

L. striatellus Vg-1 (1) MKGITLIFCVI AVAGVSA SSGSPWNSCLYHYKVCGR TLSA VQCAGALCYVGMHMKAEVSVAAKNENQAVFKI SNAQYADVHCNLT EGMQ
L. striatellus Vg-2 (1) MKGITLIFCVI AVAGVSA SSGSPWNSCLYHYKVCGR TLSA VQCAGAPCYVGMHMKAEVSVAAKNENQAVFKI SNAQYADVHCNLT EGMQ
Nilaparvata lugens (1) MNGLTLLILCVI AVAGVSA SSGSPWNSCQYRYHVCGRSL SAMHCSG SNCYVGMHLRAELEVEAKNENQAVFKI SKAEYADVHCNLTSGGMQ

L. striatellus Vg-1 (91) CELRSNELQYKCLPLSCANQAF EVNYKQGSVRSLCVNRNTP TWELNMIKGI VLSLFOVDVTGCNA IKSRRN ILPCSDSNOCVSGSFKAMED
L. striatellus Vg-2 (91) CELRSNELQYKCLPLSCANQAF EVNYKQGSVRSLCVNRNTP TWELNMIKGI VLSLFOVDVTGCNA IKSRRN ILPCSDSNOCVSGSFKAMED
Nilaparvata lugens (91) CELRSNELQYKCLPLSCANQAF QVNYKQGA VRSLCVNRNTP TWELNMIKGI VLSLFOVDVTGCNA IKSRRN IVE --- NGQC VSGSFKVMBED

L. striatellus Vg-1 (181) SVTGRKRETHYDVDELPMRVVQCQHPETAPLAVQNSNOCC --- HQRITQVVKSRNF SNCNDNPVTYHFGFT CETDWE PASNOMGNLVNRASTS
L. striatellus Vg-2 (181) SVTGRKRETHYDVDELPMRVVQCQHPETAPLAVQNSNOCC --- HQRITQVVKSRNF SNCNDNPVTYHFGFT CETDWE PASNOMGNLVNRASTS
Nilaparvata lugens (178) SVTGRKRETHYDVDELPMRVVQCQHPETAPLAVKQCGQGCSHSRLIQVVKSRNF SNCNDNPVTYHFGFT CENFEPASNOMGNLV SRAAMG

L. striatellus Vg-1 (268) RVILSGQPNSTFIQSSVTCNEI SISPF GYNKQKGVVGTLMNATLAVSMASHA - GSPOSVQNPCKINDLVYEFNPA SNENNAANRRSSQSN
L. striatellus Vg-2 (267) RVILSGQPNSTFIQSSVTCNEI SISPF GYNKQKGVVGTLMNATLAVSMASHA - GSPOSVQNPCKINDLVYEFNPA SNENNAANRRSSQSN
Nilaparvata lugens (268) RIIIIAGEEDSYTHISSVTCNEIAISPF GYNKQKGVVGTLMNATLVSVSHASSG POSVQNPCKINDLVYEFNPA SNESNORSSHYTRCO

L. striatellus Vg-1 (357) RQNDADDSSSSSSSSSSSSSSSSSSSSSEENNKNGKNNNNNNWNNKKNRNNDDNRRHNSNDNKRNSNDNR SQANDND DDAYWRNQ
L. striatellus Vg-2 (356) RQNDADDSSSSSSSSSSSSSSSSSSSSSEENNKNGKNNNNN -WNKKNRNNDEDNKRHNSNDNR --- QANDND DSYLRNQ
Nilaparvata lugens (358) ADNEDSSSSSSSSSSSSSSSSSSSSSEENNKNSKNN -NNKNWNNKQKKNNNRNNHNDNDNDCNSNENND DDAYWR SQ

L. striatellus Vg-1 (447) CKTKSRRRSVLKNFNDDDEDNQQNKKRYNNCNRNNNNDSSSEDSSENNQNNKRNRRQNDNNNKYYNNQNNKRN -NNNDNDDSS
L. striatellus Vg-2 (437) CKTKSRRRSILKNFLIEDDEDNQQNKKRYNNCNRNNNNDSSSEDSSENNQNNKRNRRQNDNNNKYYNNQNNKRN -NNNDNDDSS
Nilaparvata lugens (447) CKTKFSRRSILRNYNNENDDDNQQNRQNNRNNNNNDSSSEECNENCTNNKHNNKNNNNNNNNKNNWNNNDNKNWNNNDNNKRN

L. striatellus Vg-1 (536) SSSSDSSSSSSSSSSSSSSSSSSSSSSSDLD SSEENWQCKPDMNDAP STPFLPHFVGVGRNSICADKQVDIVNEAQKVAMRIGAQ
L. striatellus Vg-2 (526) SSSSDSSSSSSSSSSSSSSSSSSSSSSSDLD SSEENWQCKPDMNDAP STPFLPHFVGVGRNSICADKQVDIVNEAQKVAMRIGAQ
Nilaparvata lugens (537) NNNDNDDSSSSSSSSSSSSSSSSSSSSSDLD SSEENWQCKPDMNDAP RTPFLPHFVGVGRNSICADKQVDIVNEAQKVAMRIGAQ

L. striatellus Vg-1 (626) VQKPSAIPGCNTLT SFTILTRMICTMSAKC IQEVKQRLFIDRRNNA NGKSSADAKKLSWEAFKHATANAGTGPALCAIKNMVEKGDVRNE
L. striatellus Vg-2 (616) VQKPSAIPGCNTLT SFTILTRMICTMSAKC IQEVKQRLFIDRRNNA NGKSSADAKKLSWEAFKHATANAGTGPALCAIKNMVEKGDVRNE
Nilaparvata lugens (627) VQKPSAIPGCNTLT SFTILTRMICTMSAKC IQEVKQRLFIDRRNNA NGKSSADAKKLSWEAFKHATANAGTGPALCAIKNMVEKGDVRNE

L. striatellus Vg-1 (716) KAAELVAVLPR TARLP TD KYIKTFFEFATSSNVVQKYLNSTIIIGFSEILRKACVDSDTKHMR YGVHSFGHLTSKNDQSLQCEYMPYLE
L. striatellus Vg-2 (706) KAAELVAVLPR TARLP TD KYIKTFFEFATSSNVVQKYLNSTIIIGFSEILRKACVDSDTKHMR YGVHSFGHLTSKNDQSLQCEYMPYLE
Nilaparvata lugens (717) KAAELVAVLPR TARLP TD CYIKTFFEFATSSNVQKYLNSTIILGFSEILRKACVDSDTKHMR FGVHSFGHLTSKHDQSLHCEYMPYLE

L. striatellus Vg-1 (806) EKLKSAFEKGD SQKII VHIQALGNTAHPRL LKTFEPYLEGKKSASRFQRLMVA SLYCMTRVHPPTARAVLYR IYKPNPGEAPELRVAALH
L. striatellus Vg-2 (796) EKLKSAFEKGD SQKII VHIQALGNTAHPRL LKTFEPYLEGKKSASRFQRLMVA SLYCMTRVHPPTARAVLYR IYKPNPGEAPELRVAALH
Nilaparvata lugens (807) EKLKSAFEKGD SQKII VYIQALGNTAHPRL LKTFEPYLEGKKSASRFQRLMVA SLYCMTRVHPPTARAVLYR IYKPNPGEAAELRVAALH

DUF

L. striatellus Vg-1 (896) LLANTNPPAAMLQRMAQQTNWQSKVEISATQSF IKSAANMDENPDSIELARNA CAADVMLNPN DYGY SMSKNYLS SYVIDNIDKSYE SQ
L. striatellus Vg-2 (886) LLANTNPPAAMLQRMAQQTNWQSKVEISATQSF IKSAANMDENPDSIELARNA CAADVMLNPN DYGY SMSKNYLS SYVIDNIDKSYE SQ
Nilaparvata lugens (897) LLANANE SAAMLQRMAQQTNWQSKVEISATQSF IKSAARMQDNPDSIELARNA CAADVMLNPN EYGSLSKNFL SSVFVIDNIDKSYE SQ

L. striatellus Vg-1 (986) LSTIGSFDS IIPSSVFNFMANDGGYKHQVPHHSAMPSSVNDLLELVNTQFKNNNNNNNSNNRRNRSGSNDNEDNQNNRNSNNEWTAE
L. striatellus Vg-2 (976) PSTIGSFDS IIPSSVFNFMANDGGYKHQVPHHSAMPSSVNDLLELVNTQFKNNNNNNNSNNRRNRSGSNDNEDNQNNRNSNNEWTAE
Nilaparvata lugens (987) LSSIGSVDS IIPSSVFNFMANDGGYKHQVPHHSAMPSSVNDLLELVNTQFKNNNNNN ---RRNKSGSHDNEDNHNRRNSNNEWTAE

L. striatellus Vg-1(1076) NVLKALNIQKDQAEQL EGNILLTMLGGKRAFA INNHTIEKIPS IPKEAAQKLKHTS FMLTQFYYSKNTMKVAFPTPMGLP FVYASVYPTMW
L. striatellus Vg-2(1066) NVLKALNIQKDQAEQL EGNILLTMLGGKRAFA INNHTIEKIPS IPKEAAQKLKHTS FMLTQFYYSKNTMKVAFPTPMGLP FVYASVYPTMW
Nilaparvata lugens(1072) NVLKALNIQKDQAEQL EGNFL TMLGGKRAFA INNHTMRRSIPS IPKEAAQKLKHTS FMLTQFYYSKNTMKVAFPTPMGLP FVYYSVYPTMW

L. striatellus Vg-1(1166) YVGGETKVN SHPDLANGNNVYVNIPOYINMSADIEAVYSMQANSKFGTVAPFNHHEYYASVEKNLQFYFAVQQTQADIDL ENNEVQLRMQP
L. striatellus Vg-2(1156) YVGGETKVN SHPDLANGNNVYVNIPOYINMSADIEAVYSMQANSKFGTVAPFNHHEYYASVEKNLQFYFAVQQTQADIDL ENNEVQLRMQP
Nilaparvata lugens(1162) YVGGETKVN SHPDLANGNNVFNIPQYINISADIEAVYSMQANSKFGVMVAPFNHHEYYASVEKNMQFYMAVQTEANIDL ENNEVEFTVQP

L. striatellus Vg-1(1256) LNKEEKQNVFQYS TVLFTTKSN ILNFPN PALQEDGTERVHV GKAKQIQKNFGRDSTGF AFEASYWSENGFGDLASLYE EVSKFDVQSALAS
L. striatellus Vg-2(1246) LNKEEKQNVFQYS TVLFTTKSN ILNFPN PALQEDGTERVHV GKAKQIQKNFGRDSTGF AFEASYWTE NGFGDLASLYE EVSKFDVQSALAS
Nilaparvata lugens(1252) LNKEDQNVFQYS SVLYTTKSN ILNFPNPNQEDGTERVHV GKAKQIQMNF GKES TGF AFEASYWSENGFGDFATLYNEVSKFDVQSAMTS

L. striatellus Vg-1(1346) PMAQSSLP NMMTLTYRPESTSKVAKPTVSYNDNSNNNNNNNSQNDHDSNNNNRAENINYSAAQPSNAANSR-----S
L. striatellus Vg-2(1336) PMAQSSLP NMMTLTYRPESTSKVAKPTVSYNDNSNNNNNNN -SQNEHDSNNNNRAENINYSAAQPSNAANSR-----S
Nilaparvata lugens(1342) PMAQSSINSNNITVAFNPRQSTS QVAKPTFSYADNSDDNNNSHS--GHDSNNNNNNNNRADYSDAQPSSTTGTTMLSHLPLLP TVVS

L. striatellus Vg-1(1423) RQNEFLHKVASGISGADAMVVVDSAEFQGSHGQSSAQYVATLAMANSASPNA RMLFFASMDPANS GSKAQVCAAAA SHFPNVPLMNFND
L. striatellus Vg-2(1412) RQNEFLHKVASGISGADAMVVVDSAEFQGSHGQSSAQYVATLAMANSASPNA RMLFFASMDPANS GSKAQVCAAAA SHFPNVPLMNFND
Nilaparvata lugens(1430) RQNEFLRKAAGISGADAMVVVDSARFQD SHGQSSAQYVATVAMANSASPNA RMLFFASMNPA NSDSK AQVCAAAA SHFPNVPLMNFHD

L. striatellus Vg-1(1513) ALKANPDSHITAD IAFGEKCNAGGHIRADAKMSQTQEFQDFAKNRPMAKKCFQLMQQGOALEYACQNA TKVANMLN NYEVSLKYDRVPNA
L. striatellus Vg-2(1502) ALKANPDSHITAD IAFGEKCNAGGHIRADAKMSQTQEFQDFAKNRPMAKKCFQLMQQGOALEYACQNA TKVANMLN NYEVSLKYDRVPNA
Nilaparvata lugens(1520) ALKANPDSRISAD IAFGAQCNAAGGHADAKLSQTQEFQEYAKSRPMAKKCFQLMEKGOALEYACQNA TKVANMLN NYEVS VKYDRVSVS

L. striatellus Vg-1(1603) LKNATYNIYSALAQVAFPYLSENMF SQHSNPAGKIDL NARFNYNLRYPNASINS PFF TANFKNVEVNP AVRP LVI FHPSLNSLELMSYNE
L. striatellus Vg-2(1592) LKNATYNIYSALAQVAFPYLSENMF SQHSNPAGKIDL NARFNYNLRYPNASINS PFF TANFKNVEVNP AVRP LVI FHPSLNSLELMSYNE
Nilaparvata lugens(1610) FKNVTYSIYSALAQAAYPYHNENMFSQNSNPAGKIDL NARFNYNLRYPNASINT PFF SANVKNVEVHHALRPLVIFHPSLNSLEHLSSCP

WWD

L. striatellus Vg-1(1693) NYDYPTCS---VS KNSISTFDNKTY SADLEGWHVMFASTPKNYND NSGRYSAS NSQSNSF YK YKVA I LAKNSG SORKAVKMLLGDNV ID
L. striatellus Vg-2(1682) NYDYPTCS---VS KNSISTFDNKTY SADLEGWHVMFASTPKNYND NSGRYSAS NSQSNSF YK YKVA I LAKNSG SORKAVKMLLGDNV ID
Nilaparvata lugens(1700) TMRITITQHVLSARTPSAHSTTRPTHADLEGWHVMFASTPKNFND NSGRYSAS NSQSNSF YK YKVV LAKNAGSORKAVKMLLGENVID

L. striatellus Vg-1(1780) ITPSGSESNNSP NANVQVNGNKMHIANNRLASFEDFDGETLVEISVND NGEVQVQSPSHGIAVNHGDANF MIDADSYRGEV RGLCGTY
L. striatellus Vg-2(1769) ITPSGSESNNSP NANVQVNGNKMHIANNRLASFEDFDGETLVEISVND NGEVQVQSPSHGIAVNHGDANF MIDADSYRGEV RGLCGTY
Nilaparvata lugens(1790) INPSGSESDNSP NANVQVNGNKVQ IANNRMASFDDFDGETLVEISVTD NGEVQVQSSSHGIAVYHDGANFI IDADSYHRGEV RGLCGTY

L. striatellus Vg-1(1870) SGDKYTDFTTPK-KCVLREAKLFAATYALPGSSNSNVEQLKROADQVSCFKRHEILADVI TSNDYDRSSSSSSNQRRNKNNNNNNNRYNK
L. striatellus Vg-2(1859) SGDKYTDFTTPK-KCILREAKLFAATYALPGSSNSNVEQLKROADQVSCFKRHEILADVI TSNDYDRSSSSSSNQRRNKNNNNNNNRYNK
Nilaparvata lugens(1880) SGDKYSPLHPEKNKCIMREAI PFAATYALPGSSNSNVEQLKROADQMTCFRRRHIFANVIT SNDYDRSSSSSSNRNNRNNNNN-----

L. striatellus Vg-1(1959) NSSMKYQTS DSSSSTDLIQDIKNNGDHVCF SIRIPKQHGSSPAGSSEKEVQYLCISQGNADYMAEQIRS GRVYNLEQKQP NATFKKN
L. striatellus Vg-2(1947) NSSMKYQTS DSSSSTDLVQDIKNNGDHVCF SIRIPKQHGSSPAGSSEKEVQYLCISQGNADYMAEQIRS GRVYNLEQKQP NATFKKN
Nilaparvata lugens(1965) NRSNNSSERLANPTKLIQDVKNNGDQVCF SIRIPVPKCQKGFSPA GSSEKEVDYVCM SHGKNAQFWINQIPQGGYVLEQKQHNATFKKN

L. striatellus Vg-1(2049) IPQRCVRDN

L. striatellus Vg-2(2037) IPQRCVRDN

Nilaparvata lugens(2055) IPQRCVRDN