

**Table S6** Protein nomenclature and sequences from the cowpea genome.

| Transcript IDs            | Gene Name          | AA Sequence                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|---------------------------|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Vigun01g052500.1.p</i> | <i>VuHSP60-1</i>   | MASTFSAMSSYKLSSSAAISSFPFSGSRRQSNQVVLARRSRNARVSAMAKELHFN<br>KDGTAIKKLQSGVNLADLVGVTLGPKGRNVVLESKYGSPKIVNDGVTVAKEVE<br>LEDPVENIGAKLVRQAAAKTNDLAGDGTTSVVLAAQLIAEGVKVVAAGANPV<br>LITRGIEKTAKSLVSELKKMSKEVEDSELADVAASAGNNHEVGHMIAEALS<br>GRKGVVTLEEGKSADNSLYVVEGMQFDRGYISPYFVTDSEKMAVEYENCKLLL<br>VDKKITNARDLFNILEDAIRSGYPIHIAEDIEQEALATLVVNRLRGSCLKIAALKAP<br>GFGERKSQYLLDIAILTGGTVIREEVGLSLDKAGKEVLGSASKVVLTKDTTIVG<br>DGSTQEAVNKRVAQIKNLIEAAEQDYKEKLNERIAKLSGGVAVIQVGAQTETEL<br>KEKKLRVEDALNATKAAVEEGIVVGGGCTLLRLASKVDAIRDSLNDDEEKVGAD<br>IVKRALSYPLKLIKNAGVNGSVVSEKVLSSDNPRYGYNAATGNYEDLMSAGII<br>DPTKVVRCCLEHAASVAKTFLMSDCVVVEIKEPEPVPAGNPMDSGSGYGL |
| <i>Vigun01g242300.1.p</i> | <i>VuHSP60-2</i>   | MALAFDEFGRPFILKEQEKSRLRGLDAQKSNISAGKAVARILRTSLGPKGMDK<br>MLQSPDGDVTITNDGATILEQMDVDNQIAKLMVELSRSQDYEIGDGTGTVVVM<br>AGALLEKAERLLERGIHPRIAEGYETASRIAVEHLERVANKFEFGESNLEPLIQC<br>MTTLSSKIVNRCKRSLAEIAVKAVLAVADLERKDVNLDLIKVEGKVGKKLEDTEL<br>IYGIVVDKDMSHPMQPKQIEDAKIAILTCAFEPKPKTKHKVDIDTVEKFQTLRLQ<br>EQKYFDDMVQKCKDVGATLVICQWGFDDANHLLMHRNLPVRWVGGVELEL<br>IAIATGGRIVPRFQELSTEKLGKAGMVREKSFGTTKDRMLYIEHCANSRAVTIFIR<br>GGNKMIIIETKRS�HDALCVARNLIRNNSIVYGGGSAEISCSIAVEAAADKYPGVE<br>QYAIRAFGDALAEIPMALAENSGLQPIETLSAVKSQKIDNNPHFGIDCNDVGTN<br>DMREQNVFETLIGKQQQILLATQVVKMILKIDDVISPEY                                                                 |
| <i>Vigun03g007100.1.p</i> | <i>VuHSP60-3</i>   | MAAIAVPQHRSSKTESYVDNKRKEDIRHANIVAARAVANAVRTSLGPKGMDKMI<br>STSSDEVITNDGATILNKMQVLQPAAKMLVELSKSQDSAAGDGTTVVVIAGAL<br>LEQCLLLLSHGIHPTIVSDSLHKAADVLTAMAVPVELSDRDSLVSASTSLN<br>SKVVSQYSTLLAPLAVDAVLSVVDAAKPDMDLRDVKIVKLLGGTVDDTELK<br>GLVFDKKVSHAAGGPTRMENAKIAVIQFQISPPKTDIEQSIVVSDYSQMDRILKEE<br>RSYILGMIKKIKATGCNVLLIQKSILRDAVTDLSLHYLAKAKILVIKIDVERDEIEFIT<br>KTLNCLPIANIEHFRAEKLGYADLVEEVSLGDGKIVKINGIKEMGKTTTVLVRGS<br>NQLVLDEAERSLHDALCVVRCLVAKRFLIAGGGAPAEIELSRQLGAWAKVLHGME<br>GYCVRAFAEALEVIPYTLAENAGLNPIAIVTELNRNHAQGEINAGINVRKGQITNI<br>LEENVVQPLLVSITLATECVRMILKIDDIVTVR                                                                    |
| <i>Vigun03g090600.1.p</i> | <i>VuHSP60-4</i>   | MAVVAQTPDIAGERQSGQDVRTQNVVACQAVANIVKSSLGPVGLDKMLVDDIGD<br>VTITNDGATILKMLEVEHPAAKVLVELAEQDREVGDGTTSVVIVAAELLKRAN<br>DLVRNKIHPTSIISGYRLAMREACKYVEEKL SVKVEKLGKDSLINCAKTSMSKLI<br>AGDSDFFANLVVDVQSVKMTNARGEVKYPIKGINILKAHGKSARDSFLMNGYA<br>LNTGRAAQGMPLRVAPAKIACLDLNLQKTKMQLGVQVLVTDPRELEKIRQREAD<br>MTKERIEKLLKAGANVVLTTKGIDDMALKYFVEAGAIAVRRVRKEDMRHVAKA<br>TGATLVSTFADMEGEETFEPFSLGSADEVVEERISDDAVVMIKGTKTTSVSLILR<br>GANDHMLDEMDRALHDALSIVKRTLESNTVVAGGGAVEAALSVYLEYLATTLG<br>SREQLAIAEFAESLLIIPKVL SVNAAKDATELVAKLRAHYHSAQTAKDKHLSSM<br>GLDLSEGKIRNNLEAGVIEPAMSKVKIIQFATEAAITILRIDDMIKLIKEESQNE                                                  |
| <i>Vigun03g196200.1.p</i> | <i>VuHSP60-5.1</i> | MSSYIHSHVFLSSHFFPPNGNPSSSFPPFRWNQIAFGVRKASRFVVRAGPKKILFG<br>KECREAMQAGIDKLADAVSLTVGPKGRNVILSEGNLKVINDGVTIARSIELSDAI<br>ENAGAILIQEVASRMNELAGDGTSTAILARAMIKSGLLAVSFGANPISLKKGMDK<br>TVKELVKLLKERSVPVEGREHIKAVASISAGNDEYVGNLIADAMGKIGPDGVISIE<br>SSSTSETSVIIIEGMKIDKGYMSPHFITNQEKSIVEFDWAKVLVTDQKISSVKEIVP<br>LLEKAMQLSAPLLIIAEDITRQVLETLVVNKMQLLRVAVVKCPGFAGGKKALLQ<br>DIALMTGADFLSGDLGLTLDGATSDQLGTALKVTITSNATTIADPSTKAQVQARI<br>SQIKKDLSETDNANLSRKL SERIAKLLGGVAVIKVGAHTELELEDRLKRIEDAKN<br>ATFAAISEGIVPGGGATYVHLLDMIPTIRNSMKDLDEQIGADIVAKALIEPAKSIAT<br>NAGIDGDIVVQKTRTHDWRTGYNAMTGMIEDLLNAGVADPSRVARCALQSAVS<br>VAGVVLTTQAILVDKIKKPKPAVPYIPGITP  |

| Transcript IDs            | Gene Name          | AA Sequence                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------------------------|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Vigun03g196200.2.p</i> | <i>VuHSP60-5.2</i> | MMALQLLDPLSFQMQLRMQVASRMNELAGDGTSTAILARAMIKSGLLAVSFGA<br>NPISLKKGMDKTVKELVKLLKERSVPVEGREHIKAVASISAGNDEYVGNLIADAM<br>GKIGPDGVISIESSTSETSVIIIEGMKIDKGYMSPHFITNQEKSIVEFDWAKVLVT<br>DQKISSVKEIVPLLEKAMQLSAPLLIIAEDITRQVLETLVVNKMQGLLRVAVVKCP<br>GFAGGKKALLQDIALMTGADFLSGDLGLTLDGATSDQLGTALKVTITSNATTIIA<br>DPSTKAEVQARISQIKKDLSETDNANLSRKLSEKIAKLLGGVAVIKVGAHTELELE<br>DRKLRIEDAKNATFAAISEGIVPGGGATYVHLLDMIPTIRNSMKDLDEQIGADIVA<br>KALIEPAKSIATNAGIDGDIVVQKTRTHDWRTGYNAMTGMIEDLLNAGVADPSR<br>VARCALQSAVSVAGVVLTTQAILVDKIKKPKPAVPYIPGITP                                                                                   |
| <i>Vigun03g196200.3.p</i> | <i>VuHSP60-5.3</i> | MLFLLPLDPKVASRMNELAGDGTSTAILARAMIKSGLLAVSFGANPISLKKGMD<br>KTVKELVKLLKERSVPVEGREHIKAVASISAGNDEYVGNLIADAMGKIGPDGVISI<br>ESSSTSETSVIIIEGMKIDKGYMSPHFITNQEKSIVEFDWAKVLVTDQKISSVKEIV<br>PLLEKAMQLSAPLLIIAEDITRQVLETLVVNKMQGLLRVAVVKCPGFAGGKKALL<br>QDIALMTGADFLSGDLGLTLDGATSDQLGTALKVTITSNATTIIADPSTKAEVQAR<br>ISQIKKDLSETDNANLSRKLSEKIAKLLGGVAVIKVGAHTELELEDRLRIEDAKN<br>ATFAAISEGIVPGGGATYVHLLDMIPTIRNSMKDLDEQIGADIVAKALIEPAKSIAT<br>NAGIDGDIVVQKTRTHDWRTGYNAMTGMIEDLLNAGVADPSRVARCALQSAVSV<br>AGVVLTTQAILVDKIKKPKPAVPYIPGITP                                                                                            |
| <i>Vigun04g171700.1.p</i> | <i>VuHSP60-6</i>   | MHAPVLVLQDSLKRESGAKVRYAVIQAAKAVADVVRTTLGPRSMKMLLDAQG<br>GIVVTNDGNAILRELDLAHPAAKSMIELSRTQDQEVGDGTTSVIILAGEMLHVAD<br>AFIDKIHPTVICRAYTKALEDIAVLDKIAMPIDAQDRGIMLGLVKSCIGTKFTGQ<br>FGDLIADLAIDATATVGVEIGQGLRDVDIKNYIKVEKVPGGQLEDSEKLVKGVMIN<br>KDVVAPGKMRRKIVNPRIILLDCPIEYKKGGENQTNAELLKEEDWNLLLKMEEYI<br>EEMCMQILKFKPDVVITEKGLSDLACHYLSKHGVS AIRRLRKT DNNRIAKACGA<br>VIVNRPDELQESDVG TGAGLFEIKKIGDEYFAYIVDCKDPKACTVLLRGASKDLL<br>NEVERNLDAMS VARNIIKNPKLVPGGGATELT VSAALKQKSSSIEGIEKWPYEA<br>AAIAFEAIPRTLAQNCGVNVIRTMTALQGKHANGENAWIGIDGTTGSITDMKERK<br>IWDAYNVKAQAFKTAIEAACMLLRIDDIVSGIKKKQAPGASGSSKPKIETADAD<br>NEQILPD |
| <i>Vigun05g005000.1.p</i> | <i>VuHSP60-7</i>   | MSLRVLNPNAEVLNKSAAHMTINAAGLQDVLKTNLGPKGTIKMLVGGAGDI<br>KLTKDGNLTLLKEMQIQNPATMIARTAVAQDDASGDGTTSTVIFIGELMKQSERYI<br>DEGMHPRVLVDGFDIAKRATLQFLEKFKTPVVMGGEPDKEILKMVARTTVRTKL<br>YESLADQLTDIIVNAVLCIRKPEEDIDLFMVEIMHMRHKFDVDTRLVEGLVLDHG<br>SRHPDMKRRACENCYILTCNVSEYEKSEVNAGFFYSNAEQREAMVAAERRQVD<br>ERVKKIHELKNKVCSDNDSNFVVINQKGIDPPSLDLLAREGIIALRRARRNMERL<br>VLACGGEAVNSVDDLTPDCLGWAGLVYEHVLGEEKYTFIENVKNPFSCTILIKGP<br>NDHTIAQIKDAVRDGLRAVKNTLEDES VVLGAGAFEVAARQYLINEVKKTVEGR<br>AQLGVEAFADALLVVPKTLAENSGLD TQDVIIALTGEHDKGNIVGLSLNTGEPIDP<br>AMEGIFDNYSVKRQIINSGPVIVS QLLVVDDEVIRAGRNMRKPT                          |
| <i>Vigun05g208400.1.p</i> | <i>VuHSP60-8</i>   | MAIDRIFKDEASEEKGERARMASFGAMAIADLVKTTLGPKGMDKILQSTGRGR<br>EVTVTNDGATILKSLHIDNPAKVLVDISKVQDDEVGDGTTSVVVLAGELLREAE<br>KLVAAKIHPMTIISGFRMAAECAARNALLEKVVDNKADSEKFRSDLLNIAMTTLS<br>KILSQDKEHFAKLAVDAVMRLKGSTNLESIQIIKKPGGSLKDSFLDEGFILDKKIGI<br>GQPKRIENAKILVANTAMDTDKVKIYGARVRVDSMARVAQIETAEKEKMREKVQ<br>KIIGHGINCFVNRQLIYNFPEELFADAGILAIEHADFDGIERLALVTGGEIASTFDNP<br>ESVKLGHCDLIEEIMIGEDKLIHFSGVAMGQACTIVLRGASHHVLDEAERSLHDA<br>LCVLSQTVNDSRVLLGGGWPEMVMMAKEVDALAKKTPGKRSLAIEAFSRSLAIP<br>TIIADNAGLDS AELISQLRAEHHQEGCTAGIDVISGSGVDMAERGICEAFKVKQA<br>VLLSSTEAAEMILRVDEIITCAPRRREDRM                                    |

| Transcript IDs            | Gene Name           | AA Sequence                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------------------|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Vigun06g042300.1.p</i> | <i>VuHSP60-9.1</i>  | MACSPSPISSTFTANPSSLPRPRNSVCCSLSPRAMAKELYFNHDGSATKKLLAGV<br>DMVAELLGVTGLGPKGRNVVLPNKYGPPKIVNDGETVLKEIELEDPLENVGVKLV<br>RQAGAKTNDLAGDGSTTSVVLAHGLIREGTKVIAAGMNPVQIARGIEKTATALVS<br>ELSSMSREVEDHELADVAASAGNDYAVGNMISEALHKVGKRGVVTIETGKSTE<br>NSLEIVEGMQFDRGYLSPYFVNNRRKMTVELHNCALLVDKKITNPKELINILNN<br>SAKEKYPIVIVAEDIEQEALAPVIKNKLRGALKVAAIKAPAFGERKTHCLEDIAILT<br>GGTVIREDMGFTLEKATKDVLSATKVVTKNSTLIVTDGSTRSLVEKRVHQLKK<br>LVENTVDKFPKKILNERIARLSGCIAIQVGAQTQVELKDKQLRIEDALNATKAAI<br>DEGVVVGGGCSLLRLSKKVDAIKLLLDNEEQKIGAEIFRRALSYPARLIAKNAGV<br>NGNVVINKVLLEDNMNFGYNAAKDCYEDLMKARIMDPTKVVRCIEHSASVAK<br>SFLTSNAVIERKELQPITLPPRKAMMATPNLPISKDLAFSKPLPMSKDLAMSKGF<br>LPKGF                            |
| <i>Vigun06g042300.3.p</i> | <i>VuHSP60-9.2</i>  | MACSPSPISSTFTANPSSLPRPRNSVCCSLSPRAMAKELYFNHDGSATKKLLAGV<br>DMVAELLGVTGLGPKGRNVVLPNKYGPPKIVNDGETVLKEIELEDPLENVGVKLV<br>RQAGAKTNDLAGDGSTTSVVLAHGLIREGTKVIAAGMNPVQIARGIEKTATALVS<br>ELSSMSREVEDHELADVAASAGNDYAVGNMISEALHKVGKRGVVTIETGKSTE<br>NSLEIVEGMQFDRGYLSPYFVNNRRKMTVELHNCALLVDKKITNPKELINILNN<br>SAKEKYPIVIVAEDIEQEALAPVIKNKLRGALKVAAIKAPAFGERKTHCLEDIAILT<br>GGTVIREDMGFTLEKATKDVLSATKVVTKNSTLIVTDGSTRSLVEKRVHQLKK<br>LVENTVDKFPKKILNERIARLSGCIAIQVGAQTQVELKDKQLRIEDALNATKAAI<br>DEGVVVGGGCSLLRLSKKVDAIKLLLDNEEQKIGAEIFRRALSYPARLIAKNAGV<br>NGNVVINKVLLEDNMNFGYNAAKDCYEDLMKARIMDPTKVC                                                                                                           |
| <i>Vigun07g050000.1.p</i> | <i>VuHSP60-10</i>   | MNYEDGVGVGGLNPSTGSRFFQTLFFINPHTLHFSCLCTRCSIAAFSLLSLLI<br>FHIPIMYRFASSLASKARIARSGSKQVGSTLSWRRNYAAKDIKFGVEARALMLKG<br>VEELADAVKVTMGPKGRNVVIEQSFGGPKVTKDGVTVAKSIEFNDKVKNIGASL<br>VKQVANATNDVAGDGTTCATVLTIAIFTEGCKSVAAGMNAMDLRRGISMAVDA<br>VVTNLKSRARMISTSEEIAQVGTISANGEREIGELIAKAMEKVGKEGVITISDGKT<br>LYNELEVVEGMKLDRGYISPYFITNDKNQKCELEDPLILIEKKISSINAVVKVLE<br>LALKRQRPLLIVAEDVESDALATLILNKLRAKIKVCAIKAPGFGENRKSGLQDLA<br>VLTGGALITEELGLKLEKVDLMDLGTCKKITISKDDTVILDGAGDKKAIEERCEQI<br>RSAIENSTSDYDKEKLQERLAKLSGGVAVLKIGGASEAEVGEKKDRVTDALNAT<br>KAAVEEGIVPGGGVALLYASKELDKLQTANFDQKIGVQIIQNALKTPVLTIASNAG<br>VEGAVVVGKLLLEQGDNDLGYDAAKGEYVDMVKSGIIDPLKVIRTALVDAASVSS<br>LMTTTEAVVSELPKDDKDTAMAGGMGMGY |
| <i>Vigun07g166500.2.p</i> | <i>VuHSP60-11.1</i> | MQSPILVLKDSLKRESGTKAQHANIHAAKAVADIIRTTLGPRSMKMLLDAAGGI<br>VVTNDGNAILREIDLAPAAKSMIELSRTQDEEVGDGTTSVIILAGEMLHVAEALI<br>DKSYHPTVICRAYNKALEDAIAVLDKIAMPIDAKDRGTMGLILKSCIGTKFTSQF<br>GDLIADLAIDATTTVDIDLGLGLRDVDIKNYIKVEKVPGGQLEDNRVLKGVMIN<br>DVISPGKMKRKIVNPRVILLDCPLEYKKGENQTNALLKEEDWRLLLRMEEEYIE<br>ELCMQILRFKPDLVITEKGLSDLACHFLSKHGVSAIRRLRKTENNRIAKACGAVIV<br>NRPDELQESDVGAGLFEVKKIGDEFFAFIVECKDPKACTVLLRGASKDLLNEV<br>ERNLQDAMSVARNIKNPKLVPGGGATELTVSATLKQKSLSVQIEKLLPLLLRS<br>PVLWHKIGSKCHPHYDRTARKTCKWRKCVDWHKWYWGHH                                                                                                                                                                           |

| Transcript IDs            | Gene Name           | AA Sequence                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------------------|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Vigun07g166500.4.p</i> | <i>VuHSP60-11.2</i> | MAKLKTNPHIVSFQSCSSSSCQLSNASN MIDVYQAVADIIRTTLGPRSM LKM LLD<br>AAGGIVVTNDGNAILREIDLAHPAAKSMIELSRTQDEEVGDGTTSVIILAGEMLH<br>VAEALIDKSYHPTVICRAYNKALEDAIAVL D K IAMPIDAKDRGTMLGILKSCIGTK<br>FTSQFGDLIADLAIDATTTVDIDLGLGLRDVDIKNYIKVEKVPGGQLED SRVLKG<br>VMINKDVISPGKMKRKIVNPRVILLDCPLEYKKGENQTN AELLKEEDWRLLLRM<br>EEEEIEELCMQILRFKPD LVITEKGLSDLACHFLSKHGVSAIRRLRKT DNNRIAKA<br>CGAVIVNRPDELQESDVGTGAGLFEVKKIGDEFFAFIVECKDPKACTVLLRGASK<br>DLLNEVERN LQDAMS VARNIIKNPKLVPGGGATELTVSATLKQKSLSVQGIEKWP<br>YEAAAIAFEAIPRTLAQNWE                                                                                                                     |
| <i>Vigun07g166500.5.p</i> | <i>VuHSP60-11.3</i> | MQSPILVLKDSLKRESGTKAQHANIHA AKAVADIIRTTLGPRSM LKM LLD AAGGI<br>VVTNDGNAILREIDLAHPAAKSMIELSRTQDEEVGDGTTSVIILAGEMLHVAEALI<br>DKSYHPTVICRAYNKALEDAIAVL D K IAMPIDAKDRGTMLGILKSCIGTKFTSQF<br>GDLIADLAIDATTTVDIDLGLGLRDVDIKNYIKVEKVPGGQLED SRVLKGVMINK<br>DVISPGKMKRKIVNPRVILLDCPLEYKKGENQTN AELLKEEDWRLLLRMEEEEIE<br>ELCMQILRFKPD LVITEKGLSDLACHFLSKHGVSAIRRLRKT DNNRIAKACGAVIV<br>NRPDELQESDVGTGAGLFEVKKIGDEFFAFIVECKDPKACTVLLRGASKDLLNEV<br>ERNLQDAMS VARNIIKNPKLVPGGGATELTVSATLKQKSLSVQGIEKWPYEAAAI<br>AFEAIPRTLAQNWE                                                                                                                          |
| <i>Vigun07g166500.7.p</i> | <i>VuHSP60-11.4</i> | MFQFHPSQKAVADIIRTTLGPRSM LKM LLD AAGGIVVTNDGNAILREIDLAHPAA<br>KSMIELSRTQDEEVGDGTTSVIILAGEMLHVAEALIDKSYHPTVICRAYNKALED<br>AIAVL D K IAMPIDAKDRGTMLGILKSCIGTKFTSQFGDLIADLAIDATTTVDIDLGL<br>GLRDVDIKNYIKVEKVPGGQLED SRVLKGVMINKDVISPGKMKRKIVNPRVILLD<br>CPLEYKKGENQTN AELLKEEDWRLLLRMEEEEIEELCMQILRFKPD LVITEKGLS<br>DLACHFLSKHGVSAIRRLRKT DNNRIAKACGAVIVNRPDELQESDVGTGAGLFE<br>VKKIGDEFFAFIVECKDPKACTVLLRGASKDLLNEVERN LQDAMS VARNIIKNPK<br>LVPGGGATELTVSATLKQKSLSVQGIEKWPYEAAAIAFEAIPRTLAQNWE                                                                                                                                                  |
| <i>Vigun07g185200.1.p</i> | <i>VuHSP60-12</i>   | MYRFATSLASKARIARSSTQQIGSRVSWSRNYAAKD IKFGVEARALMLKGVEEL<br>ADAVKVTMGPKGRNVVIEQSF GAPKVT KDGVTVAKSIEFKDKVKNIGASLVKQV<br>ANATNDVAGDGTT CATILTRAIFTEGCKSVAAGM NAMDLRRGINMAVD AVVTNL<br>KSRARMISTSEEIAQVGTISANGEREIGELIAKAMEKV GKEGVITSDGKTLTYNL<br>EVVEGMKLD RGYISPYFITNQKNQKCELEDPLIIHEKKISSINAIVKVLELALKRQ<br>RPLLIVAEDVESDALATLILNKLRAGIKVCAIKAPGFGENRKSGLQDLAVLTGGQL<br>ITEELGLNLEKVDLEMFGSCKKITISKDDTVILDGAGDKKAIEERCEQIRSAIENST<br>SDYDKEKLQERLAKLSGGVAVLKIGGASEAEVGEKKDRVTDALNATKAAVEEGI<br>VPGGGVALLYASKELDKLQTANFDQKIGVQIIQNALKTSVHTIASNAGVEGAVVV<br>GKLEQDNPD LGYDAAKGEYVDMVKS GIIDPLKVIRTALVDAASVSSLMTTTEA<br>VVSELPKDDKDVPAMGGGMGMDY |
| <i>Vigun08g177100.1.p</i> | <i>VuHSP60-13</i>   | MSAMLQPQIILLKEGTDTSQGKPQLVSNINACTAVADVVRTTLGPRGM DKL IHDD<br>KGAVTISNDGATIMKLLDIVHPAAKILVDIAKSQDSEVGDGTTTVLLAAEFLREA<br>KPFIEDGVHSQNLIRSYRTASTLAIEKIKELAVSIEGKSLEEK SLLAKCASTTSSK<br>LIGGEKEFFASMVVD AVIAIGNEDRLNMIGIKKVPGGTMRDSFLVNGVAFKKTFS<br>YAGFEQQPKKFLNPKILLNVELELKSEKENAEIRLS DPSQYQSIVDAEWNIIYDK<br>LDKCVSSGAKVVL SRLAIGDLATQYFADR DIFCAGRVTEEDLKRVAATGGTVQ<br>TSVNNIIDEILGTCEVFEERQVGNERFNIFNGCPSGQTATIVLRGGADQFIEEAERS<br>LHDAIMIVRRALKNSTVVAGGG AIDMEISRYLRQHARTIAGKSQFLINSYAKALE<br>VIPRQLCDNAGFDATDVLNKL RQKHALPSGEGAPYGVDIATGGIADSFANFVWE<br>PAIVKINAINAATEAACLILSVDETIKNPKSESAQGDAAASAMGRGRGGAFRGRG<br>RGMRR                  |

| Transcript IDs            | Gene Name           | AA Sequence                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|---------------------------|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Vigun10g173100.1.p</i> | <i>VuHSP60-14.1</i> | MYRLARRVASSSIASPSAKNLVYGRVLSSRNFSKDINFGVGARAAILQGVTQVA<br>DAVKVTMGPKGRNVIIERSRGNPRITKDGVTVAKSIKFKDKEKNVGADLVKQVA<br>KATNTAAGDGTTCATVLTQAILTEGCKSIAAGVNVMDLRNGINKAVDAVITDLKS<br>RALMISTPEEITQVGTISANGERDIGELIARAMEKVGKEGVITVVDGNTLDNELE<br>VVEGMKLTRGYISPYFITDQKTRKCELENPFILIHDKKISDINSLLKILELAVTKKR<br>PLLVVAEDVESDALAMLILNKHAGLKVCAIKAPGFGDSRRANLDDLATLTGGE<br>VINEERGFSLDKVQPEMLGTARKVTVTIDDTIVLHGGGDKKAIEERCEQIRMTME<br>RSSAMFDKEKAQERLSKLSGGVAVFKVGGASEAEVGERKDRVTDALNATRAAV<br>EEGIVPGGGVALLYATKALDNLQTKNEDERRGVQIIQNALKAPTSTIVSNAGFDG<br>ALVHRKLLLEQDDYNLGFDAAKGVYVDMVKTGIVDPLKVVRTALVDAASVSLLL<br>TTTEAAVVDNPNYDKNKPPSRVPDMDDL        |
| <i>Vigun10g173100.2.p</i> | <i>VuHSP60-14.2</i> | MSVLILSSRWPRPLPTLLLETAILTEGCKSIAAGVNVMDLRNGINKAVDAVITDLKS<br>RALMISTPEEITQVGTISANGERDIGELIARAMEKVGKEGVITVVDGNTLDNELE<br>VVEGMKLTRGYISPYFITDQKTRKCELENPFILIHDKKISDINSLLKILELAVTKKR<br>PLLVVAEDVESDALAMLILNKHAGLKVCAIKAPGFGDSRRANLDDLATLTGGE<br>VINEERGFSLDKVQPEMLGTARKVTVTIDDTIVLHGGGDKKAIEERCEQIRMTME<br>RSSAMFDKEKAQERLSKLSGGVAVFKVGGASEAEVGERKDRVTDALNATRAAV<br>EEGIVPGGGVALLYATKALDNLQTKNEDERRGVQIIQNALKAPTSTIVSNAGFDG<br>ALVHRKLLLEQDDYNLGFDAAKGVYVDMVKTGIVDPLKVVRTALVDAASVSLLL<br>TTTEAAVVDNPNYDKNKPPSRVPDMDDL                                                                                                                          |
| <i>Vigun11g107100.2.p</i> | <i>VuHSP60-15</i>   | MAIDRIFKDEASEEKGERARMASFVGAMAIADLVKTTLGPKGMDKILQSTGRGR<br>EVTVTNDGATILKSLHIDNPAKVLVDISKVQDDEVGDGTTSVVVLAGELLREAE<br>KLVAAKIHPMTIISGFRMAAECARNALLEKVVDNKADSEKFGSDLLNIAMTTLSS<br>KILSQDKEHFANLDVDVVMRLKGNTNLESIIKKPGGSLKDSFLDEGFILDKKIG<br>IGQPKRIENAKILVANTAMDIDKVKIYGARVRVDSMARVAQIETAGKEKMREKVQ<br>KIIGHGINCFVNRQLIYNFPEELFADAGILAEHADFDGIECLALVTGGEIASTFDNP<br>ESVKLGHCIDLIEEIMIGEDKLIHFSGVAMGQACTIVLRGASHHVLDEAERSLHDA<br>LCVLSQTVNDSRVLLGGGWPEMVMMAK                                                                                                                                                                                     |
| <i>Vigun11g128900.1.p</i> | <i>VuHSP60-16</i>   | MAIDRIFKDEASEEKGERARMASFVGAMAIADLVKTTLGPKGMDKILQSTGRGR<br>EVTVTNDGATILKSLHIDNPAKVLVDISKVQDDEVGDGTTSVVVLAGELLREAE<br>KLVAAKIHPMTIISGFRMAAECARNALLVKVVDNKDDSEKFRSDLLNIAMTTLSS<br>KILSQDKEHFASLAVDAVMRLKGSTNLESIIKKPGGSLKDSFLDEGFILDKKIGI<br>GQPKRIENAKILVANTAMDTDKVKIYGARVRVDSMARVAQIETAEKEKMREKVQ<br>KIIGHGINCFVNRQLIYNFPEELFADAGILAEHADFDGIERLALVTGGEIASTFDNP<br>ESVKLGQCIDLIEEIMIGEDKLIHFSGVAMGQACTIVLRGASHHVLDEAERSLHDA<br>LCVLSQTVNDSRVLLGGGWPEMVMMAKEVDALAKKTPGKRSLAIEAFSRALLAIP<br>THADNAGLDSAEISQLRAEHQKEGCTAGIDVISGSVGDMAERGICEAFKVKQA<br>VLLSSTEAAEMILRVDEIITCAPRRREDRM                                                              |
| <i>Vigun11g139100.1.p</i> | <i>VuHSP60-17</i>   | MASANALSSASILRSPNRQSLARRVNQNGRVNYRQPNKRFAVKASAKEIAFDQSS<br>RAAMQAGIDKLADAVGLTLGPRGRNVVLDEFGSPKVVNDGVTIARAIELPDPME<br>NAGAALIREVASKTNSAGDGTITASVLAAREIILGLLSVTSGANPVSLKRGIDKT<br>VLGLVEELEKKARPVKGGDDIKAVASISAGNDELIGQMIAEAIDKVGPDGVLSIES<br>SSSFETTVEVEEGMEIDRGYISQFVTNPEKLIVEFENVRVLVTDQKISAIKDIIPLL<br>EKTTQLRAPLLIAEDVTGEALATLVVNKLRGILNVAAIKAPGFGERRKALLQDIA<br>IMTGAEFQATDLGLLIENTTVEQLGLARKVTVTKDSTTIIADAATKDELQARIAQI<br>KKELSETDSVYDSEKLAERIAKLSGGVAVVKVGAATETELEDRLKRIEDAKNATF<br>AAIEEGIVPGGGTALVHLSTHVPKIDRLEDADERLGADIVQKALVAPAAALIAQNA<br>GIEGEVVVEKIKNGEWVGYNAMADRYENLVDAGVIDPAKVTRCALQNAASVA<br>GMVLTTQAIVVEKPKPKAPVAGAPQGLTV |
| <i>VigunL051601.1.p</i>   | <i>VuHSP60-18</i>   | MAAKDVKFSTDARDRMLRGVDILADAVKVTLGPKGRNVVIEKSFGAPRITRTDR<br>FENMGAQMLREVASKTNDLAGDGTATVLAQAIVREGSKAVAAGMNPMDLKR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

| Transcript IDs | Gene Name | AA Sequence                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                |           | GIDLAVAAVIDDLKGHARKISANSEIAQEIGKILAEAMEKVGNEGVTVEEAKSLA<br>TELELRVELDDPYILIHEKKLSNLAALVPLLEKVIQSGRPLLI AEDVEGEALATLV<br>VNKLRGGLKVA AVKAPGFGDRRKAMLEDIAVLTAGNVVSEELGTKLENITVEML<br>GRAKKVTIDKDNTTIIDGAGQRSEIDSRAAQIRRQIEDTTS DYDREKLQERLAKL<br>AGGVAVVRVGGATEVEVKEKKDGHPAGGGVALLRALKALDGVTPANDDQKAG<br>VDIVRRALQAPARQIVANAGDDASYVVGKVLEKTDYNWGFNAATGEYQDLVQ<br>AGVLDPVKVVRTALQDAASVASLLITTEALIAEAPEGGEGAGPGNGLLTSIQAKG<br>VARDDLPA AAAHAAGRDDLEILAAKHGAVDVVLVRRRGAIGRSVEVADQHGV<br>AGAGHETRDVINQLLARLG PVLLLEEVE SP LLGRVVFEHVEAWQAEVRLAAVLM<br>QDVVVDLAGSIVVGEMDQPVAPSLRVCDRERADIARAIVERLEHDA LCRAQPRL<br>VADDAVDGAQVAGIDTKVANLALHQVGVGSA |

**Note:** The gene was named based on its homology to *HSP60* genes from *Arabidopsis thaliana* and its chromosomal position. We achieved these results utilizing data from the Phyosome v13 database and the TBtools-II program. The letters AA stand for amino acids.