTLLLLAIPHAASLSF
NYQQLGDTGIALNFSGKARRDNDVINLTRSEPDSYGRVTTYELLHLWDKNSEKVTDFTH
FSFTINTPNKTHHGDTFTFFLAHPDFPQSDIDGSGIGLASREQLKNLNFADYPPFAVEF
DTFVNDWDPKYDHDVGDVNSINTTDTTEWFTSMDERGYDADVSYDSGSNRLSVTFTGYKD
DKKIKQHLFSVVNLSDVLPWEVIEGFSSATGDFYEEHTLSSWSFNSSLGPKPKQKGGSKTG
LVIGLSVGLGAGVLFVILGVTFVLRWILNRNGVEEVS LFDHTMDNDFERMSLPKKS FSYEE
LARATNLFASENKIQGGFGAVYRGFMRELNAHVAIKKVSRGSRQGVKEYASEVKIITQL
RHKNLVRLFGKCHENNDLLLVYEFMENGSLDSYLFKGKGLLTKVRYDIARGLASALLYL
HEEWECEVLHRDIKSSNVMLDSNFNAKLGDGFLARLMDHAIGSKTTGLAGTIGYLPPEAA
TRGKASRESDVYSFGVVTL EACGRKVIENLNEEQIYLVVWVEHYGMGALLKASDASL
YGHFDEKEMERLMIVGLWCTHSDFLLRPTIRQAVQVLNFEAPLPILTSFSSMSRTPASA
NNQHVSNSSSSSLLTESLQSSTTIDLISPAAYLHTY*

>Glyma.07G184000|Glyma.07G184000.1|35149746|Legume/protein kinase
MHVQLSNLNFPHLLVMLLSIFFLLIIPYASSLSFNFTSFDPNDKSI VFEGSANPVAPT
QLTRNQMDKGMIGSIGRATYYQPMQLWDKATGNLTDFTTHFSFVIDSQNRSKYGDGIAFF
LAPAGSKI PNATKGASMGTLNQQLNSTDNSFVAVEFDIYQNGWDPPHEHVGIDINSMR
SASNVTWLADIKEGKLINEAWISYNSSSLNLSVVF TGFNNDTDHTIQQQHLSAIVDLRLHL
PELVSGFSAGTGNATLHISLSYWDFTSTLAAQENITKGADPVARSPSTNIAPSQKKKNK
TGLAVSLGSAAGFCALGHSIVLWKKWKKGT EEEHDFEEFMGEDFGRGVETRKYSYAEL
AQAANGFKDEQKLQCGGFGGVYRGYLDIKSHVAIKRVSEDS DQGIKEFASEIRTINRLR
HRNLVHLIGWCHERKKLLLVYEYMPNGSLDTHLFKKQSLLKWAVRYNIARGLASALLYLH
EEWEQC VVHRDIKSSNIMLDSEFNAKLGDGFLARFVDHAKGAQT TALAGTMGYMAPECAT
LGRASKESDVYSCGVVALEIACGRKPINLKAQENEINIVQVWELFGGGRILDAADPRLE
GDFEEEQIKCLMIVGLWCAHPDHNNRASIRQAIQVLNFEAPLPNLPSLPPVPTYLDGPLH
SSIAPFSITASVEGHSQIRSSANTNSSGFTTTSDDASPSVSLLYSR*

>Glyma.08G065500|Glyma.08G065500.1|5051641|Legume/protein kinase
MAWWRNSLQNPTLLFCYATRTIFILQIIPLANSLSFDPNFKNGDVKEGDASILKGAIQ
VTSNTMDQNNYSVGRVTSYKMLLWDMNTGKLADFTTKFSFVVFSGKSYYGDMAFFLA
DPNLP LLKNIREGGGLGLVDGKQVLNSTQPFVAVEFDTFHNKWD PQGGTHVGLNFNSMRS
NITKQWLTDIQIWNVYNCSEYNSSTLNLVSFTTYNNVSKPVEEYISYKVDLRDYLPGK
VILGFSAAATGKLYEVHTLRWSFNSSLQSDENTNEIKPVAAPPTSNPDSENEHKIGLWVG
IGIGVGLVLGLLGLICALLWKRSREKKGELVFDLNMAD EFPKGTGPKSFCYNELVSATNK
FAEKLQCGGFGGVYKGYLDKLSYVAIKRISKESRQGMKEYVTEVKVISQLRHRNLVQLI
GWCHRKNDFLLIYEFMPNGSLDSHLYGVKSFLTWTVRYNIALGLASALLYLQEEWEQCVI
HRDIKSSNIMLDSCFNAKLGDGFLARLVDHEKGSQTTRIAGTRGYIAPEYFTSGKATKES
DIYSFGVVLLEIASGRKPVELEAEEGQITVVEWVWKLYGLGRFLEADPKLCGEFDENQM

ERLVIVGLWCVHPDYSFRPSIRQVIQVLKFESALPILPEMMPVPTYLPPTIKALFSSVSS
SFWGRS*

>Glyma.08G065600|Glyma.08G065600.1|5055963|Legume/protein kinase
MQSYTSSVGRVTYPEQINLWDDSSNEPKDFTTNFSFVVSSNQSSLYGDEKWWTNVTQGEV
CNCISIVNSRNNILKVSFTENKLGGGDATQIIQHLSYHVNITDQLSKSVTVGISAATGEY
TEEHTLFSWSFSTSTSSPTPSKGHSKKGRIINTILLEGTGIGTEVWPRWFGGFHKGYFKGL
NSYAAMKRISAGSAQSLKEYAEFVTIISQLRHMNLVKLAWCHHKNDLFLIYEYMPNGSL
DSCFLFGGEKFLPWKVRYNVALGLASAWLYLQEECEKFVFHREIKSSNIMVDSNFSAKLGD
FGLARQVDHEKGSQSSVGESDTFSFGVVLLEVATGRKAIHHKDMEGGVSLVEWAWEHHL
RNLLAAADPNLCAEFVQQTTECLLVVGLCKTRPSIRQVIKVLNFEAPFPILPPQIPVLNN
LPPTTNMLVFTASP*

>Glyma.08G065700|Glyma.08G065700.1|5063560|Legume/protein kinase
MVSAAPKAMVPLSNLNPYPYHHFLVMLLSIFFLLIIPYASALSFNFTSFDPNDKSIIEYEG
SANPVAPTITQLTRNQMDKNMIGSIGRATYCPMHLWDKATGNLTDFTIHFVVIDSRNRS
KYGDGMAFFLAPAGLKI PNATKGGSLGLTLDNQRNLSTDNPFVAVEFDIYKNPYDPPGEH
VGIDINSLRSVANVTWLADIKEVKLNEAWISYNSSSLNLSVVLNVFNNDTDHTIQQQYLS
AKVDRRLYLPELVTFGFSAATGNATAIHSVNSWILAQWLQHKKT*

>Glyma.08G065800|Glyma.08G065800.1|5066539|Legume/protein kinase
MYSQSLNLSFSHHFLVMLLSIFFIFIIPCAFPLSFNITSFDPNGKSIIEYEGSANPVTPVI
ELTGNVRDITGRATYFQPMHLWDKATGNLTDFTTHFSFVIDSRNQSAVEDGMAFFLAPAG
LKFPYVSRGGALGLTLEDQRLNSTDPFVAVEFDIYENPDDPPGEHVGIDINSLRSVANVT
WLADIKQKGLNEVWISYNSSSFNLSVVFTEGFNNDTILRQHLSAITDLRLHLPEFVTVGFS
AATGIDTAIHSVNSWDFSSTLAAQENITKGADTVARYPATSNIAPSQKKKNTGLAVGLS
IGGFVLIGGLGLISIGLWKKWKKGSVEEDLVFEEYMGEDFGRGAGPRKYSYAELEAANG
FKDEHKLGGGGFVGKYKGYLKDIIKSHVAIKRVSEGSQGIKEFASEVNIISRLRHRNLVH
LIGWCHAGKKLLLVYEYMPNGSLDIHLFKKQSLWKTVRYNIARGLASALLYLHEEWEQC
VVHRDIKSSNIMLDSEFNAKLGD FGLARFVDHAKSAQT TALAGTMGYMAPECATSGRASK
ESDVYSFGVVALEIACGRKPINHRAQENEINIVEVWVWGLYGEGRILEAADQRLEGEFEEE
QIKCLMIVGLWCAHPDHNNRPSMRQAIQVLNFEAPLPNLPSLPVPTYLEGPLHSFIAPF
SITSSEEGQSQITGSSSNTNSTGFTTKSDDASPSVSLLYSR*

>Glyma.08G065900|Glyma.08G065900.1|5074504|Legume/protein kinase
MVSAAPNAMYAQLSNLSFSHHFLVMLLSIFFIFIIPCAFPLSFNITSFDPNGKSIIEYEGS
ANPVTPVIELTGNVRDSTGRATYFQPMHLWDKATGNLTDFTTHFSFVIDSRNRSYGVDGM
AFFLAPAGLKFYPVSRGGALGLTLENQRLNSTDPFVAVEFDIYKNFYDPPGEHVGIDINS
LRSVANVTWLADIKQKGLNEVWISYNSSSFNLSVVFTEGFNNDTILRQHLSAII DLRLHLP
EFVTVGFSATGSSTAIHSVNSWDFSSTLAAQENITKGADTVARS PATSNIAPSQKKKNT
TGLAVGLSIGGFVLIGGLGLISICLWKKWKKGSVEEVHVFEEYMGKDFGRGGGPRKYSYA
ELTQAANGFKDEHKLGGGGFVGKYKGYLKDIIKSHVAIKRVSESSQGIKEFASEVNIISR
LRHRNLVHLIGWCHAGKKLLLVYEYMPNGSLDIHLFKKQSLWKTVRYNIARGLASALLY
LHEEWEQCVVHRDIKSSNIMLDSEFNAKLGD FGLARFVDHAKSAQT TALAGTMGYMAPEC
ATSGRASKESDVYSFGVVALEIACGRKPINHRAQENEINIVEVWVWGLYGEGRILEAADQR
LEGEFEEEQIKCLMIVGLWCAHPDHNNRPSMRQAIQVLNFEAPLPNLPSLPVPTYLEGP
LHSFIAPFSITSSEEGQSQITGSSSNTNSTGFTTKSDDASPSVSLLYSR*

>Glyma.08G066000|Glyma.08G066000.1|5079926|Legume/protein kinase
MSLKVFVTCIIFPSTPPPTQARNINYMQAIYVQFHFHRTNISSPDMAASPYASLAFNYQQ
LGDAGNATLSISGDVYHEQEVLQLTRYETFSYGRVIYHKQLHLWDKNSGKVADFTHFSF
TINARNNTNYADGMTFFLAHPSFPELDPDGVGIGLLSRTQLLNPNTKEYPFVAVEFDI
YVNPEDWPKYHHVGIQVNSFVTSVSDTTQWFTSMDQRGYDADISYDSASNRLSVSFTGYK
DNVKKIQNLSSVVNLKDKLPDWVEFGVSAATGMYEEHTLSSWSFNSSVFVDKHKGGSKK
GLAVGMGIGGFVLIGGTGLISLGLWKKWKKVDEEENHIVEEYMGEDFERGAGPRKYSYAE
LAHAANGFKDEHKLGGGGFVGKYKGYLKDIIKSHVAIKKVSEGSQGIKEFASEVNIISRL
RHRNLVNLIGWCHERKKLLLVYEYMSNGSLDIHLFKKQSILQWAVRYNIARGLASALLY
HEEWEQCVVHRDIKPSNIMLDSEFNAKLGD FGLARFVDHAKSAQT TALAGTMGYMAPECT
LGYRPASKESDVYSFGVVALEIACGRIPINHRAQENEISIVQVWVWGLYGEGRILEAADQR
LEGKFEEEQIKCLMIVGLWCAHPDHNNRPSMRQAIQVLNFEAPLPNLPSLPVPTYLEGP
LHSYIAPFSITASEEGQSQIISFSSNTNSIGFTTKSDDASPSVSLLYSR*

>Glyma.08G066100|Glyma.08G066100.1|5084470|Legume/protein kinase
MAASRYCKKTYVRAYFLHVTLIFLLLVIIPRAAASLAFNYQQLDGTGNALKTSGDVYPDQD
VLLLTRYEPDSYGRVTTYENLHLWDKNSGKVTDFTTHFSFTINTPNKTHHGDGITFFLAH
PDFPQSGIDGSGIGLASREQLKNLNYAKDYPFVAVEFDTFVNDWDPKYDHVGDVNSINT
TDTTEWFTSMDERGYDADISYDSASNRLSVTLTGKYSVKIKQHLFSVNLSDVLPWVE
IGFSSATGFFYEEHTLSSWSFNSSLDKEQQKGGSKIGLVIGLSVGLGAGLSVLIVIGVT
FLVRWMLKNRGLVEVSLFDHAMDNDFERMSLPKKFSYEELARATNNFARENKIGEGGFGA
VYRGLIRELNIHVAIKKVSRRSSQGVKEYASEVKIISQLRHKNLVQLLWCHQNNDLLL

YEFMENGSLDSYLFKKGKGLLAWKVRYDIARGLASALLYLHEEWEECVLHRDIKSSNVMLD
SNFDAKLGDFGLARLMDHAIGSKTTVLAGTIGYLPPEAVTRGKASRESVDVFSFGVAALEI
ACGRKAIEPNVNEEQLYLVDVWVWELHGMVDLLKASDPSLYGHFDEKEMERLMIVGLWCTY
TDFHLRPTIRQVQVLNFEAPLPTLSPQVPSFSYNSSFSSMPSRTSAFANNQCVSSTSSS
LGTGSSQSNTTCEVIISPAAAH*

>Glyma.08G066200|Glyma.08G066200.1|5090942|Legume/protein kinase
MHVQLSNLNFYSYHLVVMLLSIFFLLIIPYASSLSFNFPSPDPNDNRIIYNRSANAVAPNI
QLTTNQADKGMNGSIGRATYYQPMHLWDKATGTLTDFSTNFSFVINSRGQSVYGDGIAFF
LAPAGSMVFNSTLGGTMGLTLDNQILNSTDNPFVAVEFDIFGNDWDPPGEHVGIDINSLR
SVANATWLADIKGGKVNQALISYNSTSLNLSVAFTGFKNGTALLHHL SVIVDLKLYLPEF
VTVGFSAAATGNLTAIHTLNSWDFNSTSIIAPSQKKKDKKALAVGLGVGGFVLIAGLGLIS
IRLWKKTSEEDHDFFEEYIDEDFERGAGPQKYSYAEQAANGFKDEHKLGGGGFVGGVYK
GYLKDCLKSHVAIKKVSEGSQGIKEFASEVRIISRLRHRNLVNLIGWCHAGKKLLLVEY
MSNGSLDIHLFKKQSIQWAVRYNIARGLASALLYLHEEWEEQCVVHRDIKPSNIMLDSEF
NAKLGDGFLARFVDHAKSAQTALAGTMGYMAPECTLGYRPASKESDVYSFGVVALEIAC
GRKPINHRAQENEISIVQWVWGLYGEGRILEAADQRLEGKFEEEQIKCLMIVGLWCAHPD
HSNRPSIRQAIQVLNFEAPLPNLPSSLPVPTYLEHPLHSSILPFSINASEEGQSQITGCS
SNTNSSGFTTTSDDASPSVSLM*

>Glyma.08G075200|Glyma.08G075200.1|5745983|Legume/protein kinase
MAMHAFGILLGLVLSLFSVSSDINFVKYGFQAGLKMDGASYVRPNGILTTLINDSPKIL
GHAFYPSPLPFKSSKNKSIVATFSTTFVFSIVPKYPELGAQGFAFVLISNPKPGCLMNQ
YLGLPNVTSSLEFSTRFLAIEFDGIQNLDLHDMNDNHVGDIDISSLISNISRPVAYYLSDH
SKNISFSLKSGKPIQAWVDYNEGEMLMNVTVSPFGMPKPYFPLISFPIDLSLVLDYMYA
GFSASNGLLVAEHNHGWGFKIGEAGQELDKSAPVLIGSSTSTSSKVHKKDFAVGITLT
SATLFILTVIGAFHVLRLRLNNGDEILEDWELEFASHKFKYSELHSATGKFGDSNLIGYGG
FGKVYRGVIASTGLEVAVKRVAPDSRQGIREFVSEITSMAQLKHRNLVQLHGWCRKKDEL
LIVYNYVPNGSLDKLLFENEHQQKKLLTWDQRYTIIITGVAQGLLYLHEECELVVHRDVK
PSNVLIDEDLQPKLGDGFLARTYEHGINPQTNNVGTGLGYMAPELTKTKGARTSTDVYGY
GILILEVACGRKPIEPQKNPEELVLVDWVRELHHQKISRADPSLDEYDKDEARLVLSL
GLFCAHPNPDYRPSMRIRVQFLLGETSLPPLPPDIHCEDPTAIRKCPNNFADDSGSSSSM
VSSSKY*

>Glyma.08G274600|Glyma.08G274600.1|36369863|Legume
MAIKNTRAQSKTPIISILMLIISFLGLVHNKSVSFSFSPSGSYTNDITLQGEAYVNSEG
AIKLTPLSPNNVGRASYAAPLHLWDAKTGKLAGFNNTTFSFVVAPSGPGLFGDGIAFFLAP
FTSNLPNNSSGGFLGLFSPNSALNVYKNQIVAVEFDSFSGNPWDPPSAHVGIDVNSIASV
TTRKWETGNSFEVAYATVNYEPIGKSLNVLVTYPGSSSLNTTSLSFVIDLRTVLPPEWIRVG
FSGATGQLVETHKIYSWTFASSFY*

>Glyma.08G274700|Glyma.08G274700.1|36373519|Legume
MAKTQTPFPALMICLFFVLLLNNVKSDSISFSFSNFEPGQNFDIGFLGDARPDVDAIQLT
RRDNNGPYGTNPINRQHSVGRAVYIPVRLWDKTTGKLADFETDFSFFVVDFAASQIHADGL
SFFIIPFDADPRIPKNSSGGYLGLFSPETAFAFNAYKNQIVAVEFDSFGNEWDPKVPVAPH
IGIDVNSLESVETIDWPINSLPLGSVGKASISYDSNAKQLSVTVGYDSNHPPIFVGLKQI
IDLRGVLPPEWVRIGFSGATGEKVETHDILSWSFTSRI*

>Glyma.08G274900|Glyma.08G274900.1|36399447|Legume
MVLSNSKPPFLLLVQFLMLHRNWDDTSFNFPNFSFGPYPNTVLTQGDARIIRGVIDPTNF
VKNAEIVPSAGRATYALPVRLWDSKSGKVASFTTTFSTFKISNGPNTGDGIAFFLAPFGSN
MPRDSAGGYLGLFSRDTALRNTNKNHIVAVEFDMHQNEWDPAATPHIGIDVNSISSVATV
RWEIEELGVPTVSATVSYDSKTQIFGMALNDGTVVAYEIDLRTVLPPEFVSVGFSGATGVL
IEDHEILSWTFSSSFD*

>Glyma.08G275000|Glyma.08G275000.1|36402052|Legume
MAKSKTQTPFPPTLLVFLCYVLLLNNVKKSNSLSFNFSNFVSGPNFDIGFLGDARPLDGAI
QLTRRDNNGPYTANIRQHSVGRAVYIPVRLWDKTTGKLADFETDFSFFVVDYYSAGSQI
HADGLSFFIIPFGADPRIPKNSSGGYLGLFSPETAFAFNAYKNQIVAVEFDSFRNEWDPEPV
PVAPHIGIDVNSLESVETTDWPINSLVQAVGKAIISYDSNAKKLYAVGYDTQPPTIVA
LSQITIDLRVVLPEWVRIGFSGATGDMVETHDILSWSFTSHI*

>Glyma.08G275100|Glyma.08G275100.1|36421619|Legume
MAKTQNSFHILMVSLCFVLLLNNVKSDSLSLRFPNFAPRQNSNIGFLGDERPLDVYIPQV
HLWDKTTGKLANLETSSFSFVVDYYSAGFEIHIDGLSFFIIPFDADPSIPKNSSGGYLGLF
SPETTFNPNRGYSFGNEWDPKVPVVALHIGIDINTLESVETVWGPINYPHGSVVGQASIR
YYADVKELSVVVGYFNTQPATIVRVLQSIDLRAVLPESVRIGFSGATGDKVETHDILSWS
FNSRI*

>Glyma.08G275400|Glyma.08G275400.1|36550819|Legume/protein kinase
 MHIVRYSLASPPPSLFFSFSSAMAFFTYASNSNQCPKQTLLFIFTITLFTLFTTVECL
 SFNFSTFQPNSSNNLIDFKGDAFSSRGVLQLTKNQIDDKITFSVGRASYNQQVRLWDRRTK
 KLTDFTTHFSFVMKAVIDPKRFGLAFFIAPFDSVIPNNSAGGYLGFLFSNESAFNMKKNQ
 LVAVEFDSFENEWDPSSDHVGIDVNSIQSVTNVSWKSSIKNGSVANAWIWINSTTKNLSV
 FLTYADNPTFNGNSSLSYVIDLRDVLPELVRIGFSAATGSWIEVHNILSWSFSSNLDGDN
 RKKVKVGLVVGSLVGLGCCLVCVVGLLWFTFWRRKNKGKEENLGVDASIDDEFERGTGPK
 RFTYRELSNATNNFAEEGKLGEGGFGGVYKGLVNSNLEVAVKRVSKGSKQKKEYVSEV
 RVISRLRHRNLVQLIGWCHEQGELELLVYEMPNGSLDSHIFGNRVMLSWVVRHKVALGLA
 SALLYLHEEWEQCVVHRDIKSSNVMLDANFNALGDFGLARLVDHELGSQTTVLATMGY
 LAPECVTTGKSSKESDVYSFGVVALEITCGRKPVEVREEPSKVRLVEVWWSLYGKGKLE
 AADKKNLWEFEEQQMECLMIVGLWCCHPDHTRMPSIRQVISVLNLEAPLPSLPSKLPVPM
 YYAPPMDMCKFSYTSSTSGVTSTTKESSPYSSMSAGSGKSL*

>Glyma.09G110500|Glyma.09G110500.1|21870064|Legume/protein kinase
 MHLPLVKYQLASTIFIITLTKVTCFYFNFLTFQKENESDLLLLSKNSLIYLDIAIQVTPD
 IRGRIHDYSGRAFYNKPYKLWSKKKNQIASFNNTFVLNITPETTPGGEGGLAFILTSDTTL
 PQNSDGEWLGIWNATSNGTSGAGILAVEFDTRKSFTEDGPDNHVGININSINSIQQVPLI
 NTGVNVSSGINVTFKIQYMNMDITVFGSMTGFEESSMKTLLVSPPLNLSNYLQEEVYLGF
 ASTSNYTELNCVRSWEFSGVDIADDDNKSLWVYITVPLVIVIIIGGLAIFFLYWQRKR
 HMEMPEDAYPRIEDQIQYSSMAPKKFKLMEITKATGGFSPQNKLGEGGFGTVYKGLLDNK
 EVAVKRVSKNSRQKQEFVAEVTITIGSLHHRNLVKLTGWCYKRELELLVYEFMPKGS LDK
 YLFGDKTFGNNTLEEGCSSTLTWETRHSVIHGVAQALDYLHNGCEKRVLHRDIKASNIML
 DSDYNAKLGDFFGLARTIQQRNETHHSTKEIAGTPGYMAPETFLTSTRATVETDVYAFGLV
 LEVVCGRKPGSVYAQDDYKNSIVYVWVDLYGKGEVVGVDARLKKEEIKEEVEECVVVLG
 LACCHPNPHHRPSMRTVLQVLNGEAPPPEVPKERPVFMWPAMPSPSFKEAEDNSLIQGTLT
 PFTEITGR*

>Glyma.09G110700|Glyma.09G110700.1|21937240|Legume/protein kinase
 MQLPLLVKYQLAAIIFIITLTKVTCLSFNSTFERKDEHLLLNNSKIFSSAIQVTPD
 TRAQSIHNYSGRAFYNKPYKLWSQKKNQTASFNTTFVLNIDPQTTPAGGEGGLAFILTSDT
 NLPENSSGEWLGIWNATSNGTSGAGILAVEFDTRNSFSQDGPDNHVGININSINSIKQAP
 LINTRVNLSSGEHVKIHIQYFNDTLSVFGAMDGASEESMETLLVSPPLNLSNYLQEEVYL
 GFSASTSNYTQLNCVRSWEFSGVDIADDDNKSLWVYITVPIVIVIIIGGMVVFLLYWQ
 RKRHMEMPEDAYPRIEDQIQYSSMAPKKFELRKITKATGEFSPQNKLGEGGFGTVYKGLL
 DNKEVAVKRVSKNSRQKQEFVAEVTITIGSLHHRNLVKLTGWCYKRELELLVYEFMPKGS
 LDYLFYLDKIFGNNTLEEGCSSTLTWETRHSVIHGVAQALDYLHNGCEKRVLHRDIKASN
 IMLDSDYNAKLGDFFGLARTIQQRNETHHSTKEIAGTPGYMAPETFLTGRATVETDVYAFG
 VLVLEVVCGRRPGSVYAQDDYKNSIVYVWVDLYGKEKVVGAVDARLKKEEIKEEVEECVL
 VLGLACCHPNPHHRPSMRTVLQVLNGEAPPPEVPMERPVMWPAMPSPSFKEAEDNSLIQ
 TLTHFTTEFTGR*

>Glyma.09G150400|Glyma.09G150400.1|37120770|Legume
 MAIWKTNKSLSLPLMAFTMATMFLMLLRVNSADSLSFNNFSEDQEDLILQGDATTGA
 SSENDDKNVLQTLKLDSDSGKPEFGSVGRVLYFAPVHLWKSSQLVSTFETTFTFKISSASPD
 SVPADGLAFFIASPGTTPGAGQDLGLFPHLTSLKNSSSSSHHRKVTRITGVKDLASEPLV
 AVEFDTFINTDIGDPEYQHIGIDINSITSVTTTKWDWQNGKTVTAQISYNSASKRLTVVA
 SYPDSTPVSLYYDIDLFTILPEWVRVGFSASTGGAAEANTLLSWSFSSSLQTNQIQKEDM
 HGIVM*

>Glyma.09G201400|Glyma.09G201400.1|42571183|Legume
 MAFSNSKPNLLQSLSPLIKFLIPFLLQLHVSNSQQPPSPMSAYETVGFVGFFDKDDPNV
 FLLGNASVSGGALRLTNTDQLGKPVPHSVGRALHVTPIHLWNKNNGELADFSSGFSFVVN
 PKGSTLRGDGFAFFLAPANLNFKNSSGGYLGFLNPETALDPSKNQIVAI EFDSFTNDWD
 PNSPNQSPHVGIDVDSIKSVATVPWPSELEPDNAVAHASLNYNSESLSLVFVGYPDNRN
 ATVSTIVDLRNLVPEWIRVGFSASTGDLVETHDILNWSFEAAL*

>Glyma.09G201500|Glyma.09G201500.1|42573522|Legume
 MANHAAQNPLSVFLTTFLLLLITSKSDLSFNI PRFEPGALNILLDGS AKTTGGVLQLTK
 KDKSGNPTQHSVGLSAYFAALHLSDAKTGRVANFATEFSFVVNTKGAPLHGDGFTFYLAS
 LDFDFPDNSSGGFFGLFNKKTAFNTSLNQVVAVEFDSFANEWDPNFPQSDSPHIGIDINS
 IRSVATAPWPLDIQPGSIGKARISYQSSSKILSVSVAYPNSPVNLNATVLSYPVNLGAV
 LPEWVLFGFTASTGDLVETHDILSWSFNSFL*

>Glyma.09G201600|Glyma.09G201600.1|42577045|Legume
 MANHAAQNPI SVFLMTFLLLLITSSKSDLSFNFPSFEPGVRNILLVGDDAKTTGGVLQLTK
 KDQSGNPTQHSVGLSAYFGPLHLSDRRTGRVADFATEFSFVVNTKGAPLHGDGFTFFLAS
 IDYEFDPKSSGGFFGLFNKKTAFNTSLNQVVAVEFDSFANEWDPNFPESDSPHIGIDINS
 IRSVATAPWPLDIQPGSIGKAQISYQSSSKILSVSDYPNSPVKLKPTVLSYPVNLGAV
 LSEWVLIGFSGATGDLVETHDILSWSFNSFL*

>Glyma.10G013100|Glyma.10G013100.1|1176602|Legume
 MATSKFHTQKPLFVVLSVVVLLTMTKVNSTKPFLSPGTSSCRTNRTLILQGDALVTSSR
 KSLGRALYSTPIHIWDSEIGSVASFAASFNFVTYASDIANLADGLAFFLAPIDTQPQTRG
 GYLGLYNSTDTQQHPSNSWGLANDQVTNVLITYDASTNLLVASLVHPSQRSSYILSDVL
 DLKVALPEWVRIGFSATTGLNVASETHDVHSWSFSSNLPFGSSNTNPSDFAIFI*

>Glyma.10G108900|Glyma.10G108900.1|25055887|Legume
 MATSNFSIVLSLSLALFLMLLTKANSTNTVSFTTSKFSPRQQNLILQGDAAISPSGVLRL
 TKVDSYGVPTSRSLGRALYAAPIQIWDSETGKVASWATSFKFNVFSPDKTADGLAFFLAP
 VGSKPQYKAGFLGLFNSDSKNMSLQTVAVEFDITYNHGRRHIGIDVNSIKSVKTAPWGFA
 NGQVAQILITYNADTSLLVASLVHPSRKTSYILSETVSLKSNLPEWVNVGFSATTGANKG
 FAETHDVSFWSFASKLSDGSTSDTLDLASFLLNEAI*

>Glyma.10G113600|Glyma.10G113600.1|27715217|Legume
 MATSNFSIVLSLSLAFVLTLTKANSTNTVSFTVSKFSPRQQNLIFQGDAAISPSGVLRL
 TKVDSIDVPTTGSGLRALYATPIQIWDSETGKVASWATSFKFKVFSNKTADGLAFFLAP
 VGSKPQSKGGFLGLFNSDSKNKSVQTVAVEFDITYNAKWDPANRHIGIDVNSIKSVKTAS
 WGLANGQIAQILITYDADTSLLVASLIHPSRKTSYILSETVSLKSNLPEWVNIGFSATTG
 LNKGFVETHDVSFWSFASKLSDGSTSDTLDLPSFLLNEAI*

>Glyma.10G227000|Glyma.10G227000.1|45753863|Legume/protein kinase
 MLCLFLLLLLLLLFTFPSIVLTLPPFPDNLTLYGDAFFTRNAITLTTQHSKCSSSSIGRA
 FFIYPVRFLDPQTNSTASFSCRFSFSLSSPSCPSADGLAFLIASSTHFPTLSSGYMGLP
 SSSFSFFFAVEFDTAHFPLGDINDNHVAVDVNSLASSFASVDAASRGVDLKSGKIITAW
 VEYRHAMRMVRVWIGYSSTRPPTPILATQIDLSERLEDFMHVGFASNGEGSSVHLVHHW
 QFKTFGYDDDSRSMDEVVEEGDCFLCYEGDSTGKREGSSMSNKDDIERRKKIGEMALGLAG
 LTAFFVVSGLAAMVVVCVFLTKNKACIRKKNKEEQGQSCRFTQSKVPTRLSDIKSATMG
 FNRDRLVGEASAKVYKGYLPFGGDVAVKRFRERDNGLDCLHNPFAFEFATMVGYLRHKNL
 VQLKGWCCEGNELVLYEFLPNGSLNKVLHRNFNSSIVLSWQQRLNIVLGVASALTYLHE
 ECERQIHRDVKTCNIMLDADFTAKLGDGFLAEVYEHSSSTRDATIPAGTMGYLAPEYVY
 SGVPTVKTDVYSFGVVLEVATGRKPVEDDGTVVVDFVWGLWGKRKLI EAADPRLMGKFD
 EKEMERMLLVGLLCVHPDYEKPRPRVREATRILKKEAPLPLLPSTSKPRVIRIPICPDDDT
 EAQSVVADWLSTDDAPYLTPRSQFY*

>Glyma.10G235600|Glyma.10G235600.1|46486132|Legume
 MLFMLPNKVNSAHSVSFTFNKLGDKDLIFQGDATSNNNVLQLTKLDNKGNPVSGSQLT
 LLQLLEFPSSLHDSTIPPHSGGRLLGLFPDSNALKNSSSSNNETAIDFKASSDKVVAVEF
 DTYHNWDSWDPPYKHIGIDVNSIRSKATAQRNWQNGKIATAHISYNSASKRLTVVAFYPA
 TKAVTLSHDIENKVLPEWVRVGISASTGAHKQKNTILSWSFTSSLKNNGVQKKEDMYIA
 SVA*

>Glyma.11G089100|Glyma.11G089100.1|6750992|Legume/protein kinase
 MFPLQCSNHPMCAFSAVTALLFPAASTQAQILKKETYFFGPFNQSDFTTLTVLPAAI
 NLGALQVTPDSTGNVSLANHSGRIFFNPNFTLWDNDNLNGKLVSNFNTSFLINVFRPQNN
 PPGEGITFLITASTTVPNNSHGQFLGLTNAATDGNATNKFVAVELDTVKQDFDPDDNHIG
 LDINSVRSNVSLSLPLGFEIAPNVTRFHVWVDYDGRKEIDVYIAEQPKDAPIVAKP
 AKPVLSSPLDLKQVNVKVSYFGFSASTGDNVELNCVLRWNITIEVFPKKNIGKALKIGL
 SVGLTMVVLIIVAGVVGWVWLKKKKRGNESQILGTLKSLPGTPREFRYQELKKATNKFDE
 KHKLGQGGYGVVYRGTLPEKENLEVAVKMFSDKMKSTDDFLAELTIINRLRHKNLVRLG
 WCHRNGVLLLVYDYMPNGSLDNHIFCEEGSSTTPLSWPLRYKIITGVASALNYLHNEYDQ
 KVVHRDLKASNIMLDSDFNARLGDGFLARALENDKTSYAEMEGVHGTMGYIAPECFHTGR
 ATRESVDYVGFAVLLEVVCQRPWTKNEGYECLVDVWVHLHREQRILDAVDPRLGNGCVV
 EEAERVLLKGLACSHPIASERPKMQTIVQIISGSVNVPHVPPFKPAFVWPAMDLSPPASD
 LTTPTTTTEYTPMSSDTHSMHVQFSDSNSLI*

>Glyma.11G213100|Glyma.11G213100.1|30598525|Legume/protein kinase
 MSPLQTPFFITFFFFLCLNASSSIFATTQDFATLTMSTLKLGD AHLNNNTVSLTGDP
 AVPNESAAGRALYSAPVRFRQPGTPSPASFSTFFSFSVTNLNPSSVGGGLAFVISPDSSAV
 GDPGGFLGLQTAAGGTFLAVEFDTLMDVEFSDVNGNHVGLDLNSVVSTQVSDLGTIGVDL
 KSGDSVNAGLEYDGNAGLGRVWVSYSNLRPKDPIILKVDLDVGMVYVDDFMYVGFSGSTQGS
 TEVHSVEWWSFNSSSFDAAAAPAAATSVQKERKSSKKSTVGAVAGVVTAGAFVLALFAGAL
 IWLYSNKVKYVKKLDHSIESEIIRMPKEFSYKELKLATKGFSANRVIGHGAFGTVYKGV
 LPESGDIVAVKRCNHSGQKNEFLSELSIIGSLRHRNLVHLQGWCEKGEIILLVYDLMPN
 GSLDKALYESRMALSWPHRLKILLGVSSVLAYLHHECENQVIHRDIKTSNIMLDEGFNAR
 LGDFGLARQTEHDKSPDATVAAGTMGYLAPEYVLTGRATEKTDVFSYGAVVLEVASGRRP
 IEKDDDAAGNGKVGISSNLVEWVWSLHQDGKLLTAADPRLEGEFEEGEMRKVLLIGLAC
 SHPDSMARPTMRCVVQMLLGEAEVPIVPRAPKPTSYSTSQLLMNLQDSDTDCKNGMITIS
 TSSSENSNGKDIV*

>Glyma.11G220900|Glyma.11G220900.1|31613010|Legume/protein kinase

MMVKTKTLSLVHLVMTIMVTNLAKSQEEFFFNFGGAASSNITLNGGAVIEHRGILR
LTNDTQRVIGHAFYPTPIQFKHRKNATKVFSFSTAFATAIIPQHPKLGGHGFAFTISRS
RSLEDAYPSQYLGLLPNDVGNFSNHLFAVEFDTVQDFEFGDINGNHVGINLNNLASNKS
VEAAFFTSTNNKQKLNLSKGEVTQAWVDYDSLKNNLEVRLSTTSSKPTSPILSYKVDLSQ
IIQDSMYVGFSSSTGLSSSHYILGWSFKINGDAKTLSLKNLPSLSASSKPKQRLIFALS
LSLIIPTVLAATALACYFYLLRKMNRNSEVIEAWEMEVVGPFRFPYKELHKATKGFKDKNL
IGFGGFGFRVYKGVLPKSNIEVAVKRVSNESKQGMQEFVSEISTIGRLRHRNLVQLLGWCR
KQNDLLLVYDFMRNGSLDKYLFEQPKRILSWEQRFKIIKGVASGLVYLHEEWEQTVIHRD
VKAGNVLLDNQMNRLGDFGLAKLYEHGSPSTTRVVGTGLYLAPELRTTGKPTTSSDVY
AFGALVLEVLGRRPIEVKALPEELVLEWVWERWRVGNVLAVVDPRLGGVFDEEEALLV
VKVGLSCSAEAPPEERPSMRQVVRYLEREVAPEVLVEGKKEGGDGEFKGYAHSYSTASF
FDVESESASSLSLSSGR*

>Glyma.11G225900|Glyma.11G225900.1|32114932|Legume
MRGRMREEQRDRDRDKERGIIVVLQSKKHSGMVAFFSFFILCSLILLVQPSSSSSTQQPPNL
DPDNIYLLGDAHVVSAADNGDSHVRLTRPTPSSSGILRRREPLAFSDPTSLSTEFSSFSV
SGHGHGHLVLAAGNVSNYVGVFEFDTSKDDNAGDPNANHVSIDVGSVSVAIANVSDLN
LVLNNGEKLQAWVDYEASSKVLEVRSLKWGEQKPSDPIVSHDIDFSKIWKGNPVIAALSS
SNGAHSVQVSVYSWRVSLKKVSNGLHSLPADPHSNNNNNKFEDHKKSVCPPLTVLAWVI
FGTGCVALVTFVLFMWVIFPQKGEEESLVKIPDHPSSDVRYERIDVAVDKNAHDDQS*

>Glyma.12G114100|Glyma.12G114100.1|11273065|Legume/protein kinase
MSTLLISLILLFIISNLTLLLTTSVSCTEFIYNTNFNSTNTLLHGNATIESSILTTLNTRST
FSVGRAFYFPFKILTKPSNSSSTPLPFSTSFIFSITPFKDLLPGHGFVFIITPSAGTTGVN
SAQHLGLFNYTNNGDPNNHVFVGFEDVFDNQEFNDINDNHVGVNDINLSSSFASHDAGFWG
GGDNDEFEDLKLNDGENYQVWIEYLSRVNVMTAPAGQKRPQRPLISEIVDLSEVLLDEM
YVGFPCGATGQLVESHKILAWSFSNTNFSIGDALVTTNLPSFVHSKESILRSTGFI VGI I I
GVLFVIGGAVVIFVLFLLRRKRSKRKDEEQEEIEDWELEYWPHRVSYEDIYAATKGFSDQH
VIGFGGNGKVYKGLLQGVQVAVKRIPCDSEHGMREFLSEISSLGRLLKHKNVPLRGWCKK
QRSILILIYDYMNGSLDKRIFDGDENTIFGWEKRIKVLKDVAHGILYLHEGWEVKVLHRD
IKSSNVLLDKGMNARLGDFFGLARMHHHGQIAHTSQVIGTVGFMAPELIHTGRASTQTDVF
SFGVLILEVVCGRPPNEENRPLVTWLWSLKERGECSALDERLKRGECSIDEVKRVLHL
GLLCTHDDPHVRPSMRQVVKVLEGESLDMSSLLDKINSAGYVGSFVNRFHPTIEDIYSSN
CSFTTLTMRAD*

>Glyma.12G205100|Glyma.12G205100.1|36532632|Legume/protein kinase
MEKTIISNVNLSGVLMDETYVGFATAATGRIIDSAKILAWSFSDSNFSIGDALVTENLPSFV
HHKKWFPGAQAFVAVGTSIVFVLIISCGYVAFVFLRRRKTQEEVEDWELEYWPHRIGFHE
IDAATRGFSEENVAVGVTGKVYKGVLGVEVAVKRIQEREEGMREFLAEVSSSLGRMKH
RNLVGLRGFSCKKEKGNLILVYDFMSNGSLDKWIFECEEGMMLTWEERIQLVKNVATGILY
LHEGWEVKVLHRDIKANNVLLDKDMNARLGDFFGLARMHDHQGVVSTTRVIGTVGYIAPE
VIQRTASTLSDFVGFGLVLEVICGRRPIEEHKPGLIEWLMSLMVQQLHSAVDERLKA
KGGYTIIEAERLLHLGLLCSHTDPSIRPTMRQVVKILEVEIDSIESDEDNMEMSLLGKIR
SATTWSRAECALPYSGYPSFDEVKMFNFNSRSTRSGSSTFLGSESEITRENI*

>Glyma.13G238700|Glyma.13G238700.1|34901577|Legume/protein kinase
MIRHKHHTHLPSILLSILFLFNSTCAIDFVFNFGNSSEVLLFGNATVDSRILTLTHQQR
SVGRALYNKKIPTKKPNSSRVYFSTSFIFAMAPFEDTLPGLGLVFIPTPVTGIQGTSSA
QHLGLFNLTNNGNSSNHVFVGFEDVFNQEFDDIDANHVGDINSLKSYVSHDAGYWPDG
ADKSFKELTLNNGENYQVWIDYEDSWINVTMAPVGMKRPSRPLLNVSLSQVFEDEMFEV
GFTSATLGLLVESHKILGWSFSNEKFSLSDELITTTGLPSFVLPKDSIFKSKGFVAGFTVGV
FFVCIYLLVLAFLIQRKEKERMEDWELEYWPHRMTYEEIEAATKGFSEENVIGV
GGNGKVYKGVLRGGVEVAVKRISHENDGLREFLAEVSSSLGRLLKQNLVGLRGWCKKDVGN
FLLIYDYMENGLDKRVFDCDESKMLSYEDRIRILKDVAFVAVLYLHEGWEDKVVRDIA
SNVLLDKDMNGRLGDFFGLARMHSHGQVASTTKLVGTVGYMAPEVFKTGRASTQTDVYMF
ILILEVLCGRRPLEEGKPLVWEIWLQVQVQVECALDERLRKGEFNVQEMERVHMLGL
LCAYPEPKTRPTMRQVNVLEKNEVEDSEIENMDTYLLQQLKSRDILSEYSQYFSYTS
PTFQDIRLSSSSMLTWSESVEGR*

>Glyma.13G255500|Glyma.13G255500.1|36119175|Legume/protein kinase
MATSHVGLHATSHLFCYARGIVFFLMITFVNPLSFHYQGFYNDARIEGDATLSHSEIQL
TATTRYQSNAYSVGRVTSFKLLQLWDMSSGKLTDFTTTEFSFVIYSNETSFSGDGAFFFFAD
PKLPLSNQIQQGGGLGLVDGNRLLLKPTKYPFVAVEFDTHQNSWDPPGTHVGINFNSMRN
ITVPWSIDIRQMKVYCAIEYNASTHNLNVSFTGNQINGKPIKSYISCNVLRDYLPERV
IFGSAATGFMFEMNTLLSWFSRSLPSDEKVSNIIPMAAPPIONPSPSPFPPTANISPK
QEGNKGLLKIGIEAGIGIAASFLLILGLVCIFIWKRAKLKEDSVFDLSMDDEFQKGIGPKR
FCYKELASATNNFAEAQKIGQGGFGGVYKGYLKKLNSNVAIKRISRESRQGIKEYAAEVK
IISQLRHRNLVQLIGWCHMKKDLLLIYEFMQNGSLDSHLYRGKSILTWQMRYNIAMDLAL
AVLYLHEEWEQCVLHRDIKSSNVMLDLSFNAKLGDFFGLARLVDHEKGSQTTILAGTVGYI
APEYCTTGKARKESDIYSFGVVLLELASGRKPIDLNAKEGQITIFEWVWELYRLGKLLV

VDSKLGGAFFDEEQMEHLVIVGLWCANPDYTSRPSVRQVIQVLTFEAPLPVLPQKMPEPYH
HSPTMSTIFASVSSLSLATC*

>Glyma.13G296200|Glyma.13G296200.1|39540769|Legume/protein kinase
MSPRTLFFLLSTLQFLSFVSTTEFVYNRNFNSTNVKLYGNATIENSVLKLTNQTFFSIGR
AFYPHKIPMKPPNSSSSSTLLPFATSFIFSVAPCENFPVAHGFAFVVTVPMSANGALSGNY
LGLFNRSTSGNSSNHVFAVEFDDFRNEEFNEENDNHVGVDLNSMISVYSEPAAGFWGGREG
EELEDLKLSDGRNYQVWIEFENSVINVTMAPAGRKKPHRPLISKPMNLSWVLLDEMYVGF
SGATGRMVDNCRILAWSFSNSNFSIGDVLSTKHLPLYVHPKRLVFRSNGFIIGVTFGVFF
VGGFCALVVFFILFRNRGEKQENFEDWELEYWPHRISYREICDATSGFSEEKVIIGIGTS
GKVYKGLLLKGVAVVKSINHETRHGMREFLAIEISSLGRMKHRNLVGFRGWSKRKGGKLIL
VYDYMVNESLDRKIFECETMLLSWEERIRVLQNVADGILYLHEGWDVEVLHRDIKACNV
LLDKDMNARLGDGFLARLHHQENVADTRVIGTLGYMAPELVIRGPSTACDVYSFGVLVL
EVVCGRRPIIADQPPLIDWLFSHMENGELSCAIDERLKGQSGYNAEEAERLLHLGLLCVS
TDPGVRPTMRQVVKTLLEGIKCTECNEDCIHLALLGKINSAASWSKSSTSSANVNYPTFDE
ILQTKFYSTASLSISCPSPQLEPEFVSEGR*

>Glyma.13G296300|Glyma.13G296300.1|39544249|Legume/protein kinase
MSPLKLLIFLHTVTIFSSASTTEFVYNTNFNSTNIILYGNASVQTSILTTLTNQSFFSIGR
AFYPHKIPTKLANSSSTFLPFATSFIFSIPIKNFITGHGFVFLFTP SRGVNGTTS AEYIG
LFNRSNEGPNQNHVLGVFEFDPVKNEEFNDISDNHVGIDINSLCSST SHEAGYWGGKGD
EFKVLDIKNGENYQVWIEFMHSQLNITMARAGQKKPRVPLISSSVNL SGVLMDEIYVGFT
AATGRIIDS AKILAWSFSNSNFSIGDALVTKNLPSFVHHKRWFSGARALAVGVT SIVCVL
IIGWGYVAFFILRRRSQEEVEDEWELEYWPHRIGFHEIDAATRRFSEENVIAVGGNGKVY
KGVLHGVEVAVKRIPQEREEGMREFLAIESSSLGRMTHRNLVGLRGWCKKERGNLILVYDF
MTNGSLDKRIFECERLMLTWEERIQVLKNVAAGILYLHEGWEVKVLHRDIKANNVLLDK
DMNARLGDGFLARLHHQENVADTRVIGTLGYMAPELVIRGPSTACDVYSFGVLVL
VCGRRPIIEEHKPGLEIWLMSLMMQQLHSAVDERLKAKGGYTIIEAERLLYLGLLCSNSD
PGIRPTMRQAVKILEVEIDSTESDEENIEMSFLGKIKSAAMWSRAECALPYRGYPSFDEV
KMF SFSNRTSGSGSSTFPGESEITREN*

>Glyma.14G013300|Glyma.14G013300.1|998854|Legume/protein kinase
MDFTFFFFFILTLLWEVAVADNVSFDFPSFTLNNITLLGDSSLRNNGVVRLTNAAPTSS
TGAVVYSQPVSLFHASFSTTFVSFIHNLNPTSSGDGLAFFLSPNTTSLSGPLGLPTATG
FVAIEFDTRL DARFDDPNENHVGFDVDSMKSLVTGDPILDGIDLKSGNTIAAWIDYNTQY
TLLNVFLSYSRSSKPLPLLSVKFDLSHHLRDPVYVGFSASTQGSIELHHIKNWT FHSKT
ITTTLHHPHNVSVVGISRSGATKKRDKRVVGVIVAGSVSFFVAFTIFLGYVFVRWKIGGR
KEREKDKFQKSGFVAYPREFHYKELKSATREFHPSRIVGHGSFGTVYKAFFISSGTIAAV
KRSRHSHEGKTEFLAELNTIAGLRHKNLVQLQWCVEKGELLLVYDFMPNGSLDKMLYKE
PERGKLLSWSHRQNLGLASVLVYLHQECEQRVIHRIKAGNILLDGNFNPRLGDFGLA
KLMDHDKSPVSTLTAGTMGYLAPEYLQYGKATDKTDVFSYGVVLEVACGRRPIEREGSK
MLNLDWVWGLHSEGKVEAADKRLNGEFEEEEEMRKLILGLSCANPDSAERP SMRRVLQ
ILNNEAAPLAVPKVKPTLTFSSDLPLPLTIEDIVSEADQESMCEIKID*

>Glyma.14G100300|Glyma.14G100300.1|9818448|Legume/protein kinase
MQHVGINNNSLVSLNYSRFNIESNIGKMGHALITYNASSKLLVASWFFEGTTS GFMPKTS
VSYQIDLGEILPEWVTVGFSGATGLSNEENVHISWEFTSTMNSTRS DVNKESYIITKYKF
QVKVVVVEVTCSILFVLVVGVS WLIVIKRRSGDGFDLDAKAMPRRYCYNELIAATNGF
ADDRRLGEGGYGQVYKGF LTDLGRVVAVKRIFSDVEDSEEIFTNEVKIISCLIHRNLVQF
IGWCQEQQGELLVFEYMTNGSLDTHLFGSRRTLTDVRYKIALGVARALQYLHEDAEQCV
LHRDIKSGNVLLDTAFNRTKVSDFGMAKLVDPRLRTQKTRVVGTYGYLAPEYVKEGRASKE
SDMYGFGVVALEIACFRRTYKDFGEYNHVP LTNWVWKQYVDGNVLNAVDEGLKRDYDVNEM
KCLLTVGLWCTLQDHHKRPKAEQVINVLKQEASLPNLF TDMRA*

>Glyma.14G100400|Glyma.14G100400.1|9839656|Legume/protein kinase
MVITVILLVLAFFSSLKTAESLNFNITNFNDPESAKNMAYQGDGKANNGSIELNIGGYLF
RIGRALYGQPLRLWDSSSGNDESATYGDGFAFYIAPRGYQIPNGAGGT FALFNVEFDTF
NGTIDSPMQHVGIDDNSLESVASAKFDIDKNLGKKCNALITYTASNKTLFVSWSFNGTAT
PHSNSSLSRRIDLMEILPEWVDVGFSASTGKLTERNLIHSEFSS TLNSSTASNNSSDS
SGAKHGNRLSSVAVVVVVCAIVLVATTVNVATWVIIMKKKRRKGDYDNDES GPTS AKFD
LDRATIPRRFDYKELVAATKGFADDTRLRRGGSGQVYKGVLSHLGRVVAVKRIFTNFESS
ERVFINEVRIISRLIHRNLVQFVGWYKVALGVALALRYLHEDAEQSVLHRDIK SANVLLD
TDFSTKLGDGFMALVDPRLRTQRIQVVGTYGYLAPEYINEGRASKESDIYSFGVVALEI
ASGRRTYQDGEFHVPLMNWVWQLYMEGKVLVDVDERLNKEFDVDQMTSLIIVGLWCTNPD
DKERPAAHVIKVLQLEESLPVLP LDMHDRSPPSLITNTHARPTYYSQS LPLFTNSLGSV
GR*

>Glyma.14G100600|Glyma.14G100600.1|9884437|Legume/protein kinase
MVLTIFFLLVLAIPSLKTAESLSFNITNFHD PDSAKNMAYQGDGKVNKNGSIELNIVTYIS
RVGRAFYGQPLHLWDSSSDVLTNFS TRFTFTIERATNDTIGDGFAYLAPLGYQIPANAV

GGTLGLFNATTNTYIPHNHVVAVEFDTFNGTIDPPFQHVIGIDDNSLKSVAVAEFDIYKNL
 GKECNALITYTASTKTLFVSWSFNGTATPRSNSSLSYKIDLMDILPEWVVVGFSAAATGQY
 TERNIIHSWEFSSTLNSFTASRHGNEKHNVLLIVVTCSTVLVVVAASFAAWVTITKRRK
 GKVDNDNDELGATPVMFDLDRATIPRRIDYKELVAATKGFAADARLGRGSSGQVYKGVLS
 NLGRVVAVKRIFTNSENSERVFINEVRIISRLIHRNLVQFIGWCHEQGEFLLVFEFMPNG
 SLDTHLFGEKKSLAWDIRYKVALGVALALRYLHEDAEQSVLHRDIKSANVLLDITDFSTKL
 GDFGMAKLVDPRRLRTQRTGLVGTGYLAPEYINHGGRASKESDIYSFGVVVALEIACGRRTY
 QNGEFHVPLVNWVWQKYVEGNVLDVDERLNKEYDVDEITSILIVGLWCTNPNDRERPR
 AQVIKVLQLEASSLPVLPFDMHDGPPPPSLVTHAQSSYNSARSVPFTNSFVNVR*

>Glyma.14G100700|Glyma.14G100700.1|9887705|Legume/protein kinase
 MLATLEYFHCFKTSLLLLLIFMILPIVQPLSFNITNFSDPESASLIKNEGIAKIENGITVL
 NSLINSVGGRAIYSEPLSLKNDLNGNVTDFSTRFSFTIKVLNKTNYGDGFAFYIAPLAFD
 YQIPPNSSGLRLGLYDDNKPNQNSFIAVEFDTFVNEFDPSGQHVGINNNSIASLWNKGHALIT
 NIGKMGHTLITYNASAKLLAVSWLFDGTSSGFTPNNSLSHQIDLGEILPKWVTVGFSGAT
 GSSKEENVIHSWEFSPLNLDLSTNPEANNENVIIITKYKVQKVVVVAVICSIIIVVLVVV
 SISWLIKKRRRTKDDFHLDKPRRFYGNELVAATNGFADDRRLGEGGTGEVYKGFSLDLG
 REVAVKRIFSDVEDSEEIFTNEVKIISRLIHRNLVQLMGWCHEQKLLLVFEYMVNGSLD
 THLFGSRRTLTWGVRYNIALGMARALRYLHEDAVQCVLHKDIKSGNVLLDITDFNICKVSD
 GMAKLVDPRRLRTQRTKLEGTYGYLAPEYVKEGRVSKESDMYGFVGVVLEIACGRKTYQDG
 EHNHVPLVNWVWKHYVEENILNVADKGLNMGFDVDEMTCLLTVGLWCTLQDYKKRPKAEQ
 VINVLKQEVPLPKLST*

>Glyma.14G100800|Glyma.14G100800.1|9954693|Legume/protein kinase
 MATSEHFHYFKTSLLLPILKFLVQPLSFNITNFSDTESASLVEYAGVAKTENGTVVLNP
 LINGEDGRVTYVQPLRLKNSSSGDVTDFSTRFSFTIDAPNKTMYADGFAFYVAPLTFAYQ
 DPPNSGGLRLGLYDDNKPNQNSFIAVEFDTFVNEFDPSGQHVGINNNSIASLWNKGHALIT
 YNASAKLLSVSWFFEGTSSGFTPNNTSLSHQIDLAETLPEWVAVGFSGSTGSYKEKNVIHS
 WEFSSSLELNSTHPEDSTHREVKNESDITCKKFQKVVVVAVTCSIIIFVVLVLSVSWFII
 KKRRTKDGFGNLDHMPRRFAYKELVAATNEFADDRRLGEGGYGQVYRGFLSDLGRVVAVK
 RIFSDVEDSEKIFTNEVKIISRLMHRNLVQFMGWCHEQGEILLVFEYMLNGSLDTHLFGS
 RRTLTWGVRYKIALGVVRALQYLHEDAVQCVLHRDIKSGNVLLDITDFNTKVSDFGMAKL
 VDPRLRTQRTKLEGTYGYLAPEYVKEGRVSKESDMYGFVGVVLEIACGMRTYQDRENNHVP
 LTNWVWKQYEVGNVLSAADKGLNDDYDVNEMTCLLTVGLWCTLHDHKKRPKAEQVINVLK
 QGAPLPNLFMTDMRA*

>Glyma.14G189100|Glyma.14G189100.1|45369316|Legume/protein kinase
 MIGISFVLCHAAMASLSNILLMFCFLFNLLAYPVSVHSAGEVPINVTKHFSFYNFSFSNNP
 RLVDHNVKLLGSAKFSNEKALQIPNESEDIRHQAGRGIIYFPIRLLDLPSTKTPASFQTT
 SFQMDNSTLAGEQAAYGGSLTFIIVPDEFTVGRSGPWLGMNDACENDYKAVAVEFDTRK
 NPEFGDPNDNHVGINLGTIVSTKVINVSVDVGLSLKDGSVYRAWITYDGPQRRMDIRLGKA
 NQEDYPSKPMFSESMDLSPYLNEYMFVGFSASTGNHTQIHNLWSWNFTSTSQAFHLPLSS
 ESCQGGKILLENSTAATEPTNSQKSSKNEPPRSFLIFVAVALALALFLGFYFISKHRRNA
 AKLNTSVETELHMPRPNNKPRRFASFQSLSTATRSFSEIELLGSNDRGEYRGLSGGSQV
 AVKRFSAQFLSTHGSDDKKRLLEIKGISHVRHPNLLPVRGWCQDNHEIMVAYDFVPNGSL
 DKWLFAGVLPWTRRFKVIKDVADGLSFLHTKQLAHKNLKCSSVFLDVNFRAVLGDFGFV
 LMGAESKHFEQVCQADVFEGVLEVIAGRVRDEKEEGNPEERNLLGYAWNHLHQIDE
 KVKLVDKRMGSLINLEQAIRALEIGLLCTLNENKGRPSMEQVVDVFLNMDKPIPELPRT
 PVALFPYNSANTGLCNAYSCTF*

>Glyma.14G211200|Glyma.14G211200.1|47611571|Legume/protein kinase
 MSLLCFPSILSIFCFFSFVTAATEFDFGTLTLGSLKLLGDAHLNNATVSLTRDLAVPTSS
 AGRALYSRPPVRFRQPGNRPASFTTFFSFVSTNLNPSSIGGGLAFVLSPPDDDTIGDAGGF
 LGLSAAADGGGFIAVEFDTLMDVEFKDINGNHVGVDLNSVVSSEVGDLANVGVDLKSGDL
 INAWIEFDGSSSKGLSVWVSYSNLKPKDPVLTMLNDVDKYLNDFMVVGFSASTQGSTIEHR
 IEWWSFGSSFAAAAAVAPPPPAVSLMNPNTENSVKFAPPPSLAPSHSEEKESKSSCHNG
 LCKQNMGAAGVAVTAGAFVLALFAGALIWFYSKFKRVKFDLSLGEIIRMPKQFSYKEL
 NSATKPCFANANRIIGHGAFGTLYKGLVPENGDIVAVKRCSHCQKNEFLSELSIIGSLRH
 RNLVRLQGWCHEKEGILLVYDLMPNGSLDKALFEARTPLPWAHRGKILLGVASALAYLHQ
 ECENQVIHRDIKTSNIMLDEGFNARLGDGFLARQTEHDKSPDATVAAGTMGYLAPEYLLT
 GKATEKTDVFSYGAVVLEVASGRRIEKGANGGKGGISCNLVEWVWSLHREARLLMAAD
 PRLEGEFDEGEMRMLLVGLACSHPDPLTRPTMRGVVQILVGEAEVPLVPRTKPTSTGFST
 SHSHLLLSLQDSVSDCDGIITISTSTSENSFNLDIV*

>Glyma.15G059200|Glyma.15G059200.1|4568948|Legume/protein kinase
 MATYQYCICKCSHLLPYLGITIAILSFLIPHAAPLDFSQQLNKESTLNFEGDVSVDNG
 LLQLTQLKKDSVGRVTYYKPLHLVWKDSRKLDTFTSNFSFIINQPNKTHIGDITFFLAS
 PKFPLPVPDPGSGIGLVSGQMQADPNYINEHPFVAVEFDTFWNHFDPPQYDHVGINIKTIK
 SPFTTEWFSINDGRVHDAQISYNSSTCNLSIIIFTGYEDNVTVKQHYSQVIDLREVLDPDW
 EFGFSSATGLLSEIHTLCSWSFSANLDLKVHKDESKTRMVGISIGGGVLVVGIGLAWLL

KLKMKTRGKEDDLIDLIMSDFERGTGPKRFSYNELVRTTNNFANELKLGEFGFGGVYKGF
IRELGVEEYASEVKIISKLRHRNLVQLLGWCHKKNDLLLIYELMPNGSLDSHLFGGKSL
TWAARYNIAGGLASALLYLHEEWEQCVLHRDLKSSNVMLDSNFNALGDFGLARLVDHGK
GSQTTVLACTMGYMAPEASATRGKASRESVYVYFVGVVLEIACGRKPIELRASEEQIVMVE
WVWELYGMGNLLEAADSRLCGDFDEQAMERLMIVGLWCAHPDYSARPTIREAMHVLNFEA
HLPSPKSPKMPKATYIVPSITASASSNPPSSSADAFGNKTELLSSGSYTGSPESKTSAL
LHSIEY*

>Glyma.15G074600|Glyma.15G074600.1|5716534|Legume/protein kinase
MIRHKHTHPLLLILLLLFNSACAIIDFVFNFGNSSEVLLFGNATIDSRILTTLTHQQSFSVG
RALYKEKIPAKKPNSSYVYPFISFIFAMAPFEDTLPGHGLVFIFTPITGIHGTSSAQHL
GLFNLTNNGNSSNHVFGVEFDVFNQEFDDINANHVGDINSLSKYVSHDAGYWPDPGGDK
SFKELALNSGENYQVWIDYEDSWNVNMAPVGMKRPSRPLFNVSINLSQVFEDEMFVGF
SATGQLVESHKILGWSFSNENFSLDELITITGLPSFVLPKDSIFKSKGLVAGFTVGVFV
VCLLVLLALFLIQRKRVKERKRLEMEDWELEYWPHRMAYEEIEAATKGFSEENVIGVGGN
GKVYKGVLRGGVEVAVKRISHENDGLREFLAEVSSLGRLKQRNLVGLRGWCKKDVGNFLL
IYDYMENRSLDKWVFDCEDESKMLSYEDRIRILKDVAFVLYLHEGWAKVVRHDIKASN
LLDKDMNGRLGDFGLARMHSHDQVASTTKLVGTGVGYMAPEVIKTGRASTQTDVYMFGLI
LEVLCGRRPLEEGKSPLEWVWQLMVQGVQVECALDERLRAKGFNVQEMERVHMLGLLCA
YPEPKARPTMRQVNVNLEGNVEDDSEIENMDTYLLQQLKSRDILSEYSQYFSYTSHPTE
QDIRHSSMSLTWSEVEGR*

>Glyma.16G119700|Glyma.16G119700.1|26751676|Legume/legume
MILPIVQPLSFNITNFSDEIAASRIQCTGIAKIENGNIVLNPLINNGVERAIYQGPLRLK
NSSNGNTPLAFDYQTPPNFSGFSLGLYGGTLDNI VAVEFDYINEYDQPMHRVGINNSV
ASLEYKKFRIESNIGMKGHASAFTPNDLSLHQIDLREILPKWVTVEFSGATRSSKEENVI
HSWEFSTNLDLNLNDN*

>Glyma.16G119800|Glyma.16G119800.1|26753687|Legume/protein kinase
MVITIFLLVLAIPSPLIKTAESLSFNITNFHGAKSMAEGDGKVNKNGSIELNIVTYLFR
VGRAFYKQPLHLWDSSSGVVNDFSTRFTTIAARATNDTIGDGAFFYLAPRGYRIPPNAAG
GTLGLFNATTNAYIPHNHVFVEFDFTFNSTIDPPFQHVGVDDNSLSKSVAAVEFDIDKNLG
NKNALINITYTASSKILFVSWSFNNSNSTSSLSYKIDLMDILPEWVDVGFSAATGQYTQR
NVIHSWEFSSSTASKNHNVLVTVVTCSTVLVVVVVVVSVAWVMITKKRKGKVDNDNN
GERGATPVKFDLDRATLPRRFDYKELVVATKGFADDARLGRGSSGVYKGVLSDLGRVIA
VKRIFTSFENSERVINEVRIISRLIHRNLVQFIGWCHEQGEFLLVFEFMPNGSLDTHLF
GEKKTALAWDIRYKVALGVVLAALRYLHEDAEQSVLHRDIKSANVLLDMDFSTKLGDGFM
LVDPRRLRTQRTGVVGTGYLAPEYINGGRASKESDIYSFGVVALEIACGRRIYQDGEFHV
PLVNWVWQLYVEGNVLGAVERLNNFEVDEITRLIVMGLWCTNPNDKERPKAAQVIKVL
QLEAPLPVLPDLMHNAYPPSLVTHGQPTYNSSCSVPFTNSFVSVGR*

>Glyma.17G085000|Glyma.17G085000.1|6561542|Legume/protein kinase
MSHKTTPAAGETLFSGTAFLLHLLFLFLTPALSLDFLNSFAGVTNLTLIKARVDASV
IRMNNDNSQYSYGRAFYVPKIPMLKTNTSNSSSSISSFSTSFFVFSILPQISTSPGFGLAF
VLSNTTDPGAIASQYFGLFTNATSPSVFPLVAVEFDTGRNPEFNDIDDNHIGIDLNNIE
SINATTAGYFNSSGAFVVRMRGTQNIHAWIDFDGENLEFNVTVAPIGVSRPTKPTLRQ
NPAIADYVSSNMVYVGSASKTNWIEAQRLAWSFSDSGPARELNTTNLPVFELESSSSSL
SNGAIAGIVIGSFIFVLICASGFYLWWRMKNKANEDEDEIWELEYWPHRFSYEELSYAT
GEFRKEMLLGSGGFGRVYKGTLPNNTEIAVKCVNHDSKQGLREFMAEISSMGRLLQHKNLV
QMRGWCRKGNEILLVYDYMNGSLNKKWVFDKSDKVLGWEQRRRILVDVAEGLNYLHHGWD
QVVIHRDIKSSNILLADMRGRGLGDFGLAKLYTHGEVPNTTRVVGTLGYLAPELATVAAP
TSATDVLSPNTLSLSEPLGLPTATGFVAIEFDTRSDDPNENHVGFVDVSMKSLVTGDPILH
GIDLKSGNTIAALIDYNTQYTLNVLFSYSRFSKPLLPVSVKFDLSHHLRDPVYVGFSA
STQGSIELHHIKNWTFAKTMTTTTLHHPHNVSVEISRSKATKKRDKRVVGIVVDSVSFF
VAFTIFLGYVVRWIKGGKEREKDKFQKSGFVAYPREFHYKELKSATREFHPIRIVGH
GSFGAVYKAFFISSGTIAAVKRSRHSHEGKTEFLDELNTIAGLRHKNLVQLQGWCEKE
LLLVDYDFMPNGSLDKMLYKEPERGKLLSWSHRQNIAGLASVLVYLHQECEQRVHRDIK
AGNILLDGNFNPRLGDFGLAKLMDHDKGPVSTLTAGTMGYLAPEYLQYKATDKTDVFSY
GVVVLGVACGRRPPIEREGSKMLNLIDWVRLHSEGKVIKAADKRLNGEFFFFEEMRKLIL
GLSCANPDSAERPSMRRVLQILNNEAAPLAVPKVKPTLTFSDDLPLPLTIEDIVSEADQE
SMCEIKID*

>Glyma.17G150600|Glyma.17G150600.1|12482498|Legume/protein kinase
MQYTQQPLLFIFLLILGATSFMAMDFTTTTTILTLLWEVAVADNVSFDFPSFTLNNI
TLLGDSSLRNNGVVRLTNAAPTSSSTGAVVYSQPVSLFHASFSTTFSFSIHNLNPTSSGDG
LAFFLSPTNLTSLSEPLGLPTATGFVAIEFDTRSDDPNENHVGFVDVSMKSLVTGDPILH
GIDLKSGNTIAALIDYNTQYTLNVLFSYSRFSKPLLPVSVKFDLSHHLRDPVYVGFSA
STQGSIELHHIKNWTFAKTMTTTTLHHPHNVSVEISRSKATKKRDKRVVGIVVDSVSFF
VAFTIFLGYVVRWIKGGKEREKDKFQKSGFVAYPREFHYKELKSATREFHPIRIVGH
GSFGAVYKAFFISSGTIAAVKRSRHSHEGKTEFLDELNTIAGLRHKNLVQLQGWCEKE
LLLVDYDFMPNGSLDKMLYKEPERGKLLSWSHRQNIAGLASVLVYLHQECEQRVHRDIK
AGNILLDGNFNPRLGDFGLAKLMDHDKGPVSTLTAGTMGYLAPEYLQYKATDKTDVFSY
GVVVLGVACGRRPPIEREGSKMLNLIDWVRLHSEGKVIKAADKRLNGEFFFFEEMRKLIL
GLSCANPDSAERPSMRRVLQILNNEAAPLAVPKVKPTLTFSDDLPLPLTIEDIVSEADQE
SMCEIKID*

>Glyma.17G218500|Glyma.17G218500.1|36908440|Legume/protein kinase

DEMTCLLTVLGLWCTLHNHKKRPHAEQVISVLKQEATLPKLST*

>Glyma.18G031400|Glyma.18G031400.1|2408367|Legume
MVAFLSLFILCSLILLVQPSSSSTQQPPNLDPSIYLLGDAHVVTAADADSHVRLTRPAPS
SSGILRRREPLAFADPTSLSTEFSSFSVTGHGHGLLLVLAAGGNLSNYVGVEFDTSKDDNV
GDPNANHVGIDVGVSHSVAVANVSDVHLVLNNGEKLNAWVDYEASSKVLEVRLSKWGAQK
PSDPIVSHDIDFSKIWGANPVIAGISSNGAHSVQVVSVYSWKLSLKKVSVSNGLHSLPA
DPHGNNNNKFEDHKKLCPLTVLAGVIFGTGCVAMVTFVVLFMWVIFQKGEESLVKIP
NHPSSDVRYERIDVAVDKNAHGDES*

>Glyma.18G043500|Glyma.18G043500.1|3711823|Legume/protein kinase
MSPLQTSFFVFFLCFLNASSSIFATTQFDFGTLLTMSTLKLGLDAHLNNNTVSLTGDPAPV
NSAAGRALYSAPVRFRQPGTPSPASFSTFFSFSVTNLNPSSVGGGLAFVISPDSSAVGDP
GGFLGLQTAGGGNFLAVEFDTLMDVEFSDINGNHVGLDLNSVSTQVSDLGIGVLDKSG
DSVNLIEYDGNAGKLRVWVSYSNVRPKDPILKVDLDVGMVYVNDFMVYVGFSGSTQGSTEV
HSVEWWSFNSSFDASAAAPASSAPSATSEQKESRSSRKSTVGAVAGVVTAGAFVLALFAG
ALIWVYSKKVKYVKKLDHSIESEIIRMPKEFSYKELKLATKGFSANRVIGHGAFGTVYKG
VLPESGDIVAVKRCNHSGQGKNEFLSELSIIGSLRHRNLVHLQGWCHKEKGEILLVYDLMP
NGSLDKALHESRMPLSWPHRLKILLGVSSVLAYLHHECENQVIHRDIKTSNIMLDEGFIA
RLGDFGLRQTEHDKSPDATVAAGTMGYLAPEYVLTGRATEKTDVFSYGAVVLEVASGRR
PIEKDAPAAAGNGKVISSNLVWVSLHQEGKLLTAADPRLEGEFEEGEMRKVLLVGLAC
SHPDSMARPTMRGVVQMLLGEAEVPIVPRAKPSTSYSTSQLLMNLQDSESECNNGMITIS
TSSSESSFNGRDSLMEV*

>Glyma.18G076200|Glyma.18G076200.1|7212910|Legume/protein kinase
MKITRSTYDLIIPNSRRNINLVFLDIVLGALRAKPKNRTGKGMILVPIRAGQTGRGDSDL
TTPNSTLTNIPTTFTDLNTQNNNIPITSWLDYHAHTKKLNVLNYSVSPSSKPQNPILSV
DLDSLHYFKDNLVYVGFSGSTLGSTELVQVMSWSFEFESFQKPGSNLHPDNGSRTPASVAV
SDIPSPSNSTEGNSYNRGKRFFFGVAVAIAGPAFFCVVLVVLGYVSFLKWRGVRKLQKSF
GTVGCCPKFEGYKEVKLATKGFHPSRVIGKGSFGTVYKALFESSGTIAAVKRSRQYSHEG
RTEFLAELSVIAGLRHKNLVQLLQWCVKEGELLLVYEFMPNGSLDKVLYQECESGNNNN
VLSWNHRVNIAGVLASVLSYLHQECEQRVIHRDIKTGNILLDGSMPNRLGDFGLAKLMDH
DKSPVSTLTAGTMGYLAPEYLQCGMANEKTDFVSYGVVLEVACGRRPIEREGQKMVNLV
DWVWGLSHQGTIIEAADKRLNGDFREGEEMKRLLLGLSCANPDASAQRPSMRRVLQILNNN
QGVALVVPKEKPTLTFSSGLPLSLDEIVSDAEEELDSGQVVCEIKID*

>Glyma.18G150100|Glyma.18G150100.1|27332702|Legume
MAIKNSRAQTQTLFSILVLIISFLALVHNKSVSFSFSPSFGSYTNDITLQGDAYVNSEGA
IKLTPVAPNSVGRASYAAPVHLWDAKTGKLAGFNTTFSFVMPNPVGLFGDGI AFFLAPF
NSNIPNNSSGGFLGLFSPNYALNVYKNQIVAVELDSFSGNPWDPPSAHVIGIDVNSIASVA
TRKWETGNAVNGFVAYANLNYEPVGKSLNVLVTYPGSKVNATSLSFVIDLRTVLPWVTV
GFSGATGQLVEIHKIFSWTFTSSFY*

>Glyma.18G150200|Glyma.18G150200.1|27449066|Legume
MAFFTSASYSNQTKQTSLLIFIIFTLFTLFTYAVSVS FNFSTFQPNNSNLI DFDGDAF
SSNGVQLLTKNQIDDKITFSVGRASYDQPVRLWDRRTNKLTDFTTHFSFVMKAIDPSRFG
DGLAFFLAPFDSVLPNNSAGGYLGLFSNESAFNTKKNLVAVEFDSFQNTWDPSSDHVGI
NVNSIQSVATVAWKSSIKNGSVADAWIWNSTTKSLSVFLTYAHNQTFSGNSSLSYAIDL
RDVLPEFVRIGFSAATGSWIEIHNILSWSFNNSNLLS*

>Glyma.18G150300|Glyma.18G150300.1|27618064|Legume/protein kinase
MVFFASVSNSNQCRKQTLFFIFTLFTLFTTTVVLSLFSNNSSTFQLNSNLI DFKGDAF
SSNGVQLLTKNQIDDKITFSVGRASYDQPVRLWDGRTKKLTDFTHFSFVMKAIDPSRFG
DGLAFFLAPFDSVLPNNSAGGYLGLFSNESAFNTKKNLVAVEFDSFKNEWDPSSDHVGI
NVNSIQSVTNVTWKSSIKNGSVANAWIWNSTTKNLSVFLTYANNPTFNGNSSLWYVIDL
RDVLPEFVRIGFSAATGSWIEIHNILSWSFSSSLDEGSRKVKVGLVGLSVGLGCLVCV
VGLLWFTFWRRKNKGKEDNLGVDASIDDEFERGTGPKRFTYPELSNATNNFAEEGKLGE
GFGGVYKGI VVHSNLEAVKRVSKGSKQGKEYVSEVRVISRLRHRNLVQLIGWCHQE
LLLVEYEMPNGSLDHLFGNRVMSLWVVRHKVALGLASALLYLHEEWEQCVVHRDIKSSN
VMLDANFLNAKLGDGLARLVDELGSQTTLVLAGTMGYLAPECVTTGKSSKESDVYSFGVV
ALEITCGRKPVEVREEPSKVRLVWVWSLYGKGLLEAADQKLNWEFEEQQMECLMIVGL
WCCHPDHTMRPSIRQVISVLNFEAPLPSLPSKLPVPMYAPPMDMCKFSYTSSGVTSTTK
ASSPYSSISESGSKSLKH*

>Glyma.18G185400|Glyma.18G185400.1|44566780|Legume/protein kinase
MSLKVVTVVFLLATIVASDDTSFTYNGFQSSYLYLDGSAEFTTNGMLKLTNHTKQKQGH
AFFPSPIVFKNTTSGSVFSFTTFVFAIRSEFPNLSGHGIVFVVSPTKGVPHSLPSQYL
LFDDTNNGNNSNHIFGVELDTILNTEFGDINDNHVGVVDVNELKSVKSAAAGYYSDEGFKN
LSLISGYPMQVWVEYDGLKKQIDVT LAPINVKGKPEGPLLSL SKDLSPI LNSSMYVGFSS
TGSILSSHYVLGWSFKVNGKAQQLAISELPMLPRLGGKEESKVLIVGLPLILLSLILMVA

LAVVHVIKRRKFTTELLEDWEQDYGPFRFKYKDLATKGFREKELLGSGGFGRVYKGVMP
ISKIEVAVKKVSRESRQGMREFVAEIVSIGCLRHRNLVPLLGYCRRKGELLLVYDYPNG
SLDKYLYNKPRVTLNWSQRFKITKGVASGLFYLHEEWEQVVVHRDIKASNVLLDAELNGR
LGDFGLSRLYEHGTDPHHTHVGTGLGYLAPEHTRTGKATTSSDVFAFGAFMLEVVCGRRP
IEKGGESGSEILVDWVYNCWKKGEILESMDPNLGANYRPDEVELVLKLALLCSHSEPLAR
PSMRQVVQYLEKDVPLPDLCLMLSLSSNGLTFGLHEDFQDCPMSYPSSMNRPISTHTSSIVE
SLLSGGR*

>Glyma.18G185500|Glyma.18G185500.1|44588776|Legume/protein kinase
MATLLKILSLTVLLLIPIVSCQVDQLLYAGFKDVGASNLTMNGVAKIEHNGILKLTNDSSR
LMGHAFYPPSPFQLKNSTSGKVLFSFSSSFALAIVPEYPKLGGHGLAFTIATSKDLKALPSQ
YLGLLNSSDNGNISNHIFAVEFDTVQDFEFGDINDNHVGIDINSMQSNASANVSLVGLTL
KSGKPIAWVDYDSQLNLISVALSPNSSKPKTPLLTFNVDLSPVFHDIMYVGFSASTGLL
ASSHYILGWSFKINGPAPPLDLSSLPQLPQPKKKQTSLIIGVSVSVFVIVLLAISIGIYF
YRKIKNADVIEAWELEIGPHRYSYQELKKATRGFKDKELLGQGGFGRVYKGTLPNSKIQV
AVKRVSHESKQGLREFVSEIASIGRLRHRNLVQLLWCRRRGDLLLLVYDFMANGSLDKYL
FDEPKIILNWEHRFKIIKGVASALLYLHEGYEQVVIHRDVKASNVLLDFELNGRLGDFGL
ARLYEHGANPSTTRVGTGLGYLAPELPRTGKATTSSDVFAFGALLLEVACGRRPPIEPKAL
PEELVLVDWVWEKYKQGRILDVDPKLNVIYFDEKEVIVVLKGLMCSNDVPVTRPSMRQV
VRYLDGEVEVPEDLKKPGDISHHEGFDEFHLSSASSFDKMSSGSNFGNRDMESSFLSFA
NSPHSLHGRGETR*

>Glyma.18G193900|Glyma.18G193900.1|46708118|Legume
MPTSIMAPFSTSPHFTAFPTLILFLKTQAFDPLSFFSFTDFEKDPNFKSSVGLYGNKVV
NNGSEVLLSGNGGRVYKPKVLVHGGARELVSFSTYFGFMSLDSEKSGLAFVMVPSGV
EGEVFGNSSYGLSFGKEREKVVGVQFSAYGRNGSGSGCIVSINVSSVPVKTIINASSV
IMGLKSEGLHAWIDYEASSKRLVRLNQYQSRPVDPLLWHSMDLSNVWGTEEMFAGFS
TVKENNTSQTCLFYSWSFIVRHFPHWMHSEPLNPKVLAKKTETPAVKSRSDCLLRVLAAM
IFGAGCGALTAFIVLYLWTIFGNKRPVVPPEYAMQPVD FEYKKVSIVVDKTTIIDAKE*

>Glyma.18G205000|Glyma.18G205000.1|48865940|Legume/protein kinase
MPIPLMASPTLLVFLFLSLHQAASKAVIFEGFDENSENLQGSIIKTSRLLKLTNRS
TNIVGHAFYATPQMLNKNNTNPPLQPYAYSFSTNFVFSIVSPIISGSGGFGLAFTIAPST
QFPAGAEAGHYLGLVNSANDGNSNHIFAVEFDTVNGYKDDSDTEGNHVGVNINGMDSIIT
EPAAYIEEGTDNVKEDFRMAKVDAVQVWIEYDGEKKTNLNVTIAPLPLPRPSKPIIMNHN
DLNVMEESMYVGFSASTGQETSSHYLLGWSFVNVGVAPLLNISNLPKPPPKEKEPTSPF
WVNVAIGILSGLTFCLLCILFCLTCYRRYMDFEVLEDWEMDCPHRFYKDLHIATKGFIE
SQLIGVGFGGAVYKGVLPSTGAEVAVKRIVRSPFHGMREFAAEIESLGKLRHKNLVNLQ
WCKKGVNLLLVYDFIPNGLSDYVLYKPNNNNFVNLNWQRFNLIKDISAGLLYLHEEWEQ
VVIHRDVKNTSLNIDAHNLARLDGDFGLARLYNHGQVSHTTSVVGITIGYIAPELTRTGKAC
ANTDVYSFGVVLLEVATGKRPLDSDQFFLVEWVIENYHLGQILEVVDPKLDSLYDEEEVE
LVLKGLLCTQHRADYRPSMKQVTRYLNFDDPLPDIAWDGHDVSGSSRLSEGFLEVTSSM
GTVEALGYLSSISMSTKSIDAGR*

>Glyma.20G072500|Glyma.20G072500.1|25665985|Legume/protein kinase
MFVILLLLNLNLIQTQSGASTVVIDPNTFSFVTFTPESTNGELLCMGSATAGNGYLSL
TPEPQQSGNSSSSLSNTTNNVGRVLYPLPVNVWPAIISTTFTVRITPFSNSTGSGDGMA
LVFAQDNRPSPNASYGSYLGMDQSTQGGGFQQIAVEMDTFMNEFDLDGNHIGIVTTSIT
NPLASESLNSSGIDLKSGRDI EVKIDYDGWSKMI FVSVGYSESQKSVLNHSINLPDIVP
SSIYVGFTASTGNTFPESHQVLNWFVTSVPLPILSAEHTKVGTIKTILVVAVCLFPFIW
IAASLRRRYMAVKKKGDIESLSKKAADIAEVFTYKQLSRATCNFSQENLLGRGAFGSVYK
GIILDSGKTYRAVKKISATSKQGEREFLAEICTIGRLRHKNLVKLQGGASEGII FSWQGGQF
ELANQATRILQGLASALLYLHEECGNPFVHRDVKPNNVMLDSNHDAHLGDFGLARLLKNE
GSVTTNLNGTLGYLAPELSFTGRATPESDVYSFGMVVLEVTCGKRLNWLKQGNSFVDSVW
NLHSQNALLECVDQRLENKFDEEEAKRALMVGLACMHPDSLFRPRMRKVNIIFQNPNEPL
MELPGVRPTGVYVSVSSSTSASNSSSRGELQIQSSTKSSDGKFNYY*

>Glyma.20G158700|Glyma.20G158700.1|39726429|Legume
MGLWNTTNAVSCRFHKFGDDQKNLVFQGDATSSSRGIELTKLDGGGKPVGGSVGRVLYSS
PVHLWESSTVVASFETDFTFSISSDSTTPGDGLAFFIAPFDTKIPPNSGGSNLGLFSPDN
VVAVEFDTYPNRDKGDPDYRHIGIDVNSIVSKATARWEWQNGKIATVHISYNSASKRLTV
AAFYPGTQTVTLSHDIELNKVLPWVVRVGLSASTGQQKQTNTIHSWSLAFNNSIG*

>Glyma.20G165300|Glyma.20G165300.1|40273684|Legume/protein kinase
MLCLFFFLFFTHNAITLTQHSTCSSSSIGRAFFIYPVRFLDPQTNSTVSFSCHFSFSIL
SSPSCPSRDGLSFLIASSTPFSTLSSGYMGLPSPQRSSLSFFAVEFDTAFYPSLGDINDN
HVAVDVNSLASFASTNAAMVRVWAGYSSTRPPTPILAAQIDLSERLEDFMHVGFASNGE
GSSVHLVHHWQFKTFGYDSPSMYVVEEGDCLCYEGDSTEEKDWGNGSWVGRVDSVCGV
WFGGNDCGTSKMPTRLSDIKSATMGFNDRDLVGEASAKVYKGFLLPFRGDVAVKRFER
ENDLDCLHNPFAFETATIVSYLRNKNLVQLKGWCCEGNELVLYEFLPNGSLNKVLHRNF

NSSIVLSWQQRVNIVLGVASALTYLHEECERQIIHRDGQWGILPLNMFILVLEVATGRKP
VEDGGTVVADVFVWGLWEKRKLIEAADPRLMGKFDELEMESSPLPLLPTSKPRVRSRPICP
DDDTSDAQSVVADLPSTDEAPYLTPRNQFY*

>Glyma.U032400|Glyma.U032400.1|226169|Legume/protein kinase
MIQPQSGASTVVDPTFSFVTFTPESCTNGELLCMGSATAGNGYLSLTPEPQQSGNLSLS
LSNTTNSVGRVLYPHVPKVPWPAIISTTFTVRITPFSNSTNAGDMALVFAQDNRPSPNG
SYLGMFDQSTQGGGFQKIALEMDTFMNEFDLDGNHIGIVTTSITNPLASESLNSSGIDLK
SGRDIEVRVDYDGSWMKMFVSVGYTESQLKSVLNHSINLPDIVPSSIVYGFTASTGNNTF
PESHQVLNWFVTSVPLPILSVELTKVGTIKTILVVMVCLFPCIWIAASLRRTYVRAKKK
GDIESLTKKAADIPKVFTYKQLSRATCKFSQENLLGKGAFGSVYRGIILDSGKTVAVKKI
SATSKQGEREFLAEICTIGRLRHKNLVKLQWCSEGENLLLVYDYMONGSLDHFFIGKGS
NWQTRHKILTGLASALLYLHEECGNPFVHRDVKPNNVMLDSNHNHLGDFGLARLLKNEG
SVTTNLNGTLGYLAPELSFTRATPESDVYSFGMVVLEVICGKRLNWLKQNSFVDSVWN
LHAQNALLECVDQRLNKFDEEEAKRALMVGLACLHPDSMFRPRMRKAVNIFQSPNEPLM
ELPGVRPTGVVYVSVSSSSSLASNSSSRGELQIQLSRKSSDGKFNYV*

LysM

>Glyma.01G027100|Glyma.01G027100.1|2841569|LysM/protein kinase
MASSLVALLSLLLTLLATSCLSATVFSLQVSIKTTYLEPFKCSPKITTCNASLYHISYGN
NIDDIATFYSVSTSQIKPIMRTTEQDYLTIVPCSCNDTNGLGGYFYDTTYKVKSNDFVN
INNPFYSGQAWPINGELDQNEELTIHLPCGCSEKSDSQIVVITYTVQRNDTPVSIALLNA
TLDDMVMNEVLAQNPSFIDVTWVLYVPRENLGLPLSKGKDKKQKLEIIIGILAGVTLLS
IITLIILSVLLRRSRANKTAKNDPSVSKRSITNRTISIKNRDFHTEYIEDATTFESERP
VIYALEEIEDATNNFDETRRIGVGGYGTVYFGMLEEKEVAVKKMRSNKSKEFYAELKALC
RIHHINIVELLGYASGDDHLYLVYEFVPNGSLCEHLHDPLLKGHQPWSWCARIQIALDAA
KGLEIYIHDYTKARYVHRDIKTSNILLDEKLRAKVADFLAKLVERTNDEELIATRLVGT
GYLPPESVKELQVTIKTDVFAFGVVLAEITGKRALFRDNQEASNKSLTSVVGQIFKDD
DPETVLADAIDGNLQRSYPMEDVYKMAELAHWCLCEDPNVRPEMREIVVALSQIVMSSTE
WEASLGDDREVFSGVLDGR*

>Glyma.01G179000|Glyma.01G179000.1|51506809|LysM/protein kinase
MYKKWCIIAFISLQTTMDLFPFPIPIIIFTLIIHNFSLILGQQPYIGLGTVACPRRGKNKS
IRGYTCNGANHSQQSYLTFRSQPIYNSVKTISTLLGSDPSQLAKINSVSMNDTFETNKL
IVPVNCS CAGEYYQTNTSYEFHNSETYFLIANNTFEGLTTCQALENQHNPNANIYPGRRL
LVPLRCACPTKNQTEKGIRYLLSYLVNWGDSVSFISEKFGVNFMTTLEANTLTLTQATY
PFTTILVPLHDKPSSSQTVSPTRTPPPSPSSDHSSNKTWVYVVVGVAIALISVLC
AVIFFTRYRKNRKKDDSVVVGSKSFEAIEEKPEVKVNEKLSEIISGIAQSFKVYNFEELQ
RATDNFSPSSWIKGSVYRGVINGDLAAIKRIEGDVSKEIEILNKINHSNVIRLSGVSFHE
GGWYLVYEAANGDLSEWIYFHNVNGKFLSWTQRMQIALDVATGLDYLSFTSPPHIHKD
INSSNILLDGDGFRGKVTNLSLARCLEGGDDQLPATRHIVGTRGYMAPEYLENGLVSTKLD
VYAFGVLMLMVTGKEVAAILTEDETKLSHVLGILGEESGKEMLEFVDP SLGENCPLE
LAMFVIE MIDNCIKTDPASRPSVHEIVQSMSRTLKSSLSWERSMNVP RN*

>Glyma.02G000400|Glyma.02G000400.1|40099|LysM/protein kinase
MTTSSLKTMHQFFSAVFLFLLLPLCSNAQTARQANNTGFTCNFTRTCTSYAFYRATAPNF
TDLASIGDLFSVSRMLSTPSNISSSSLNTPLLPNTPLFVPLTCSCNPVNASFGSLSYAN
ISYTINPGDTFFLVSTIKFQNLTTFPSEVFNPTLLATNLSIGQDTIFPIFCCKPPNSQG
TNYMISYVVQPEDNMSSIASTFGAEEQSIIDANGGETTLHDYDTIFVPVARLPALSQPAV
VPHAPPPVIGSNNDRTGTVRGLGVGLGIVGLLLILVSGVWVYREVVMKGVVVDDEEKN
VYLGGKAEGKNLDVKLMANVSDCLDKYRVFGIDELVEATDGFQDSCLIQGSVYKEIDGH
VFAIKMKWNAYEELKILQKVNHNGLVKLEGFCDIDPEEANCYLVEYVENGLSWLHEG
KKEKLSWKIRLRIADIANGLQYIHEHTRPRVVHKDIKSSNILLDSNMRAKIANFGLAKS
GMNAITMHIVGTQGYIAPEYLADGVVSTKMDVFAFGVVLLELISGKEVINEEGNLLWASA
IKTFEVDNEQEKTRRLKEWLDKIDILRETFMESLMGALTVAIACLHRDPSKRPSIMDIV
ALSKSEDMGFDISDDGIGSPRVIAR*

>Glyma.02G059700|Glyma.02G059700.1|5377614|LysM/LysM/protein kinase
MNLFPMITTTITFTLIMLCMSVHVQKQPYVGLATTACGQTGNSNSMRGYTCNGVNPS
CQAYLTFRAQPLYNTVPSISALLGSDSSQLSVANSVSEDGTFETNKLIVIPINCS CSGNN
NNQYYQFNTSYEVERGDSYFVIANNTFEGLSTCQALQDQNNIPEGDLMPGNELIVPLRCA
CPSKNQTEQGVKYLVSYLASNHIWVLI GERFGVSSETIVEANTLSSQQPIIHPFTTLLV
PLQDEPSSNQTSSESPPPPSTPPPPPLSSSSGRSSKTWVYAVVGVAIALISSVLCAIVF
RTRYLKGKNRKKDDSLIVSDSFVAVAEIKPQEKLEEESENLAEIISGISSEFKVRYE
ELQSATNGFSPSCCIKGSVYRGFINGDLAAIKKIDGVSKEIELLSKVNSNVIRLSGVC
FNGGYWLVYEAANGYLSWINIKGKFLSWTQRIQIALDVATGLDYLSFTSPPHVHKD
LKSGNILLDSDFRAKISNFRILARSVEREGSEGQYVMTRHIVGTRGYMAPEYLENGLVST

KLDVYAFGVLMLEMLTGKDVADVYAEGNIANLFDVLSAVLDEEGEHLRLSEFMDPSLKGN
YPMELAVFVARMIECTIKKDPASRPMHEIVSSLSKALDSSLRWETSMEKFRFRFYKGFLN
*

>Glyma.02G269600|Glyma.02G269600.1|45381938|LysM/LysM/protein kinase
MATIQCATTTLILLLLLLLIIPRSNSQQEYVNNKQLDCNNEYNSTKGNLCNSLPSCTSYL
TFKSSPPEYTTAAISFLLNSTPALIAAANNITDVQTLPADTLVTVPVNCSGPGYYQHN
ASYTIKVQGETYFYSIANNTYQALTTCQALELQNTVGMRLDLKGNLHVPLRCACPTQKQR
EAGFKYLLTYLVSQGESVSAIGDIFGVDEQSILDANELSTSSVIFYFTPIISVPLKTEPPV
TIPRAAIPPEDSPSPPLPPAPAGDGDSDSSKKWVIVGIVGVVLLILGAALFYLSKAFS
GSTTTKATIPPTQSWLSSEGVRYAIESLSVYKFEELQKATGFFGEENKIKGSVYRASFK
GDYAAVKILKGDVSGEINLLRRINHFNIRLSGFCVYKGDITYLVYEFAENDSLEDWLHSG
SKKYENSTSLSWVQRVHIAHDVADALNYLHNYTSPPHVHKNLKSQNVLLDGNFRKAVSNL
GLARAVEDHGDGDFQLTRHVVGTHGYMAPEYIENGLITPKMDVFAFGVLLLELLSGREA
VVGGDQNGSGEKMLSATVNVHVEGENVREKLRGFMDPNLRDEYPLELAYSMAELAKLCVA
RDLNARPQISEAFMILSKIQSSTLDWDPSELEERSRSVGQISDSSR*

>Glyma.03G193700|Glyma.03G193700.1|40454287|LysM
MAEKISWCCVLFMAIILVLSCESSSTNEFRVQMLMQRNINNNNNKKACDEIYVVREGETL
QTISEKCGDPYIVEENPHIQDPDDVFPGLVIKINPFTNR*

>Glyma.04G250300|Glyma.04G250300.1|51681851|LysM/LysM
MPNPKHIILQSFVFLCLLLQASSKSTIEPCSNSDSCNALLGYTLYTDLKVSEVASLFQID
PISLLTANAIDISYDPVEHHILPSKFLFKIPISCSCVDGIRKSVATHYKTRPSDTLSSIA
DAVYAGLVSSDQLREANSISDPSVLDVGQNLVVPLPCTCFNGSDNSLPAIYLSYVVRPVD
TLAAIAARYFTTLDLMNVNAMGSTAINDGDILAVPIPACASNFPKASASDFGLLVPNGSY
AITAGHCVCSCGPKNLDLYCMPASLAVSCSSMQCRGSNLMLGNVTVQQTSGGCNVTSCN
YDGIWNGSIVTTLSPSLQPCPLQEFPPPLVAPPTTVARDTVFAPAPAPLFDGAGPASPK
SSLVPSAGLPGGFSPANGPISGISSGASVACSLVKPLPTLTNALVLLLVLKLMIPVAL*

>Glyma.05G133700|Glyma.05G133700.1|32660003|LysM/LysM
MFAGKGAVWFSRAVALAAIAVVACVGLTQAQPEARFNCNSANIPTCRALISYSHPNTTTTL
GDIQKLFNVKHILDIVGANNLPSNATKTYAVGPNVVKVPFPCRCSSNNTGLSDRVPLYRI
KKGDTLYYIATTTFAGLMKWPPQIQVANNIANANNITTDMLYIPLPCSCDEVGGKSVVHY
AHLVAPQYSTEVEGIAEEFGTTTQQILLNLNGISDPKNLQAGQILDVPLQACSSNVKNDSLDY
PLLVPNATYAYTAHECVKCKCDSSNFILOCEPSQLKPTNWSVCPSMECSANVLIGKTIIS
SDSCNRITTCAYTGYRFHNISAEAVTENTCAVPPTPSGSGGSTGSDSGASRSTLQGLFWSN
LFIVIHVFLFLVYVL*

>Glyma.06G112500|Glyma.06G112500.1|9126878|LysM/LysM
MPNPNPKHLFHATLFLSILLQALSKSTIEPCSNSDSCNALLGYTLYTDLKVSEVASLFQI
DPIALLTANAIDISYDPVEHHILPSKFLKVPISCSVDGIRKSVATHYKTRPSDTLSSI
ADAVYAGLVSSDQLREANSISDPSVLDVGQNLVVPLPCTCFNGSDNSLPAIYLSYVVRPVD
DTLAAVAARYFTTLDLMNVNAMGSTAINDGDILAVPIPACASNFPKASASDFGMLVPNGS
YAITAGHCVCSCGPKNLDLYCMPASLAVSCSSMQCRGSNLMLGNVTVQQTSGGCNVTAC
NYDGIWNGSIVTTLSPSLQPCPLQEFPPPLVAPPTTVARDTVFAPAPAPLFDGDGPASP
KSSLVPSSTGLPGGFSPANGPISGISSGASAACSLVKPFPALTYALVLLLVLKLMIPVAL*

>Glyma.07G015300|Glyma.07G015300.1|1208761|LysM/protein kinase
MMVLVQKPHWGLLLFLFLQLHLHCSTCYPTPEMNCCTDTSRVCTSFMAFKRGPNTLALI
ESMFVLPDITVEGNWGYMFIRKNCSCAAGIKKYVSNTTFTVKSNGLVYDMVMDAYD
GLAFLPNTTMRMARGAVVSLRFLFCGCSGLWNYLVSYVMRDGDSVESLASRFGVSMDSIE
SVNGIGNPDNVTVGSLYYIPLDSVPGDSYPLNNAAPTVPVLSPSFDNFSADQVNHKAHVP
YGWIVGGLGVALVLIILTVILCVCLRSSNCFADTRTHEKDAEGKISHKFHILRNPSFFCG
SGRYICGKHVDQKQTDGESSNHTIMVPKASTLWPDVDFMDKPVVFTYEEIFSTTDGFSDS
SLLGHGTYGVSYYSLLRDQEVAKRMTATKTKEFMLEMKVLCKVHHANLVELIGYAASHE
ELFLVYEQYAKGSLKSHLHDPQNKGHSPLSWIMRVQIAIDAARGLEYIHEHTKTHYVHRD
IKTSNILLDASFRAKISDFGLAKLVGKANEGEISTTKVVGTGYLAPEYLSGLATTKND
VYAFGVVLFEIISGKEAIRSEGTMSKNADRRSLASIMLGALRNSPDSMSMSSLREYIDP
NMMDLYPHDCVFKLAMLAKQCVDDEPILRPDMRQVVISLSQIILLSSVEWEATLAGNSQVF
SGLVQGR*

>Glyma.07G079600|Glyma.07G079600.1|7237783|LysM
MMASNYPRKGLALTSSKAIANAASWYCAFLVALALLSMFKDSSMLIPSYASGQLLSRP
CEEIYVVGEGETLHTISDKCGDPFIVENNPHIHPDDVFPGLVIKITPSLRT*

>Glyma.07G190500|Glyma.07G190500.1|35821203|LysM
MAKSTITSFALIFSSLLIMVLIAGESGTPTVADPICNTVHGVEEAETCTSIQSFNLDER
HFLDINPNINCNLIFVGQWVCVDGKVI*

>Glyma.08G041000|Glyma.08G041000.1|3249248|LysM/LysM
 MRNMQFLNPQILCFLFFSALLCLVETKSTIEPCNSSNSCPSLLSYLLPWDSKLSEIAT
 RFNVNFFDILASNSLFPITPSSAHQILSAKSQVKIPISCSCVDGIRRSMSSTIYTVHAADT
 LASISEGYGGLVSAEQIKIVNAINATNPLTYRGTLVIPLPCTCFDNNVNGGNAYMSYVV
 QRRESLGSIAATKFGTTVSDLETVNGFGEATVDPGDILSIPIAACSSATLNWYDESMIVPN
 GSYTLTATNCIKCTCEPTDITLQCVPSGLDVPCYNLRCKGSNLIIGDQCVDLSQTACNVS
 QCVYRGHRGGKILSSMKSSYLECPDSLCHSGPSCWPSSSPYPEDPFGMSPKPSPSLPLP
 VSKAALRTLASSGRLGPFLFNVLQLFLLKFIIYFLI*

>Glyma.08G058700|Glyma.08G058700.1|4490689|LysM
 MMKFSSISFALILSFLITMFAESRPTPTVADPVCIIHGVEEGETCFTITQRFILQER
 QFLEINPNINCNTIFVGQWVCVNGKVN*

>Glyma.08G200800|Glyma.08G200800.1|16246816|LysM/protein kinase
 MMLLLQKPHWGLLLLLFLLFQLHSSSTCYPTPEMNCTDTSRVCTSFMAFKPGPNHTLALIQS
 MFDVLPGDITVEGTGWGYMFIRKNCSCAAGIKNYVSNTTFTVKSNEGLLYDMVMDAYDGL
 AFLPNTTRMARGAVVSLTLFCGCSSGLWNYLVSYVMRDGDSVESLASRFGVSMDSIESV
 NGIGNPDNVTVGSLYYIPLDSVPGDPYPLNNAAPPVPVPSPSFDNFSADQVNHKAHVYPY
 WIVGGLGVALVLIILTVILCVCLRSSNCFADTRTHEKDAEGKVSHKFHILRNPSFFCGSG
 RYICGKHVDKKQTDGESSNHTITIPKASTLGPDPVDMDKPVVFTYEEIFSTTDGFSDTSL
 LGHGTGVSYYSLLRDQEVAIKRMTATKTKEFMSEMKVLCKVHHANLVELIGYAASHEEL
 FLVYEYAQKGSLSKSHLHDPQNKGHSPLSWIMRVQIALDAARGLEYIHEHTKTHYVHRDIK
 TSNILLDASFRAKISDFGLAKLVGKANEGEISTTKVVGTYGYLAPEYLSGLATTKSDVY
 AFGVVLFEIISGKDAIRSEGTMSKNPDRRSLASIMLGVLNRNSPDSMSMSSLREYIDPNM
 MDLYPHDCVFKLAMLAKQCVDDEPILRPDMRQVVISLSQILLSSVEWEATLAGNSQVFSG
 LVQGR*

>Glyma.08G283300|Glyma.08G283300.1|38947605|LysM/protein kinase
 MISFTNLLSLFPLFTTSFVRVFASEVSIKTTNLSPLNCSSKIRTCNASLYHISQNLITIE
 QIASFYSVISSQITPIMHGKQDYLRVPCSCKNTSGLSGYFYDTTYKVRPNDTFANISN
 LIFSGQAWPVNHTLQPNETLAHIHPCGCSESKSQVVVYTYTVQPNPTPMMIANLLNSTLAD
 MQNMNKVLAPNIEFIDVGWVLFVPKESKGLLLPSATKKKHKNKWTIIIGILGGMSTLSI
 VTTIILILRRNKVDKISIEDSRLISGRSIANKTISSEKSLHKEFVEDLISFESERPLIYN
 LEDIEEATNMNVSFGRYTVVGDNASATRDSLPAKALSSRQNSFSLTPTKFDVKPRQFDGSSTMR
 RATSLQYSPQASDEVKDLHEVLPLTKSALASSITSYIELDEEKLCSPDDKTELDSTEN
 LGPIKPDAYASDLGKERLEEHAATKDESTCDKPELYVFQEKLETVKPDGYFLPDFGNKNPE
 QCHDNEFFVVDKGIELSSNERVKLEESIIPKAPDDASMVDTVCTLGISGIQISSSEDSVKHD
 FLDEANDSSKDQGVVEEFASIKAPEDASTVDTSTCTLGISGRQVSSSEDSVEHDFLDEANGL
 DTNELLMQELSESALNSVSNLERRVALESFKTEAKSEHKMTKSHSLDDVTASVATEFLSML
 GLDHSLPQESSESEPESEPNLRLRQFEKEALNGGFSSSLFDMDNYDSEAAGGYDASASSE
 QWNFSEGVKSSSFLQDILLEPPVESQDVRSKQRAQMLEDLTEALMRQWGLNENAFHHS
 PKDFAGFGSPHLPPEEPPTLPPLDDGLGPFLQTKDGGFLRTMSPSIFKNSKSCGSLIMQ
 VSNPVVPAEMGSGIMEVLQCLASVGIEKLSMQAKELMPLEDITGKTMQQIAWEAMPSLE
 GAERQCHLRHDPITVPDSAGVQRDLKGMPKQKSGKFSSRTVANQTGSEFVSVEDLAPLA
 MDKIEALSMEGLRIQSGMSEEEAPSNIIAQSIGDISALQKGVDISGSLGLDGAAGLQLM
 DVKDGGDVGDIIMSLSLTLDDEWMKLDSEIDIDNISEHTSKLLAAHHANSFDFIRGSSK
 GEKRRGKSRGCLLGNFTVALMVQLRDPMRNYEPVGTPLMALIQVEREFMLPKQRIFNSV
 SEIRKNYYEDDESNIIVAKLTKDTEKEEKSSEEEGGIPQFRITEVHVAGLKPEPQKKKLW
 GTSSQQQSGSRWLLANGMGKSNKLSLMSKASKSNAPVTTKGQPGDSLWSISSRIDGA
 RGKWKELAAALNPHIRPNPVLIPN*

>Glyma.09G067200|Glyma.09G067200.1|6652058|EEIG1/LysM
 MDFFGLQSFGEFEYKMLSRMEAGKKGGGSSNQKKLLKDVETMNKALYLDRNSSRSSIP
 SANSRSKFTGKQPQLPDRSKSKASNDHNGENAQDKKSIWNWRPLRALSHIRNKRFNCSE
 YLQVHLIEGLPPSFDDAGLAVYWKRRDGLVLTQPAKVQCVAEFEELTYTCSVYGSRS
 PHSAKYAEAKHFLLYASLLSVPEMDLGKHRVDLTRLLPLTLEEELEEEKSSGKWTTSFRLM
 GLAKGATMNVSFGRYTVVGDNASATRDSLPAKALSSRQNSFSLTPTKFDVKPRQFDGSSTMR
 RATSLQYSPQASDEVKDLHEVLPLTKSALASSITSYIELDEEKLCSPDDKTELDSTEN
 LGPIKPDAYASDLGKERLEEHAATKDESTCDKPELYVFQEKLETVKPDGYFLPDFGNKNPE
 QCHDNEFFVVDKGIELSSNERVKLEESIIPKAPDDASMVDTVCTLGISGIQISSSEDSVKHD
 FLDEANDSSKDQGVVEEFASIKAPEDASTVDTSTCTLGISGRQVSSSEDSVEHDFLDEANGL
 DTNELLMQELSESALNSVSNLERRVALESFKTEAKSEHKMTKSHSLDDVTASVATEFLSML
 GLDHSLPQESSESEPESEPNLRLRQFEKEALNGGFSSSLFDMDNYDSEAAGGYDASASSE
 QWNFSEGVKSSSFLQDILLEPPVESQDVRSKQRAQMLEDLTEALMRQWGLNENAFHHS
 PKDFAGFGSPHLPPEEPPTLPPLDDGLGPFLQTKDGGFLRTMSPSIFKNSKSCGSLIMQ
 VSNPVVPAEMGSGIMEVLQCLASVGIEKLSMQAKELMPLEDITGKTMQQIAWEAMPSLE
 GAERQCHLRHDPITVPDSAGVQRDLKGMPKQKSGKFSSRTVANQTGSEFVSVEDLAPLA
 MDKIEALSMEGLRIQSGMSEEEAPSNIIAQSIGDISALQKGVDISGSLGLDGAAGLQLM
 DVKDGGDVGDIIMSLSLTLDDEWMKLDSEIDIDNISEHTSKLLAAHHANSFDFIRGSSK
 GEKRRGKSRGCLLGNFTVALMVQLRDPMRNYEPVGTPLMALIQVEREFMLPKQRIFNSV
 SEIRKNYYEDDESNIIVAKLTKDTEKEEKSSEEEGGIPQFRITEVHVAGLKPEPQKKKLW
 GTSSQQQSGSRWLLANGMGKSNKLSLMSKASKSNAPVTTKGQPGDSLWSISSRIDGA
 RGKWKELAAALNPHIRPNPVLIPN*

>Glyma.09G148200|Glyma.09G148200.1|36715062|LysM
 MYSTKSIADSASWCCALALLCLILLGSIIRDNHVPEEEDPAAAATTRGRSNLFRPCDEIY
 VVGEGETLHTISDKCGDPFIVERNPHIHDPDDVFPGLVIKITPTPTYTNTKKLFKR*

>Glyma.09G148300|Glyma.09G148300.1|36733007|LysM
 MRGLEPVSWFLLIVLALRLVPIIEECSSPTIDVEKHTLEEPCESEFYEVREGETLYSIAEK
 CRDPQIWLWNPHVEDPDDVYPGVIVRLNLFND*

>Glyma.09G165100|Glyma.09G165100.1|38915737|LysM
 MSPSNGLQNGGGGGNGVSYIEHQVSKLDTLAGVAIKYGEVADIKRMNGLATDLQMFAL
 KTLKIPLPGRHPPSPSPGPHEEPTKSGDASSERKPLRIGQSAMKEPLQSLRLKPPQPNIS
 PAMSILOKQFYGLKSSNSRDTLNGTEMAVYSSSTS D H S N G E W L P K A L P I S D L P S A S N D Y P R
 STNLVYDLLTGDDEYVPLAEIGDAGAEKSDEKSVRRRQKAEVDNGASTPEKIMKEGNGNG
 SNGFSSTGKTLAMRPKASASRAALFPESSESWLDSIPVGLGESIFTDGFSGVRKSSSASSL
 REQENNSAAAWPPAIWGLKPDQLQAISKPIFDGLPIPIISGRRSKAALD*

>Glyma.09G253200|Glyma.09G253200.1|47309778|LysM/protein kinase
 MELFHNLIKILSTILLLCMPHSLKCCQAYLNGTVYDCSDNPSVPKGYLCNGLQKSCTSF
 LFRSKPPYDSPEKIAIYLLGSEASTIASINMISRNDKIPSNKSIIVPVFCSCSGNIYQHNT
 PYTASKNDTYELVKETFQGLTTCQAMMGRNYAPVNIIVIGAEITVPKLCACPTENQTAR
 GITSLVLVLYNYGDTIKSIGRAYGVDEQSVLEANKLAEPQSSNRSMDFALTPIVLPLIG
 KSCKENPKFYCRCPQAPDGLKGPFCGESDGQKFPKLVAGLVGIGAGFLCLFLLGYK
 SYQYIQKKRESILKEKLFQNGGYLLQEKL SYNGEMAKLFTAELQRATDYNRSRFLG
 QGGYGTVYKGMPLDGTIVAVKKSKEIERNQIKTFVNEVVILSQINHRNIVKLLGCCLETE
 TPILVYEFIPNETLSHHIHRDNEPSLSWVSRLRIACEVAGAVTYMHFSASIPIFHRDIK
 PTNILLDSNYSKVSDFGTSRSVPLDKTHLTAVGGTFGYIDPEYFQSSQFSDKSDVYSF
 GVVLVELITGRKPIISFLYEDEGQNLVAQFISLMKKNQVSEIFDARVLKDARKDDILAVAN
 LAMRCLRLNGKKRPTMKEVSAELEALRKAQSSLQMSHDHEHTTSNIVQECTEESISLSLH
 LESTSF*

>Glyma.09G263500|Glyma.09G263500.1|48114125|LysM
 MAFNSKRAPISSSKAIADAAWCCACFLVSLLLLCIFRDISALHDDQGNLMRSSHVLSK
 PSCDEIYVVGEGETLHTISDKCGDPFIVEKNPHIHPDDVFPGLVLKITRSQTT*

>Glyma.09G282400|Glyma.09G282400.1|49794964|LysM
 MERENWREHINSNSNGNYDRFVCDYDNGERSPAKPSSPPRLGYIEHHVSKFDTLAGVAI
 KYGEVADIRKMNSLVTDHQMFALKTLHIPARHPPSPYLSNGSSTPGHGNSDHSPPNQ
 AHHDLLDSFQSLRIKSSERKVS PAMNSLQGYGLKGTSPSPSEDGPFPRNLPMSDRPLSHH
 RKSRSLVNVILLEEIMEKSDDALAAETREVGSNKWNDKLGRLHQKSVADFI R I P E L L L R E D
 NSSSGVLPSRTGKGLALRQKAANRTTATTDSEPIGLNPAALMGDASLIDGSSGVRKSSS
 TSCLQDQDNGSSSIWPTKMWNLPDLQALSTAAIGKPIFDGFPKPITGRKNKAALD*

>Glyma.10G070600|Glyma.10G070600.1|7093624|LysM
 MACGCSSTTAEKISWNCSVFVALMLVLSSCESNTSDFTSQMMLHGSVTGNISNNNNKAC
 DEIYVVREGETLQTISEKCGDPYIVEENPHIHPDDVFPGLVIKINPFTNRG*

>Glyma.10G154000|Glyma.10G154000.1|38910538|F-box/LysM
 MGCCCEDDGDIFRHLMNSNFPSSSSTSATTTSSCTVISPMNSHFALSSTDILRLIFDN
 LPIPDLARASCVCRLWNSVASQRDMVTRAFVAPWKLNDVVGNP LSGSFWRDNLAKFAVS
 HHITRGDTVASLAVKYSVQVMDIKRLNNMMSDHGIYSRERLLIPISNPDILINRTCFIEL
 DVYAKREVAVLYPNLDPDRRTAYVSNRISSEESNKKVLES LK R S M H V D N E T A Q Y Y W S V A N
 GDPRAAFAQFSADLKWWDWQAGHS*

>Glyma.11G063200|Glyma.11G063200.1|4784434|LysM/protein kinase
 MHLFPFIPIIIFTLLIHNFSLILGQQPYIGLTVACPRRGKNKSIRGYTCNGANHSCQSY
 LTFRSQPIYNSYKLTISTLLGSDPSQLAKINSVSMNDTFETNKLIVIPVNCSCSGEYYQTN
 TSYVFQNSETYLLIANNTFEGLTTCQALENQHNPNANIYPGRRLLVPLRCACPTKNQTKK
 GIRYLLSYLVNWGDSVSFISEKFGVNF MSTLEANTLTLTQAMIYPFTTILVPLHDKPSSS
 QTVSPTQRI SP P P P S P P S D H S S N K T W V Y V V G V V G A I A L T S V L C A V I F F K R Y R K N R N K D
 DSLVAVPKSF E A I E E K P Q V K V N E K L S E N I S G I A Q S F K V Y N F E E L Q R A T D N F S P S S W I K G S
 VYRGVINGDLAAIKKIEGDVSKEIEILNKINHTNVIRLSGVSFHEGRWYLVYVYATNGDL
 SEWIYFNNVDGKFLSWTQRMQIALDVATGLDYLSFTSPPHIHKDINSSNILLDGDGRGK
 VANLSLARCLEGGDDQFPTRHIVGTRGYMAPEYLENGLVSTKLDVYAFGLMLEMVTGK
 EVAAILTEDETKLSHVLSGIPGERSGKEWLKEFVDP SLG E N C P L E L A M F V I E M I D D C I K T
 DPASRPSVHEIVQSLSRVTNSSLWERSMNVPRN*

>Glyma.11G100600|Glyma.11G100600.1|7621257|LysM
 MQIQTRSMFYDYNHSQMMSSASSPPTLGYYI QHPISKLDTLAGIAIKYGEVADIKKMNG
 LVTDSDMFALKSIGPLNGKHPPIITGYDDNTDNSPAADNAKSLRRKSSEQKLSPVMSC
 LRSHYGT K P T M K K S V S E I F S M V E Y E K R A S K C S E N G S F Y K K S P M S P Q H H S H K K S H S L A N E
 TLDDIMEVVKARRSDSDRSGTLIRRSYKSEANLQRIPELLLKQDCNNNGSFSFSARS
 GLAQRQKSGSRIALTAYSNHVV*

>Glyma.11G210200|Glyma.11G210200.1|30234588|LysM
 MACGCSSTAMA EKISWNCAVVALMLVLSSCESNTSDFTTQMMFHESVSNNSNNKACDEIY
 VVREGETLQTISEKCGDPYIVEENPHIHPDDVFPGLVIKINPFTNRA*

>Glyma.13G080700|Glyma.13G080700.1|18732462|LysM/LysM
 MRCKSTIEPCSNYDSCNALLGYTLTYDLKASEVASLFQIDPIALLTANAIDISYPDVEHH
 ILPSKFLKVPITRSCVDGIRKSMSTHYRTRPSDTLSSIANSIYGGVSPDQLREANSIG
 DDPSVLDVGLNLVPLPCTCFNESDNLPSIYLSYVVQPIDTLAAIAARYFTTFTDLMN
 NDMGTTAISDGDILVVPPIACASNFPKYASDYGLLVNGSYTILLVTVLYCMPSSLAVS
 CSSMRCKNSNMLGNVTVQRSSSGCNVTSCNYDGFVSGTTITSLSPSLQPRCPGLQRFHP
 LIAPPTSVIRESEFAFTPSLSPSQSSSQSETGLTAPKSSVMPATRSFPGFSPANGPVSRI
 ASGASATPSLANPMLVLRFAFMLLLVLKLLIPLAL*

>Glyma.13G354400|Glyma.13G354400.1|44281122|LysM/protein kinase
 MNLIQNPSLSLLHLHYFLLCLHCTSSYPTAMNCTDTSRVCTSFLAFKPHQNQTLAVIQS
 MFDVLPGEITVEGNWDYIFIRKNCSCAAGMKKYVSNNTTLTVKSNGGFEHDLVMEAYDRL
 ALLPNTTTRWAREGGIISLSLFCSCSSGLWNYLMSYVIRDGDSVESLASRFGVSMDSIET
 VNGIDNTPVGSGLYIPLNSVPGESYHLMNDTPPAPTSPSPVNNFSADQVNQKAHVPHWEI
 IGGLGVGLALIILTIIVCVALRSPNCLVEAGNNAKDSSGKISNKFYVFGNP SLFCGCVKP
 VDQKQTDGESSHQITGKTSTLIPDMLDMDKPVVFSYEEIFSSTDGFSNLLGHRTYG
 SVYYGLLDQGEVAIKRMTSTKTKEFMSEVKVLCKVHHANLVELIGYAVSHDEFFLIYEFA
 QKGSLSHLDHPQSKGHSPLSWITRVQIALDAARGLEYIHEHTKTRYVHQDIKTSNILLD
 ASFRAKISDFGLAKLVGKTNEGETAATKVVNAYGYLAPEYLSNGLATTKSDVYAFGVVLF
 EISGKEAI IQTQGPEKRSLASIMLAVLRNSPDTVMSSTRNLVDPIMMDMYPHDCVYKM
 AMLAKQCVDQDPVLRPDMKQVVISLSQTLSSVEWEATLAGNSQVFSGLVQGR*

>Glyma.13G358900|Glyma.13G358900.1|44635509|LysM/protein kinase
 MEKEGNVLWYTDTVELNSSSVARGMALVERVQVRIPLLLLLLTPTAVAVGFRCWERTTC
 PALLGYKSPVPTTIGAIQRLFNVTGVADILAAANLPEWTLPNNFTVEENRLLRIPLCDC
 SGPGLYGEPSNPLVYTVRKGDNISYLATTVFSGVLASTDIQHGNVNTNLRGTGQELRVPLP
 CSCGKVNGLDVLHFLGLEYGSTTLEQIAHEHYHVSSQTITTSNQPHLMFGRALDIPLPVC
 SSMVRKDSLDPHLLVPNGSYVYTANGCVKCYCDATKNWKLTCPEPSKLRPTNWSTCPSMKC
 DSSISSNMYIGDTTYSSSHNLAI CAYAGYGTQTI FTTLTAVYIPPGLVHAHHTKSRWWAW
 LIVIAGVFVVLIFGYLCCIIWRKCKIEADRKKKQKELLEIGVSSVACIVYHKTKRHRKR
 SKVNYEMQIFSFPPIAAATGNFSVANKLGQGGFGPVYKGVLPDQGEIAIKRLSSRSQGGL
 VEFKNEAELVAKLQHTNLVRLSGLCIQNEENILIEYLPNKS LDFHLFDSKRREKIVWEK
 RFNIEGIAHGLIYHLHFSRLKVIHRDLKAGNILLDYEMNPKISDFGMAVILDSSEVVEVK
 TKRVVGTGYGMSPEYVIKGIISTKTDVFSYGVVLVLEIVSGKKNSRYQADYPLNLIGFAW
 QLWNEGKGVLELIDSSMLESCRTAEVLRCTQVALLCVQANAADRPMSMLEVYSMLANETLFL
 PVPKQPAYFTDACANEKNALVGNGKSYSTNEVTISMMDAR*

>Glyma.14G077700|Glyma.14G077700.1|6572516|LysM/protein kinase
 MNHHVVFLLTFLTFLLSFNAKAQQNYSGNSILSCKNDDKMGSPSPFLYTCNGFNKTCMSF
 LIFKSKPPFNSITTTISNLTSSNPEELARINDVTVLKVFTGKEVIVPLNCSCLTREYYQA
 ETKYVLGQSPTYFTVANDTFEGLTTCDTLMRANSYGELDLLPGMELHVPLRCACPTWHQI
 TNGTKYLLTYSVNWGDSIKNIAARFNVAAGNVVDANGFSTQTQTIFPFTTVLIPLPSEPV
 SSMAIIVNGPPAVSPLPVCSSSEKCNRRKLYIVIATTTGSSMLVLCVVLFGGFLCRKRSAR
 FIKRGEQSEKAKKLSSDIRGKIAIEHHSKVYKFEEIEEATENFGSKNRIKGSVFRGVF
 GKEKNILAVKKMRGDASMEVNLLERINHFNLIKLGQYCENDGFYPYLVEYEFMENGSLREWL
 SRNRSKEHQSLAWRILIALDVANGLQYLHNFTEPCYVHRNINSNILLNRDLRAKIANFA
 LVEESESKITSGCAASHVVKSRGYTAPEYLEAGMVTTKMDVFAFGVVLLELITGKDSVTL
 HDGREVMLHAIIVNLIGKENLEEKVSLFIDPCLTVTGNSEIVCAPQLVKLGLACLIQEP
 ERPTMVEVVSSLLKIYTSYMEQIIPPSISNSPSMER*

>Glyma.15G019800|Glyma.15G019800.1|1540655|LysM/protein kinase
 MNLIQNPLRLPLHYIPLHLHYCTSSYPTPMNCTDTRVCTSFLAFKPPQNQTLAVIQS
 MFDVLPGEITVEGNWDYIFIRKNCSCAAGMKKYVSNNTTLTVKSNGGFEHDLVMDAYDGL
 ALLPNTTTRWAREGGVISLSLFCSCSSGLWNYLMSYVIRDGDSVESLASRFGVSMDNIET
 VNAIDNPDSLTVGSLYIPLNSVPGELYHLKNDTPSAPIPSPSVDNFSVFSAADHVTQKA
 HVPHEWIVGGLGIGLALIILTIIVWVALRSPNCLVEARNNAKDSAGKISKFYVFGNP SL
 FCGCGKVPDVHQTYGESSHQITVTKASTLMPDMLDMDKPVVFSYEEIFSSTDGFSNLL
 LGRRTYQSVYHGLLRDQEVAKRLTCTKTKEFMSEIKVLCKVHHANLVELIGYAVSHDEF
 FLIYEFAQRGSLSSHLHDPQSKGYSPLSWITRVQIALDAARGLEYIHEHTKTRYVHQDIK
 TSNIFLDASFRAKISDFGLAKLVGETNEGEIAATKVVNAYGYLAPEYLSNGLATTKSDVY
 AFGVVLFEIISGKEAI IQTQGPEKRSLASIMLAVLRNSPDTVMSSTRNLVDPIMMDLYP
 HDCVYKMAMLAKQCVDDEPVLPRPDMKQVVFISLQILLSSVEWEATLAGNSQVFSGLVQGR
 *

>Glyma.15G173100|Glyma.15G173100.1|15871521|EEIG1/LysM
 MEAGKKGSSNQKLLKDVETMKNALYLDRTSSRSSIPSANSRSKFTGKQPLDPKSK
 SKASGDNNSENVQDKKSIWNWRPLRALSHIRNKRFNCSFYLVHLEGLPPSFDDASLA
 VYWKRRDGLVLTQPAKVQVVAEFEEKLTCTSVYGSRSRPHHSAKYEAKHFLLYASLLS
 VPEDMLGKHRVDLTRLLPLTLEELLEEKSSGKWTTSFRLTGVAAGAMNVSFGYTVVGDN
 ASATRDSLPLKALTSRQHSFAPTPTKLDVKPRQFDGSSKMRRATSLQYSSQADEVKDLHE

VLPLTKSALASSIDVLYTKLDEEKACSPLDDEAELDSFNLGPIKPDAYASDLGKERLEEH
 ATKDENTCPVDDKPEPYVFQEKLETVPKPDGYSLPDFENENPEHCLDNDFFVVDKGIELSS
 NESVKLEESI I KAPDDASTVDSASTLGISGIQISSSEDSVKHDFLDDANDSSKDQAVVEEF
 ASIKAPEDASTVDASCTLGISASPSPTPRELLLRQFEKEALNGGFSSFLDFDMNYDNEADG
 GYDASAASEQWNFSEGVKSSSFLQDDLQEEHPVESQDVRSKQRAQMLEDLETEALMREWG
 LNEKAFHHSPPKDFAGFGSPHLPPEEPPTLPPDDGLGPFLQTKDGGFLRSMNPSIFKN
 SKSGGSLIMQVSNPVVPAEMGSGIMEVLQCLASVGIEKLSMQAKELMPLEDITGKTMQQ
 IAWAMPVLEGAERQCHLQHDPIAWPDSAYVQRDLKGMPSKQKSGKFSSRTVANQTGSEF
 VSVEDLAPLAMDKIEALSMEGLRIQSGMSEEEAPSNI IAQSIGDISALQGKGVDSVSGSLG
 LDGAAGLQLMDVKDSDDDGGDGVGDGIMSLSLTLDEWMKLDSEIDDDIDNISEHTSKLLAAH
 HANSFDFIRGSSKGEKRRGKSRRCGLLGNFTVALMVQLRDLPLRNYEPVGTPLALIQVE
 REFMLPKQRI FDSVSEIRKNYDEDDSEI VAKVEMKDTEKEEKSSEDEGI PQFRITEVH
 VAGLKPEPQKKLWGTSSQQQSGSRWLLANGMGKSNNKLSLMKSKAASKSNAPVTTKGQP
 GGDSLWSISSRIDGARGKWKEAALNPHIRNPVNIIPN*

>Glyma.15G212300|Glyma.15G212300.1|33098200|LysM/protein kinase
 MRAGFKYLLTYLVSQGESVSSIVDIFGIDEQNILEANELSATSIIFYFTPIISVPLKTEPP
 VGIQRATTPPEDSPLPPRPAPAEDRDSOSSKKWVIVGIVGVVLLILSAAFLLLRFYQ
 LRQVEHPSLPPPKAFSGSATMKATIPMMHSWSVSSEGVRYAIKSLSVFEFEELQKATGFF
 GEENKIKGSVYRASFKGDYAAVEVLKGDITYLVYRFAENDSLEDWLHSVNKKYENSVPWSW
 VQRVHIAHDVADALNYLHNYTSPPHVHKNLKSGLVLLDRNFRAKFSNFGLARAVEDQGGD
 GGIQLTKHVVGTTQGYMPPEYIENCLITPKMDVFAFGGVLELLSGNVKEKLGGMDDPDLR
 YEYPLELAYSMAEHAKRCVARPQISEVFMILSNIQYSTLDWDPSDELEWSRSVSQISDRR
 *

>Glyma.16G199900|Glyma.16G199900.1|36101914|LysM
 MYSTKSIADSASWCCALALLCLILLGSIRENHVPEEDEATARGSNLFRPCDEIYVVG
 GETLHTISDKCGDPFIVERNPHIHPDDVFPGLVIKITPTPTTYTNTKKLFKR*

>Glyma.16G200000|Glyma.16G200000.1|36107537|LysM
 MEECSSPAIDVEKHTLEEPCKEFYEVQRGETLYSIAEKCRDPHIWLWNPHVEDPDDVYPG
 VIVRLKPVR*

>Glyma.16G213400|Glyma.16G213400.1|37145525|LysM
 MSPSNGLHNGGGGGSGGGGNGVSYIEHQVSKLDTLAGVAIKYGVVADIKRMNGLATDL
 QMFALKTLKIPLPGRHPPSPAPGPHDEPAKSGEASIERKPLRIGQSAMKEPLQSLGLKPP
 QPNISPAMSILQKFYGLKSSNSRDTLNGTEMAYVLSNSDHSSGEWLPKASPILDLPSAS
 NDYPRSTNLVYDLLTGDDYVPLAEIGDTGVEKSDEKSVRRRQKAEVDNGTSTPEKIMKE
 GNGNGSNGLSSNGKTLAMRPKSASRAALFPESESGWLDSPVGLGESIFTDGFSGVRKSS
 SASSLREQEKNSAAAWPPAIWSLKPDLQAAISKPIFDGLPIPISGRRSKAALD*

>Glyma.17G051700|Glyma.17G051700.1|3922350|LysM
 MSHLEYQCFLQVERVFPKQKIYRHVSEAGKNNHECEIVAKVEMKANKEEKNSEEEAI
 HQFRITEVHVAGLKTEPLKKKFWGTSRRQQQQQSGSRWLIANGMGKNNKNSLVKSKVVS
 SSAPITTANVQPGDTLWSISPRIYGTGTRWKEKELNPHIRNPNIKIPNKTSTWSARFNF
 LL*

>Glyma.18G228600|Glyma.18G228600.1|51766615|LysM
 MAFNSKRAPISSSKALADAASWCCACLLVSLLLLCIFRDSSALHDDQGNLMIRSSHVLSK
 PCDEIYVVGEGETLHTISDKCGDPFIVEKNPHIHPDDVFPGLVIKITPS*

>Glyma.18G239600|Glyma.18G239600.1|52837347|LysM/protein kinase
 MELFHNLNIFSTILLCLMPHSLKCCQAYLNGTVYDCSDNPSAPKGYLCNGLQKSCSTSFL
 LFRSKPPYDSPGIIAYLLGSEASTIASINRISRNDKIPSNKSIIVPVFCSCSGNIYQHNT
 PYTASKNDTYIELVKETFGQLTTCQAMMGQNYIASINIAIGAELTVPMLCACPTENQTAR
 GVTSLVLVHLVNYGDTIKSIGRAYGVDEQSVLEANKLAVSQSKNSSMDLLALTPIIVPLIG
 KSCKENPDKFYCRCYQAPDGSSKGPFCDESDGQKFPKLVAGLVGIGAGFLCLFLLGYK
 SYQYIQKKRETILKEKLFQNGGYLLQEKLSYNGGEMAKLFTAELQRATDYNRNRFL
 GQGGYGTVYKGMLLDGTIVAVKKSKEIERNQIQTFVNEVVVLSQINHRNIVKLLGCCLET
 ETPILVYEFIPNGTSLSHIHRDNEPSPSWISRLRIACEVAGAVAYMHFAASISIFHRDI
 KPTNILLDSNYSKVSDFGTSSRSVPLDKTHLTAVGGTFGYIDPEYFQSSQFSDKSDVYS
 FGVVLVELITGRKPIISFLYEDEQNLIQAQFISLMKENQVFEILDASLLKEARKDDILAIA
 NLAMRCLRLNGKKRPTMKEVSTELEALRKAQSSQLQMNHDHEHTTSDIVQECTEESMSLPL
 HLEFTSF*

>Glyma.18G239700|Glyma.18G239700.1|52842315|LysM/LysM/protein kinase
 TVYDCSENPSAPKGYLCNGLQKSCSTSFLVFRFKSPHDNPVSLAYLLGSEASTIASINKIS
 RDDKIPSNKSIIVPVFCSCSGNIYQHNTPTYSATKNDTYFKLVTTETYLGLTTCQALMGQNY
 YASDGIRVGSELTPVVCACPTENQTERGITSLLVYSVKNQDGTIKSIGEVYGVDEQSMLE
 ANGLPVPTSTENSIIYALTPILVPLRGKSKEDPDSFYCTCSQGMALAVVDLTFTGFHCN
 ESEGNFPKALVASLGVGIGAGFLCLFLLGYKLYQYIQKKRSNRKEKLFQNDGYLLQE

KLsfYGNREMAKLFtAEELQRATDNYNRSRFLGQGGQGTvYKGMllDGTIVAVKRSKKIE
 RNQIETfVNEVVILSQINHRNIVKLLGCCLETEAPIIIYEFIPNRTfSHHhGRQNEPSL
 LWDTsIPiFHRDIKPTNILLDSNYSakVSDFGTSRSVPLDKThLTtDVGGTfGYIDPEYf
 QSGQfSDKSDVYSfGVVLVELtTGRKPIsFLYkHEGQNLIaEFiSSVRQNQVYEILDARV
 LKEGRKDDILAAANLAMRCLRLNGKKRPTVKEVSA*

>Glyma.19G088300|Glyma.19G088300.1|31430957|LysM/protein kinase
 MGTVEMIIAFHMKALVFFLWLFVPSLGKDLLSCETTSPDASGYHciENVsQnQCETfALF
 LTNSyYSSLSNLtSYLGLNKFVIAQANGfSADTEFLSQDQPLLvPIHCKCIGGfSQAELT
 KTTvKGESfYGIAQSLEGLTtCKAIRDNNPGVSPWNlDDKvRLVvPLRCSCPFSSQVRPQ
 PKLLLSYPVSEGDtISNLASKFNITKEAIVYANNiSSQGLRtRSSLAPfTSILiPLNGKP
 IIGPLVKPKEPDSGNQTTsIPVtSPHKKSpmWkTELciGLAGVALGVCIAFAAAFFfIRL
 KHKKEEENSCKEGDLELQYLNQSVRtTSTSDKKVSFEgSQDALDVKIvDALPRKLLLDtY
 TIEDVRKATEDfSSSNHIEGSvYHGRLNGKNMAIKGTkaEVVSKIDLGlfHFDALHhHPNI
 LRLlGtSMLEGEQqEESfLVfEYAKNGSLKDwLHGGLAIKNQFIASCYCfLTWSQRlRIC
 LDVAGALQYMHhVMNPsvYHRNVKSRNIflDEEFgAKIGNFGMAGCVENDtEDPQfYSTN
 PASWSLGYLAPEYVHQVIsPSVDIFAYGVVLLEVLsgQTPiSRPNekGEgSIWLTdKIR
 SILVSENVNELRDWIDSALGENYSFDAAVtLANIARACVEEDSSLRPSAREIVEKLSRLV
 BELPQgENDMLMCeSSSkPLVKAVENNVe*

>Glyma.19G193600|Glyma.19G193600.1|45125361|LysM
 MAEKIYWCCVVVFVELVLVLsgCESSTNEfSVpMLMQMNINKACDEIYVVREGETLQTI
 NKCGDPYIVEENPHIQDPDDVFPGLVIKINPFTNR*

>Glyma.20G003100|Glyma.20G003100.1|288005|LysM
 MERENWREHINSNGNYDDDGVERSAPAKPSSSLSSSPRLAYIDHRVSKFDtLAGVAIKYG
 VEVADIRKMNNLVTDHQMfALKTLHIPLPGRHPPSPCLsNGSSTPGHGNYDHSPPSQAHH
 DLLDSfESLRIKSSERKVSPAMNSLQGYyGLKGTPSPSEdGPFPRNLPMsDRRLSRHRKS
 RSLVNvILEEIMQKSDDAPAAETREINSNKWNDKLgQGHQKSVADfTRIPELLLREDNss
 SGVLSSRIgKGLALRQKAANRTAATIDSEPigLNPavLGMGDtSLNDGSyGVRKSSSTSC
 LQDQDTSGSSSiWPTSMWslKPDlQALSSAAIGKPIFDGLPKPITGRKNKAALD*

>Glyma.20G154900|Glyma.20G154900.1|39375162|LysM
 MYIYIYRVEACLFNSiCDNMNMGSSAADSASWYCAMVLLATILLGSIRESTVAEEGEPIK
 GNNLLQRPCDEIYVVGEGETLHTISDKCNDPFIVERNPiHDPDDVFPGLVIKITPIHQY
 *

>Glyma.20G234300|Glyma.20G234300.1|46690568|F-box/LysM
 MKVYPLKDLLfSRNLtPLPMGCCDEDDGDIFRHLMNSNFPSSSSSTSSSCTVISPmNSH
 FSALSSTDILRLIFENLPiIDLARASCVCRLWCSVASQRDMVtRAfVAPWKLNDVVGnPL
 SGsfWRDnSLAKFAISHRItrGDtVASLAVKYSVQVMdIKRLNNMMSDHGIYSRERLLiP
 ISNPdILINRRCFiELDVYAKREVAVLYPNdVPDRRTTYVSNRISSEESNKKVLESKRS
 MHVDNETAQYYWSVANGDPRAAFAEFsADLKWDWQAGHS*

Nictaba

>Glyma.03G189500|Glyma.03G189500.1|40038404|F-box/Nictaba
 MGASLSNLGSNGSAAAPGLGDIPENCVARVFLHlTPPEICNLARLNRAFRGAASADSVWQ
 TKLPRNYQDLLDLMPPERHRNLsKKDIFALLSRaVPFDdGNKEVWLDRVtGRVCMSISAK
 AMSITGIDRRYHTWtVPTESRFNTVAYLQqIWWFEVDGEfSFPPADIYtLSfRLHLGR
 fSKRLGRDnSYEHtGWdIKPVRfELSTMDGQQASSECYLDETEPDDLHGnHKRGHWVD
 YKVGEfIVSGSEPttKVRfSMKQIDCTHsKGGLCVDSVfiIPRDLRERKRSGILK*

>Glyma.03G233800|Glyma.03G233800.1|43456534|F-box/Nictaba
 MSHMASSCSFNIESLPHDCVSEILSHTSPLEACMVSLVSPtLRSCANSdTVWRSfLPSDY
 EDIVSSAVNPFILSFSSyKQLfHALCHPLlIDQGNKSfKLEKSSGKKSyIISARELSIAW
 SSDPMWWSWKPIPEsRFEEAAELRTVSWLEIEGKiRtRILtPNTSYsAYLiMNVSHRAYG
 LDfAPSEVSvTVGKNVRRGKAYLGHKdENKRKMETLFYGNRtEVLRNAAFDEGIASPSKR
 EDGWMEIELGEFFNGEGDEEIKMCLREVGyQLKGGLVLEGIQLRPKP*

>Glyma.03G233900|Glyma.03G233900.1|43459075|F-box/Nictaba
 MELLPyDCFAHILSFTSTQDVCrSSLVSSIVQSMADSDAVWEKfLPLNHQEIvSRLVPPS
 LLCSSKkELfVKLCKPRPIDdGNKMLSIEKtTGKiCYLLSARQLSITWGNSSMYWSWKPI
 KGPRSRQRQKNLFIAfSNHRTVVVEKGAESNAEGVGIR*

>Glyma.03G253900|Glyma.03G253900.1|44924165|F-box/Nictaba
 MDNKSrNKVMVLEAEeEEVGGEfEHLPEGCIANIVSFTtPPDACVLSLVSSSfRSASVTD
 fVWERfLPSDYQAIISQSSKpSTLTNYSSKkDLYLHLCHNPLlIDAGKKSfALDKLNGKI
 CYMLSARSLSiVWGDTPRYWRWtSVPAARfSEVAELSVVCWLEIKGGIKSGTLSEKtLYG

AYLVFKQRRSGGAYGFYNQPVESVVEGRRRTVYLEEAETPRRRPREQIVPGIFSRVRSRFLD
SFDAAPPPPPNAKGGGEYPKERSDGMWEVELGDDFNVGGEKEKEKEVEIGVYEVKSGGW
KAGILVQGI EIRPKHKN*

>Glyma.05G049400|Glyma.05G049400.1|4412561|F-box/Nictaba
MRVHSVSKSDTAVWRKQKQAKNQVPLLTYYKLTTFSFRHIKSTIIISHFHFNVTLMLGRFS
SSEAAASESASPSSSLGELPESCVAQIMTYMDPPQICKLATLNRAFRGASSADFWWESKL
PPNYDILLRRIFADFPFSLGKRGIYARLCRLNSLDDGTKKVWLDGRMGKLCCLCVSAKGLS
ITGIDDRRYWNHIPTDESRSFSSVAYLQQIWWFQVDGEVEFPFPAGKYSVFFRIHLGRAGK
RFGRRCVNTTEHVHGWDDKPVRFQLWTSQGQYVASQCFLNGPGKWIIFYHAGDFVVEDGNAS
TKVKFSMTQIDCTHTKGGCLCLDSVLVYPSEFRKVKAFNLNS*

>Glyma.06G221100|Glyma.06G221100.1|26785124|Nictaba
MPFKKPHHTSDKNYITGDDGGKFEIQPRGLNIVWGNDSRYWKIPEQGPALIQVSWLEVS
GVVNLPGVKYRVEFEVRVKKDDGFGWSGTDVLVMAKIGKTGKYTYKVTKLNPGETLNI PK
STDPLEIQVNKQSEDLHFGLYEVWSGKWKGGLEIVRALIKPLT*

>Glyma.06G270800|Glyma.06G270800.1|46003360|F-box/Nictaba
MDTITKVLPEECVATIISLTSKPDACQLSLVSPSFKEIADSDAVWANFLPSDCEDIIDQS
STPTLNLSSKKQIYAYLCDYHVLFDNGNMTLSLEKATGKKCIIVSAKGFKISWGDKPCYW
YWESTPESRFSEVAMKYLWWLEILGSLEAKFLSANTTYGVYFIFNFENHGSSEFIYLNQN
SQPRTYGDLVVCEGNINGYRKRVCCLDPPGEEVHEREDGWMEVEMGEFFSGDHEDNLVDFK
LRDINSQLTHFLVVEGVEFRPKNM*

>Glyma.06G271000|Glyma.06G271000.1|46016701|F-box/Nictaba
MDTITKVLPEECVATIISLTSKPDACQLSPVSPSLKAIADSDAVWANFLPSDCEDIIDQS
STPTLNLSSKKQIYAYLCDYHVLFDNGNMTLSLEKATGKKCIMVSAKGFKISSGDKPCYW
YWESTPKSRFYEAMLYMWWLEILGSLEAKFLSANTNYGVYFIFNFENHGSSEFIYLNQY
FQPRTYGDLVVCEGNINGYRKRVCCLDPPGEEVHEREDGWMEVEMGEFFSEDHEDNLVGFK
LWDMNSQLTRFLVVEGVEFRPKNM*

>Glyma.07G222500|Glyma.07G222500.1|39833031|Nictaba
MGGSRLSKPKSGSASGSTNCFMLYARALSTTWGDTPEYWIWVQQKETSGTIVELAKLKRV
CWLEVHKGFDTRKLSLGLYQVSFLIMLEESSQGWEPINRVFVLPGGKRQQHKVNLNEK
LRESWMEILVGEFVASEKDAGEMEISMYEYEGGMWKTGLVVIQGVVIKPKN*

>Glyma.10G150400|Glyma.10G150400.1|38573748|F-box/Nictaba
MDTLPEDCVSKILSYTSPDACRFSMVSSTLRSSADSDLLWRTFFPSDYSIDIVSRALNPL
SLNSSSSYKHLFYALCHPLLLDGGNMSFKLDKSSGKKSILSARQLSITWSNDPLYWSWR
PVPESRFKEVAELRTVSWLEIQGKIGTRILTPNTSYVVYLIMKTSHREYGLDSVACEVSI
AVDNKVKQSGRVYLCQNEKDENNLKKEISIGIPMRREDGWMEIEMGEFFFCGEADEEVLMSL
MEVGYQLKGGILIVEGVEIRPKIIV*

>Glyma.10G169300|Glyma.10G169300.1|40354794|F-box/Nictaba
MKSQDLPEGCVAHILSYICTPEDIVRLSLVSKAFYSAADYDTVWDRFIPSDFSSTISPLS
SSNSKKDLYFTLSDRPTIIDQGRKVRTLFLLACSDVFYGIPEMKCVVYVASLKFLQSFQL
EKRTAKKCYMLSARDISITWAPTQGEASQYWEWKSLPESRFQEVARLYAVCWFNITGQIK
TRVLSPTQYAAFLVFQ MIDASGFHHHPAMLSVSNVGGSRTSKYVCLDPNLEDNLDLDRF
RGLQRPNVRKDKWLEIEMGEFFNSGLEEDEIYMNVRSETSMDMKHGFIEGIEVRPKHV*

>Glyma.10G169600|Glyma.10G169600.1|40364491|F-box/Nictaba
MEFQGLPEGCIASILSRTTPADVCRFSVVSIFRSAAESDAVWKRFLPSDYHSIISQSPS
PLNYPSSKKELYLALSDRPIIIDQGKKSFLQLEKKSGKKCYMLAARALSIWGDTEQYWNWT
TDTNSRFPEVAELRDVCWLEIRGVNLTLVLSPTQYAAFLVFKMIDARGFHNRPVELSVN
VFGGHGSKTIVCLDPNEELPHRRVEGLQRPNARS DGWLEIEMGEFFNTGLDDEVQMSVVE
TKGGNWKSGFLIEGIEVVKPKEEN*

>Glyma.14G073300|Glyma.14G073300.1|6158677|F-box/Nictaba
MELQDLPEGCIKILSYTTPVDVCRSLVSKAFRSAAESDTVWDCFLLSDFTSIIPISST
SKKDLYFTLSLDHPTIIHQGRKSVQLDKRTGKKCCMLSARNLTIWGD TVQHWETSLPES
RFQEVAMLAQVCWFDISGSINTLTLSSNTHYATFLVFKMINASGFHYHPTVLSVGLGNN
SNTKYVCLDPNLKGNHRLQELQFPKVRSDGWLEIEMGEFFNSGQEEKQVQMKVMETTSHI
WKCGFILEGIEIRPKHV*

>Glyma.17G251700|Glyma.17G251700.1|40625907|F-box/Nictaba
MELQDLPEGCIKILSYTTPVDACRLSVSIAFRSAAESDTVWDCFLLSDFTSFIPPSSTS
KNDLYFTLSLDLPTIMDQGRKSVQLAKGPGRSVTCFPLEIWPLYGVILFDIGSGQACQSPT
RFQEVAMLRVAVCWFDISGSINTLTLSSNTHYSASLVFKMINPSGFHYHPTVLSVGIFGGN
SNTKYVCLDPNLKDNHRFQELQCPKVRSDGWLEI*

>Glyma.19G231000|Glyma.19G231000.1|48171303|F-box/Nictaba
 MNHMASCSFNIESLPHDCVSEILSHTSPLVACIVSLVSPSLCSCANSDTVWRSFLPSDYE
 DIVSRAVNPFTLSFSSYKQLFYSLCHPLLLIDQGNKSFNLEKSSGKSYIIISARELSIAWS
 SDPMMWSWKPIPESSRFABAAELRTVSWLVEVEGKIRTRILTPNTSYLAYLIMNVSHRAYGL
 DFAPSEVSVMVGNGKVRHGKAYLGDKDENKREMEALFYGNRTEVLRNAAFQEGIPFPSKRE
 DGWMEIELGEFFSSEGDEEIKMSLREVGYQLKGGVLLEGIQVRPKTS*

>Glyma.20G020900|Glyma.20G020900.1|2139622|Nictaba/Nictaba
 MGASQSQEELQSQRQFQQHQHPNELTRRESLLLSPAASNNTKQFSNSTKVVDNVTAANST
 NTNCFMLNARALSITWAENPDYWTWVQDKDESGTMIELPNLKMVCWLEVHGKFDTRKLSL
 GILYQVSFIVMLKDSAQGWVPIINVRLVLPGGKKQKHENLNEKLRECIWIEIPVGEFVAS
 EKDVGNIEISMYEYEGGKWKTLIIQGIAIKPKNETNQSQHHQQPHELTRRESWLMSPAG
 NSKYFKNSTKAIDNVTSAANTNSFMVYARSLSITWAENPNYWKWVQHKEASGTMTLAKL
 KMCVWLEVHVGKFDARKLLPGIPYQVLFIVMLKDSAQGWVPIINVRLVLPGGKKQEHKENL
 NKLRESWIHIPVGEFVASEKDVGNIEISMYEYEGGMWKTGLIIQGIVIKPKN*

>Glyma.20G021000|Glyma.20G021000.1|2146166|Nictaba
 MGGCLSSPKPAVDNGSASGNINCFMLYARALSITWGETPEYWIWVQQKEASGTIIELAKL
 KKVCWLEVVRGKFDIRKLLPGILYQVSFLIMLEDSSSEGWEVPIINVRLVLPGGKRQQHKVNL
 NEKLRENWMEILVGEFVASEKDGEMDISMYEYEGGMWKSGLVVIQGVVIKPKN*

>Glyma.20G021200|Glyma.20G021200.1|2154903|Nictaba
 MGGCLPSKPNPEDNGSASSSTNRFMLYARALSITWGDTPYWTWVQQKEEASGTIVELAK
 LKSVCWLEVHGKFDTRKLSAGILYQVFFLIMLEESSQGWVPIINVGFVLPGGKRQQHKVN
 LNEKSRESWLEILVGEFVASKKDVGEMKISLYEYGGMWKTGLVVIQGVVIKPKN*

>Glyma.20G021500|Glyma.20G021500.1|2178687|Nictaba
 MGASESHEKLQSQQPQSQHQVQHPQQLHEPTRRRESSLLPPDQGNTKASKDRTKAV
 VDNATMMPVKSLKGLPIPHNYEHILKSNADSPVDKSLLDKLYAGVFLDHKTKKYWVEKK
 SNGNCFMLYARALSITWAENPNYWKWVQHKEESGSMIELAKLKMVCWLEVNGKFGTGMLS
 PGILYQVSFIVMLKDSAQGWELPIINVRLVLPGGKKQKHENLMEKSRESWIEILVGEFVA
 SEKDVGEMEISMYEHEGGMWKTGLVIEGVAIKPKN*

>Glyma.20G220100|Glyma.20G220100.1|45545826|F-box/Nictaba
 MTQSVVVDFNNLPEGCIANILSFTSPRDVCRLLSSTFRSAAQSDAVWNKFLPSDFHTI
 LSQSSSLSLPSKKDLFLYLCCQKPLLLIDGKKSFLDKVYGKKCYMLSARNLFIWGDTPR
 YWRWTSPLDARFSEVAELRSVCWLEIRGWINTGMLSPETLYGAYLVFKPNPSGFYGFYDQ
 LVEVSGIAGGENRKRNVFLDAERGRRLRYQIVPRRAGTGI FNRARFLAPVEAPPVEDND
 SLDLQHPKERADEWLEVELEGEFFNDGQEDKELEMGVYI KSGDWKGGLLVQGIEIRPKRT
 PIN*

>Glyma.20G220200|Glyma.20G220200.1|45549852|F-box/Nictaba
 MKFEDLAEGCMAKILSYTTTRADVCRLLSVSKAFHSAAEANTVWDCFLPSDLSSII SPSSS
 VPPFRSIKDLYLSDRPTIIDQGIKSFQLEKRTGNKCYMLSARDLSIIWGDTHYWEWT
 TLPESRRFEVAVRLRAVCWFDITGRMNTRVLS PNTNYAAFLVFKMIDAGGFHYDPAVLSV
 GILGGSNSTKNVCLDPNLVDNRLLDRFHGLQRPTVRSDGWLEIEMGEFFNPGLEEDELQI
 KVSETTSNWWKRGFILEGIEVRPKHV*

>Glyma.20G220300|Glyma.20G220300.1|45552204|F-box/Nictaba
 MGIFFSYPYKQESSGTTTINLLPEGCISYILSYTTPVDACRLSLVSKAFRSAAQSDTLWD
 RFITSALSSLVSPSSFPSSSHSKKHLYFALCDRPIIIHNGTKSIQLDKRTGKRCYTLSTRV
 HLIDSEWGLAPLQWEHIRLPSNSRFQQFGVLVSAPEAWFDISGRIKALSLSRTEYAAFL
 FKMVYATPTEVHYHPVVLGYLVITLPDSSSVRTIDVCLLKNLQQHSCVRRSDGWLEFELV
 GFFDLGLEDDQVQIIKVTDRPNSNWKHGFIEGIEIRPKHV*

Ricin B

>Glyma.05G173300|Glyma.05G173300.1|36277504|GH 5/Ricin
 MEMGRWWSSTLVFTVLSAPILLIALLSSTFEEVDHDNTVPVTGLLHTDSRWILDQDGRRV
 KLACVNWVSHLEAVVAEGLSKKPVVISKGIKSMGFNCVRLTWPTLLVTNDSLASLTVRR
 SFQSLGLLESIAQVQTNPNPSIIDLSLIQAFQAVVKSIGDNDVMVILDNHVTQPGWCCGNT
 DGNFGFGDKFFDPNQWILGLTKMATLFGKVTAVVGISLRNELRGSRQNVNDWYKYMVKGA
 EAAHAANPDVLVILSGLNFDTDLSFLRDRPVSLTFKGLVFEVHRYGFTDGGAWADGNPN
 QVCGKVTANIKKTSGLFVDQGWPLFVSEFGDLRGTNVNDNRYLNCFLALVAELDLDWAY
 WTLVGSYYFREGVIGMEEFYGLLTWDWNQVRSTSFNLRI SALQIPFRGPPIIEGNPHKLI
 FHPLTGLCVISKSQLTSLTLAACSSSDAWTYTPQKTLLVNNTDFCIHAEERKPATLSMT
 CSDPNSKWEMISDSNMHLSSKLSDGSNLCLDVDDNNIIVTNACKCLSKDKTCDPGSQWFK
 LIDSGRRSISTTSTLSMLNSPDLWLKSLSSI*

>Glyma.05G173400|Glyma.05G173400.1|36283079|GH 5/Ricin
 MILLKKHEMVFNFVSALITITILLSGAIVEVKGLPLHTDSRWIVNEDGQRVKLACVNWVSH
 LEAVVAEGLSKKPVVDVISNGIKSMGFNCVRLTWPIVLVTNDSLASLTVRSSFQNLALLES
 IAGVQTNPNPSIIDLPLIQAFQAVVKS LGDNDVMVILDNHITQPGWCCSNSDGNGFFGDKF
 FDPNQWILGLTKMASLFNGVTNVVGM SLRNLRGPKQNVNDWYKYMVKGA EAIHAANPDV
 LVILSGLNFDKDL SFIQNRPVSLTFKGKLVYEAHWYAF TDGQAWVNGNPNQVCGQVAGNM
 MRTSGFLVNQGWPLFISEFGGDLRG TNVNDNRYLNCFLAVAAELDL DWALWTLVG SYYFR
 QGVIGMEEFYGILS WDWTVRNTTFLNRISALQLPFRGPGITRGNPYKLI FHPLTGLCVI
 RKSLLDPLTLGPCYLS DGWKYTPQKILSIKGT YFCIQAENEGMPAKLGI ICSDPNSRWEM
 ISDSKLHLSSKLSDDSNVCLD VDDNNNI VTNACKCLSRDR TCDPSSQWFKLIDSGRRSML
 TTSTSSMLNSSDLYGNH*

>Glyma.05G174200|Glyma.05G174200.1|36323855|GH 27/Ricin
 MMKCFVSLSLWVLLALCSLSVL SQNISQSGLQQASLPPRGWNSYDSFCWTISEEFLQ
 SAEIVSQRLKAHGYQFVVVDYLWYRK KVTGAYPDSLGF DVIDEWGRMLPDPGRWPSSIGG
 KGFS DVANRVHSLGLKFGI HVMRGISTQAVNANTPILD TTKGAYQESGRVWRAKDIAMP
 ERACAWMPHGFM SVNTKLGAGRAFLKSLYEQYAAWGV DLVKHDCVFGDDLDLNEISYVSE
 VLS ELNRPIVYSLSPGTSVTPAMAKDVSGLVNMYRITGDDWDLWEDVKAHFDVTRDFSTA
 NMIGGKGLKGN SWPDLMLPFGWLTDPGSNEGPHRFSKLTLEEKRTQMTLWSLAKSPLMY
 GGDVRKIDATTYELITNPTLLEIN YFSSNNMEFPYVTSSINLKHPPGGKKRRPKKGIKASF
 THSLGLTGCSKASGWSIESLNQDLERICWKNGLENKHQATFCVHKRELQFRLDGVS MY
 PADYRGKHQLVATDRMKFCLDASP KRKVT SREFRRGTFSPCRWD SNQIWELNSNGTMVNS
 YSGLCATVEYVEANVNSGGIRSWIATGR TGEIYLAFFNLSEQKTEIYAKTSYLA KVLDPK
 SITSCKGKEVWSGTDVIT TQGTISMNVEIHGCALFLLNCN*

>Glyma.08G060700|Glyma.08G060700.1|4677376|GH 5/Ricin
 MVRKSSILLACLLAIFTSCCN SLPLSVHKRWI IDDATGKRVKLHCAHWVAHATPMLA EGL
 DKSPMNDIAANIAKAGFNCVRLSYATYMFTRYANNTVRDI FHTHDI PGIVSAIENYNPRV
 LNMTHLQAYEAVVDALGDHGVMLIDNHVSLAKWCCANDDQNGFFGDRHFNTSEWLQGLA
 FIAHHFKGKPNVFAMD LRLNELRGS RQNHHDWYKYMTQGAN TIHDINPDFIVI ISGLAFDN
 DLSFLKKKPLDLNFP HKIVYESHIYSVSGDTHRWRVQPVN WICNATIQLLHQQSS FLLSG
 KNPAPLLVSEFSGYRDMTGGSFADNMYLPCIVSYFASVDLDWSLWAFQGSYYRQGVGLGE
 SYAVMDDDWKSYRDPNFTQKFELLQRMVQDPTSNVSKSNI I FHPLTGYCAHVNNSKELVM
 GDCKSNSLSWSEYEGDGSPIRLMNSAKCLKAVGERLP PSLSEDCLSPQSSWKT VSMTGLHLA
 TFDKDGDLLCLEKDSNSSKIVT SKCICISDDSSCLDNPQS QWFKLVSTNV*

>Glyma.08G130600|Glyma.08G130600.1|10025431|GH 5/Ricin
 MGRWRPSTLVFTILSAPIIIII IALLSSGGTTTVEDVDNDHTMAVTGLLHTDSRWILNQGG
 QRVKLACVNWVSHLEVAEGLSKKPVDAISKGIKSMGFNCVRLTWPTLLATNDSLASLS
 VRRSFQNLGLLESVAGVQTNPNPSIIDLPLIQAFQAVVKS LGDNDVMVILDNHLTNPGWCC
 GYSDGNGFFGDKFFNP DQWIFGLTKMATLFNGVTNVVGM SLRNLRGPKQNVNDWYKYMV
 KGAEAVHAANPDVLVILSGINFDTSLSFIRDRPVSLTFKGKLVFEVHRYGFTDGGAWADG
 NPNQVCGKVTADIKQTSTFLVDQGWPLFVSEFGGDLRG TNVNDNRYLNCFLALVAELDL D
 WAYWTLVG SYYFREGVIGMEEFYGLLTWDWTQVRSTSFLNRISALQIPFRGPGIIEGSAY
 KLI FHPLTGLCVISKSLTSLTLGPCSSDAWYTPQKTLLINNTNFCIHA EQEGKPATL
 SITCSDANSKWE MIDSNNHLSSKLSDGSNLCLD VDDNNI IVTTACKCLNQDKTCDPASQ
 WFKLIDSGRRSISTTSTLSMLNSPDILWQPLSSI*

>Glyma.08G131400|Glyma.08G131400.1|10070505|GH 27/Ricin
 MMKCFVSLSLWVLLALFSLSVSSQNISESGLQQASLPPRGWNSYDSFCWTISEDEFLO
 SAEMVSQRLKAHGYQFVVVDYLWYRK KVKGAYPDSLGF DVIDEWGRMIPDPGRWPSSIGG
 KGFS DVANRVHSLGLKFGI HVMRGISTQAVNANTPILDITKGAYQESGRVWHAKDIAMP
 ERACAWMPHGFM SVNTKLGAGRAFLKSLYEQYAAWGV DLVKHDCVFGDDLDLNEISYVSE
 VLSVLNRPIVYSLSPGTSVTPAMAKDVSGLVNMYRITGDDWDKWEDVKAHFDVTRDFSTA
 NMIGGKGLKGN SWPDLMLPFGWLTDPGSNEGPHRFSKLTLEEKRTQMTLWSLAKSPLMY
 GGDVRRIDPTTYELITNPTLLEIN YFSSNNMEFPYITSSINLKHPPGGKERRLKKGIHSLG
 LTS CSKESKARGWSIESLNQDLERICWKKGLENKHQAPFCVHKRELQFRLDGVS MYQEDYR
 GKHLVATDRMKFCLDASP KRKVT SKEFKRGTFSPCRWD SNQIWELNSNGTMVNSYSGLC
 ATVEYIEANVNSGGIRSWIATGR TGEIYLAFFNLSEQKTEIYAKTSYLA KVLDPK SITSC
 KGEEVWSGTDVIT TQGTISMNVEIHGCALFVLNCN*

>Glyma.11G179700|Glyma.11G179700.1|24537774|GH 5/Ricin
 MIPLITVRVIVLLLLGVTLQITKPVVVKGFPLHTSERWIVDES GKRVLACVNWVSHLDA
 VVAEGLSQQLDEISKRIKTMGFNCVRLTWPLFLVTNDSIASLTLRNSFQNLGLIQSLNG
 VQAINPSIIDLPLIKAYQAVVKS LGENDVMVILDNHVSQPGWCCSNLDGNGFFGQYFDP
 DLWIMGLTKMATIFKGVTNVVAMSLRNLRGPRQNVNVWYRYMPKGAEAVHAANPDVLVI
 LSGLNFDTNLSFIRNEAVKLSFNGKLVFEVHWYSFSDGQAWTLGNPNQVCGQVTENVMRR
 AGFLLDQGWPLFVSEFGVDLRGTSVNDNRYLNCFMALVAQLDL DWALWTLGGNY YIRQGD
 VGMEEFYGILNSDWIQVRNTSFLQRI SAIQLPFGKPG LSEAKPYKVI FHPLTGLCILRNS
 PVEPLMRLGPCSNSDAWEYTDQKILSIKGT YFCLQAE EEGKQAKLGNACSGSNSRWEMIS

DSKMHLSTQTNNASGVCLDVDTNNIIVTNICQCLSKDNTCDPATQWFKLVDSTRKSRHYL
RIPS*

>Glyma.11G243600|Glyma.11G243600.1|33743871|GH 27/Ricin
MKCFSLSSISLFIILLFLCSESVSSQNVSESEQQQASIPPRGWNSYDSFCWTISEEEFLQS
AEIVSQRLHDHGYEYVVDYLWYRRKVEGAYHDSLGFDDVIDEWGRMVDPGRWPSSSENGK
GFTEVANQVHSMGLKFGIHMVRGISTQAVNANTPILDTTMGGAYQESGRVWYAKDIAIPE
RACAWMSHGFMVNTKLGAAGKAFRLSLYEQYAAWGVDFVKHDCIFGDDFDLNEISYVSEV
LKEFDRPIVYSLSPGTSATPAMAKDVSGLVNMYRITGDDWDTWGDVKAHFDITRDFSANAN
MIGAKGLMGNSWPDLDMLPFGWLTDPGSNEGPHRYSYLNLEKKKTQMTLWSMAKSPLMYG
GDVRKIDPSTYDVITNPTLLEINSFSSNNMEFPYITSVNSEQDLGRPMRRSSMEIKTSY
THSLGLTSCTESKASGWASESLNQYLERICWKRLGNKHLAPFCVHKRELYFPFDEASMY
QEYHQKHHLVATNRIKFCLDASPKRKLTSKEFKRGTFSPCSWDSNQMWELNPNGLTVNS
YSGLCATVESSEDTINSGGLHSWIATGRKGFEVYVAFFNLSEQKRVISAKTSDLAKVLPGR
DFSSCQGSEVWSGDAIEITQGTSLTAVEVHGSALIVLNCNESPLLSPKIERKKENK*

>Glyma.18G012900|Glyma.18G012900.1|914862|GH 5/Ricin
MGWSFPLSPLVTTITIVLLLCVTLQTKVVKAFFLYTQNRWIVDGNATRVKLACVNWVSHL
EYMVAEGLGERPLDGIKAIKSMGFNCVRLTWPIYLIITNDSLATLTVRQSFNNLGLPQAI
SALQVNNPSLIDLPLIKAYQDVVKGLGDKGLMVILDNHVSKPQWCCSNDDGNGFFGDQYF
DIDLWIKGLTKMATLFKGVNTNVVAMSLRNELRGPRQNANDWFKYMPKGAEAVHGANPDVL
VIMSGLYNDLDSFLRKQVKLSFSRKLVFELHWYSFSDGDSWTTENPNQVCGKVTGRVM
RSAGYLLEQGYPLVLSEFGWDLRGTNQNDNSYFNCLLPLAAQLDFDWAYWTLGASYLRE
GTVGLIEVYGILTQNTTLPPTTFLQLRISAIQLPYRGPGLSEVEAHKVI FHLPLTGLCISG
KLEPLKLGPCSNSEGWETAKQVLSVKGRNSTCLQAELEGKEAKLGNESVWEIVSDSKL
HLSSKINNASDVCLDVSNNIIVTNACKCLSGDKTCDPASQWFKLVDSTRKST*

>Glyma.18G013500|Glyma.18G013500.1|951791|GH 27/Ricin
MKCFSLSSISLFIILLFLCSESYHLVQMACFACLLSECIIPQMTLWSMAKSPLMHGGDVR
KIDPSTYDVITNPTLLEINSFSSNNMEACEPSIFFGMEEIIVNSEQDLGKQMRRSSKEI
KTTYTHSLGLTSCTESKASGLASGLNQYLERICWKRLGNKHLAPFCVHKRELYFPFGE
VGMYYEYHHYHLVATNRIKFCLDASPKHKLTSKEFKRGTFSPCRWDSNQMWGLNPNGLTV
KSYSGLCATVESSEDTINSGGLHSWIATGRKGMLLTQINLKVVLKVLNVHQLNWFNLS
SSSGRSSIQSNEHF*

Table S2. Contribution of tandem and segmental duplication events to the expansion of the lectin families.

	Percentage			
	tandem	segmental	both	other
CRA	0.0	66.7	0.00	33.3
EUL	66.7	0.0	0.00	33.3
GNA	48.2	20.5	21.08	10.2
Hevein	33.3	50.0	0.00	16.7
Jacalin	0.0	100.0	0.00	0.0
Legume	37.2	41.5	12.77	8.5
LysM	2.1	70.2	10.64	17.0
Nictaba	45.5	36.4	13.64	4.5
Ricin B	10.0	40.0	30.00	20.0