Supplemental Files

Lipid transfer particle from silkworm, *Bombyx mori* is a novel member of the apoB/large lipid transfer protein family.

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[†] These authors contributed equally to this work.

Supplemental Files

Supplemental TABLE 1. Accession numbers of sequences of the large lipid transfer protein (LLTP) superfamily.

LLTP sequences were collected from the National Center for Biotechnology Information (NCBI* http://www.ncbi.nlm.gov) protein sequence database. Lipid transfer particle (LTP) from silkworm, *B. mor*i, is a novel member of the apoB/large lipid transfer protein family.

Supplemental Fig. 1. cDNA structure of *Bombyx mori apoLTP-II/I*.

The column (*apoLTP-II* and *apoLTP-I* cDNA) indicated the ORF of apoLTP-II/I cDNA. PCR primers used for determination of the cDNA sequence are indicated above the column. All sequences from 5’-RACE, 3’-RACE, and RT-PCR methods were combined into the full-length cDNA sequence of *B. mori apoLTP-II/I*. For details on the determination of cDNA, see the Materials and Methods.

Supplemental Fig. 2. Alignment of conserved motifs in the large lipid transfer (LLT) module of the large lipid transfer protein (LLTP) superfamily.

Twenty-two conserved motifs, N1-N22, are indicated below the alignment. The allowed conservative substitution were as follows: A, G; S, T; E, D; R, K, H;Q, N; V, I, L, M; Y, F, W; P; and C. Gaps are indicated by dashes; ≧50% identical amino acid residues are boxed in gray.

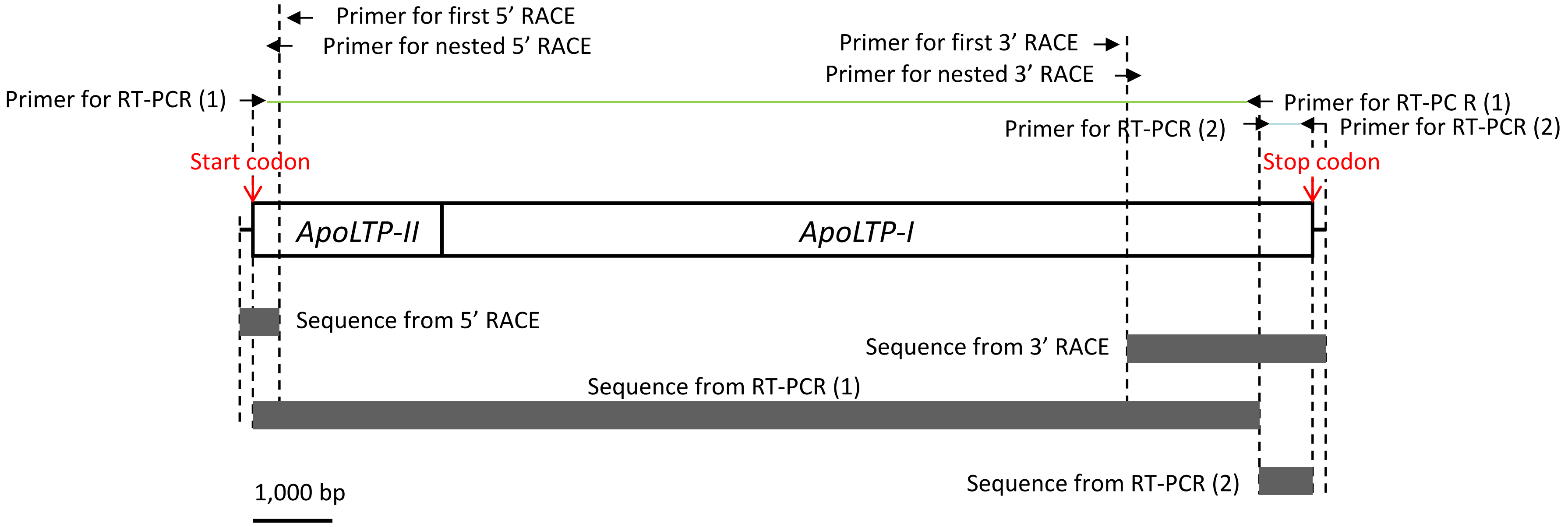
Supplemental Fig. 3. Multiple alignment of *Bombyx mori* apoLTP-III and similar proteins collected from the NCBI protein database.

The predicted JHBP superfamily domain is indicated by a dotted line above the alignment. The allowed conservative substitutions were as follows: A, G; S, T; E, D; R, K, H; Q, N; V, I, L, M; Y, F, W; P; and C. Gaps are indicated by dashes; ≧50% identical amino acid residues are boxed in gray.

Supplemental Table 1. Accession numbers of amino acid sequences of LLTPs

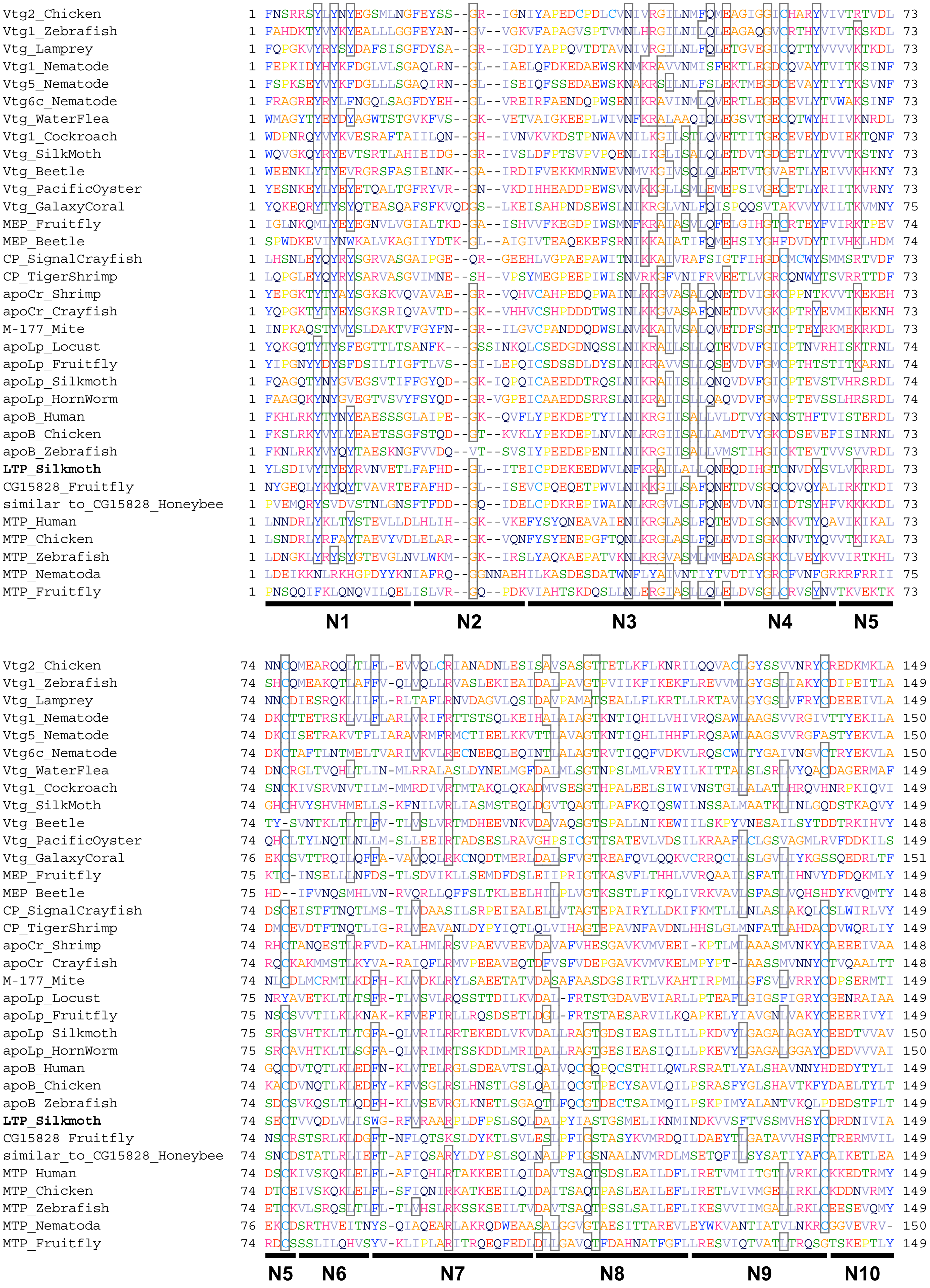
Sequence name	Species	Protein accession number
Vtg1_Nematode	*Caenorhabditis elegans*	NP_509305.1
Vtg5_Nematode	*Caenorhabditis elegans*	NP_508589.1
MTP_Chicken	*Gallus gallus*	NP_001103254.1
MTP_Human	*Homo sapiens*	P55157.1
MTP_Zebrafish	*Danio rerio*	NP_998135.1
apoB_Chicken	*Gallus gallus*	NP_001038098.1
apoB_Human	*Homo sapiens*	AAA35549.1
Vtg_Crayfish	*Cherax quadricarinatus*	AAG17936.1
Vtg_Shrimp	*Metapenaeus ensis*	AAM48287.1
apoB_Zebrafish	*Danio rerio*	XP_694827.4
Vtg6c_Nematode	*Caenorhabditis elegans*	NP_001023276.1
MTP_Fruitfly	*Drosophila melanogaster*	NP_610075.2
CG15828_Fruitfly	*Drosophila melanogaster*	CG15828
LTP_Silkmoth	*Bombyx mori*	AB700597 *
similar_to_CG15828_Honeybee	*Apis mellifera*	XP_394269.4
apoLp_Fruitfly	*Drosophila melanogaster*	AAC47284.1
apoLp_HornWorm	*Manduca sexta*	Q25490.1
apoLp_Locust	*Locusta migratoria*	Q9U943.2
apoLp_Silkmoth	*Bombyx mori*	BAK82317.1
M-177_Mite	*Euroglyphus maynei*	AAF14270.1
Vtg1_Zebrafish	*Danio rerio*	NP_001038362.2
Vtg2_Chicken	*Gallus gallus*	AAA49139.1
Vtg_Lamprey	*Ichthyomyzon unicuspis*	Q91062.1
Vtg_GalaxyCoral	*Galaxea fascicularis*	BAD74020.2
Vtg_PacificOyster	*Crassostrea gigas*	BAC22716.1
Vtg1_Cockroach	*Periplaneta americana*	Q9U8M0.1
Vtg_Beetle	*Tenebrio molitor*	AAU20328.2
Vtg_SilkMoth	*Bombyx mori*	NP_001037309.1
Vtg_WaterFlea	*Daphnia magna*	BAD05137.1
CP_SignalCrayfish	*Pacifastacus leniusculus*	AAD16454.1
CP_TigerShrimp	*Penaeus monodon*	Q9U572.1
MEP_Fruitfly	*Drosophila melanogaster*	NP_732076.1
MEP_Beetle	*Tenebrio molitor*	BAB03250.1
MTP_Nematoda	*Caenorhabditis elegans*	NP_499903.3

* deduced amino acid sequence of apoLTP-II/I determined in this study



Supplemental Fig. 1

Supplemental Fig. 2



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Vtg6c_Nematode                1 FRAGREYRYLFNGQLSAGFDYEH--GL--VREIRFAENDQPWSENIKRAVINMLQVERTLEGECEVLYTVWAKSINF 73
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Vtg_GalaxyCoral               1 YQKEQRYTYSYQTEASQAFSFKVQDGS--LKEISAHPNDSEWSLNIKRGLVNLFQISPQQSVTAKVVYVILTKVMNY 75
MEP_Fruitfly                  1 IGLNKQMLYEYEGNVLVGIALTKD-GA--ISHVVFKEGDPIWSMNFKRAIASVLQFELGIHGTCRTEYFVIRKTPEV 74
MEP_Beetle                    1 SPWDKEVIYNWKALVKAGIIYDTK-GL--AIGIVTEAQEKEFSRNIKKAIATIFQMEHSIYGHFDVDYTIVHKLHDM 74
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apoLp_Fruitfly                1 YIPGNYYDYSFDSILTIGFTLVS--GI-LEPQICSDSSDLDYSLNIKRAVVSLLQSEVDVFGMCPTHTSTITKARNL 74
apoLp_Silkmoth                1 FQAGQTYNYGVEGSVTIFFGYQD--GK-IQPQICAEEDDTRQSLNIKRAIISLLQNQVDVFGICPTEVSTVHRSRDL 74
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Vtg1_Cockroach               74 SNCKIVSRVNVTILM-MMRDIVRTMTAKQLQKADMVSESGTHPALEELSIWIVNSTGLLALATLHRQVHNRPKIQVI 149
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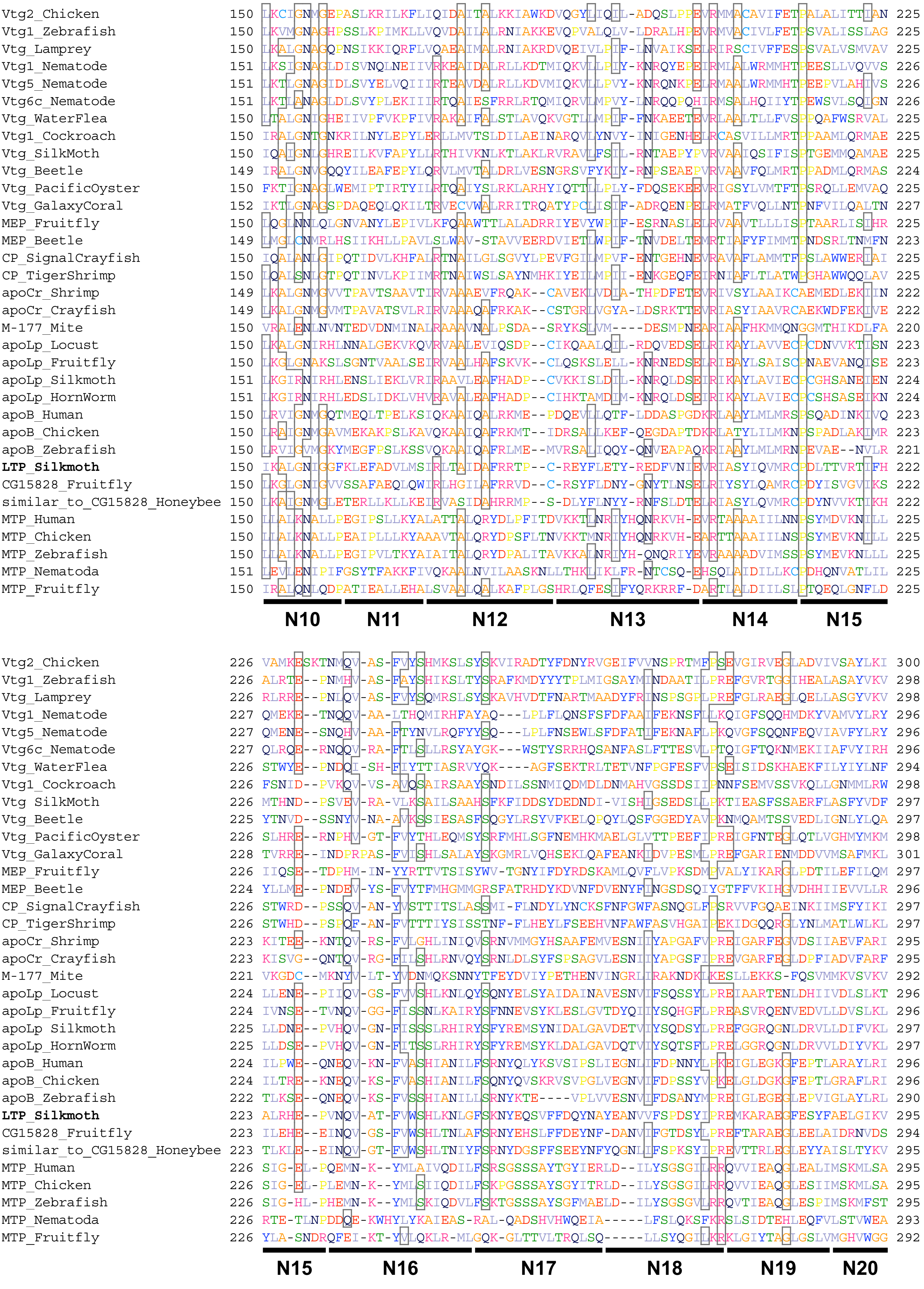

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Vtg_Lamprey                 226 RLRRE--PNLQV-AS-FVYSQMRSLSYSKAVHVDTFNARTMAADYFRINSPSGPLPREFGLRAEGLQELLASGYVKV 298
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Vtg_WaterFlea               226 STWYE--PNDQI-SH-FIYTTIASRVYQK----AGFSEKTRLTETVNFPGFESFVPSEISIDSKHAEKFILYIYLNF 294
Vtg1_Cockroach              226 FSNID--PVKQV-VS-AVQSAIRSAAYSNDILSSNMIQDMDLDNMAHVGSSDSIIPNNFSEMVSSVKQLLGNMMLRW 298
Vtg_SilkMoth                226 MTHND--PSVEV-RA-VLKSAILSAAHSFKFIDDSYDEDNDI-VISHIGSEDSLLPKTIEASFSSAERFLASFYVDF 297
Vtg_Beetle                  225 YTNVD--SSNYV-NA-AVKSSIESASFSQGYLRSYVFKELQPQYLQSFGGEDYAVPKNMQAMTSSVEDLIGNLYLQA 297
Vtg_PacificOyster           226 SLHRE--RNPHV-GT-FVYTHLEQMSYSRFMHLSGFNEMHKMAELGLVTTPEEFIPREIGFNTEGLQTLVGHMYMKM 298
Vtg_GalaxyCoral             228 TVRRE--INDPRPAS-FVISHLSALAYSKGMRLVQHSEKLQAFEANKIDVPESMLPREFGARIENMDDVVMSAFMKL 301
MEP_Fruitfly                226 IIQSE--TDPHM-IN-YYRTTVTSISYWV-TGNYIFDYRDSKAMLQVFLVPKSDMPVALYIKARGLPDTILEFILQM 297
MEP_Beetle                  224 YLLME--PNDEV-YS-FVYTFMHGMMGRSFATRHDYKDVNFDVENYFINGSDSQIYGTFFVKIHGVDHHIIEVVLLR 296
CP_SignalCrayfish           226 STWRD--PSSQV-AN-YVSTTITSLASSMI-FLNDYLYNCKSFNFGWFASNQGLFPSRVVFGQAEINKIIMSFYIKI 297
CP_TigerShrimp              226 STWHD--PSPQF-AN-FVTTTIYSISSTNF-FLHEYLFSEEHVNFAWFASVHGAIPEKIDGQQRGLYNLMATLWLKL 297
apoCr_Shrimp                223 KITEE--KNTQV-RS-FVLGHLINIQVSRNVMMGYHSAAFEMVESNIIYAPGAFVPREIGARFEGVDSIIAEVFARI 295
apoCr_Crayfish              223 KISVG--QNTQV-RG-FILSHLRNVQYSRNLDLSYFSPSAGVLESNIIYAPGSFIPREVGARFEGLDPFIADVFARF 295
M-177_Mite                  221 VKGDC--MKNYV-LT-YVDNMQKSNNYTFEYDVIYPETHENVINGRLIRAKNDKLKESLLEKKS-FQSVMMKVSVKV 292
apoLp_Locust                224 LLENE--PIIQV-GS-FVVSHLKNLQYSQNYELSYAIDAINAVESNVIFSQSSYLPREIAARTENLDHIIVDLSLKT 296
apoLp_Fruitfly              224 IVNSE--TVNQV-GG-FISSNLKAIRYSFNNEVSYKLESLGVTDYQIIYSQHGFLPREASVRQENVEDVLLDVSLKL 296
apoLp_Silkmoth              225 LLDNE--PVHQV-GN-FISSSLRHIRYSFYREMSYNIDALGAVDETVIYSQDSYLPREFGGRQGNLDRVLLDIFVKL 297
apoLp_HornWorm              225 LLDSE--PVHQV-GN-FITSSLRHIRYSFYREMSYKLDALGAVDQTVIYSQTSFLPRELGGRQGNLDRVVLDIYVKL 297
apoB_Human                  224 ILPWE--QNEQV-KN-FVASHIANILFSRNYQLYKSVSIPSLIEGNLIFDPNNYLPKEIGLEGKGFEPTLARAYLRI 296
apoB_Chicken                224 ILTRE--KNEQV-KS-FVASHIANILFSQNYQVSKRVSVPGLVEGNVIFDPSSYVPKELGLDGKGFEPTLGRAFLRI 296
apoB_Zebrafish              222 TLKSE--QNEQV-KS-FVSSHIANILLSRNYKTE----VPLVVESNVIFDSANYMPREIGLEGEGLEPVIGLAYLRL 290
LTP_Silkmoth                223 ALRHE--PVNQV-AT-FVWSHLKNLGFSKNYEQSVFFDQYNAYEANVVFSPDSYIPREMKARAEGFESYFAELGIKV 295
CG15828_Fruitfly            223 ILEHE--EINQV-GS-FVWSHLTNLAFSRNYEHSLFFDEYNF-DANVIFGTDSYLPREFTARAEGLEELAIDRNVDS 294
similar_to_CG15828_Honeybee 223 TLKLE--EINQV-GT-FVWSHLTNIYFSRNYDGSFFSEEYNFYQGNLIFSPKSYIPREVTTRLEGLEYYAISLTYKV 295
MTP_Human                   226 SIG-EL-PQEMN-K--YMLAIVQDILFSRSGSSSAYTGYIERLD--ILYSGSGILRRQVVIEAQGLEALIMSKMLSA 295
MTP_Chicken                 226 SIG-EL-PLEMN-K--YMLSIIQDILFSKPGSSSAYSGYITRLD--ILYSGSGILRRQVVIEAQGLESIIMSKMLSA 295
MTP_Zebrafish               226 SIG-HL-PHEMN-K--YMLSKIQDVLFSKTGSSSAYSGFMAELD--ILYSGSGVLRRQVTIEAQGLESPIMSKMFST 295
MTP_Nematoda                226 RTE-TLNPDDQE-KWHYLYKAIEAS-RAL-QADSHVHWQEIA-----LFSLQKSFKRSLSIDTEHLEQFVLSTVWEA 293
MTP_Fruitfly                226 YLA-SNDRQFEI-KT-YVLQKLR-MLGQK-GLTTVLTRQLSQ-----LLSYQGILKRKLGIYTAGLGSLVMGHVWGG 292
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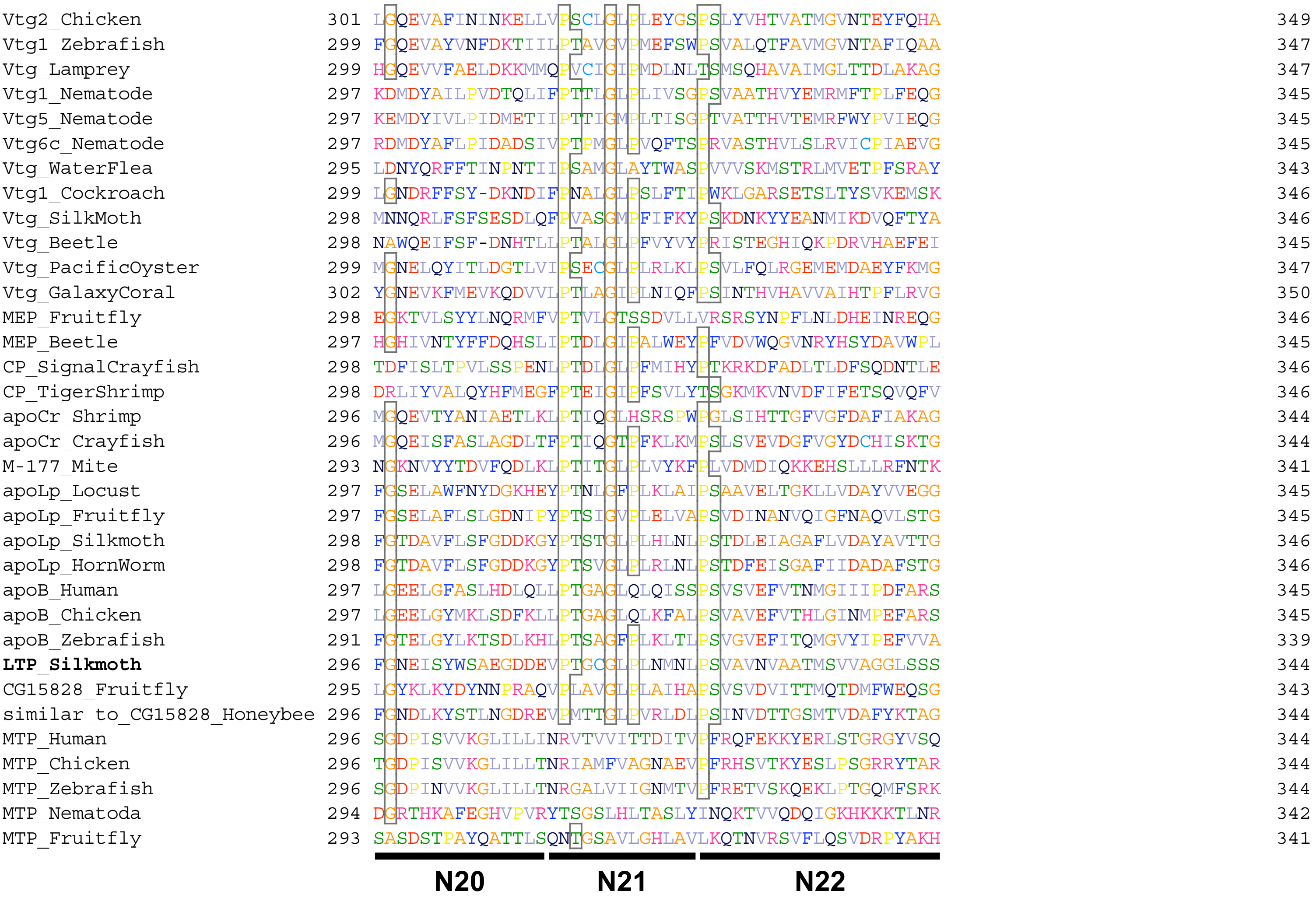

Vtg2_Chicken	301	LGQEVAFININKELLVPSCLGLPLEYGSPSLYVHTVATMGVNTEYFQHA	349
Vtg1_Zebrafish	299	FGQEVAYVNFDKTIILPTAVGVPMEFSWPSVALQTFAVMGVNTAFIQAA	347
Vtg_Lamprey	299	HGQEVVFAELDKKMMQPVCIGIPMDLNLTSMSQHAVAIMGLTTDLAKAG	347
Vtg1_Nematode	297	KDMDYAILPVDTQLIFPTTLGLPLIVSGPSVAATHVYEMRMFTPLFEQG	345
Vtg5_Nematode	297	KEMDYIVLPIDMETIIPTTIGMPLTISGPTVATTHVTEMRFWYPVIEQG	345
Vtg6c_Nematode	297	RDMDYAFLPIDADSIVPTPMGLPVQFTSPRVASTHVLSLRVICPIAEVG	345
Vtg_WaterFlea	295	LDNYQRFFTINPNTIIPSAMGLAYTWASPVVVSKMSTRLMVETPFSRAY	343
Vtg1_Cockroach	299	LGNDRFFSY-DKNDIFPNALGLPSLFTIPWKLGARSETSLTYSVKEMSK	346
Vtg_SilkMoth	298	MNNQRLFSFSESDLQFPVASGMPFIFKYPSKDNKYYEANMIKDVQFTYA	346
Vtg_Beetle	298	NAWQEIFSF-DNHTLLPTALGLPFVYVYPRISTEGHIQKPDRVHAEFEI	345
Vtg_PacificOyster	299	MGNELQYITLDGTLVIPSECGLPLRLKLPSVLFQLRGEMEMDAEYFKMG	347
Vtg_GalaxyCoral	302	YGNEVKFMEVKQDVVLPTLAGIPLNIQFPSINTHVHAVVAIHTPFLRVG	350
MEP_Fruitfly	298	EGKTVLSYYLNQRMFVPTVLGTSSDVLLVRSRSYNPFLNLDHEINREQG	346
MEP_Beetle	297	HGHIVNTYFFDQHSLIPTDLGIPALWEYPFVDVWQGVNRYHSYDAVWPL	345
CP_SignalCrayfish	298	TDFISLTPVLSSPENLPTDLGLPFMIHYPTKRKDFADLTLDFSQDNTLE	346
CP_TigerShrimp	298	DRLIYVALQYHFMEGFPTEIGIPFSVLYTSGKMKVNVDFIFETSQVQFV	346
apoCr_Shrimp	296	MGQEVTYANIAETLKLPTIQGLHSRSPWPGLSIHTTGFVGFDAFIAKAG	344
apoCr_Crayfish	296	MGQEISFASLAGDLTFPTIQGTPFKLKMPSLSVEVDGFVGYDCHISKTG	344
M-177_Mite	293	NGKNVYYTDVFQDLKLPTITGLPLVYKFPLVDMDIQKKEHSLLLRFNTK	341
apoLp_Locust	297	FGSELAWFNYDGKHEYPTNLGFPLKLAIPSAAVELTGKLLVDAYVVEGG	345
apoLp_Fruitfly	297	FGSELAFLSLGDNIPYPTSIGVPLELVAPSVDINANVQIGFNAQVLSTG	345
apoLp_Silkmoth	298	FGTDAVFLSFGDDKGYPTSTGLPLHLNLPSTDLEIAGAFLVDAYAVTTG	346
apoLp_HornWorm	298	FGTDAVFLSFGDDKGYPTSVGLPLRLNLPSTDFEISGAFIIDADAFSTG	346
apoB_Human	297	LGEELGFASLHDLQLLPTGAGLQLQISSPSVSVEFVTNMGIIIPDFARS	345
apoB_Chicken	297	LGEELGYMKLSDFKLLPTGAGLQLKFALPSVAVEFVTHLGINMPEFARS	345
apoB_Zebrafish	291	FGTELGYLKTSDLKHLPTSAGFPLKLTLPSVGVEFITQMGVYIPEFVVA	339
LTP_Silkmoth	296	FGNEISYWSAEGDDEVPTGCGLPLNMNLPSVAVNVAATMSVVAGGLSSS	344
CG15828_Fruitfly	295	LGYKLKYDYNNPRAQVPLAVGLPLAIHAPSVSVDVITTMQTDMFWEQSG	343
similar_to_CG15828_Honeybee	296	FGNDLKYSTLNGDREVPMTTGLPVRLDLPSINVDTTGSMTVDAFYKTAG	344
MTP_Human	296	SGDPISVVKGLILLINRVTVVITTDITVPFRQFEKKYERLSTGRGYVSQ	344
MTP_Chicken	296	TGDPISVVKGLILLTNRIAMFVAGNAEVPFRHSVTKYESLPSGRRYTAR	344
MTP_Zebrafish	296	SGDPINVVKGLILLTNRGALVIIGNMTVPFRETVSKQEKLPTGQMFSRK	344
MTP_Nematoda	294	DGRTHKAFEGHVPVRYTSGSLHLTASLYINQKTVVQDQIGKHKKKTLNR	342
MTP_Fruitfly	293	SASDSTPAYQATTLSQNTGSAVLGHLAVLKQTNVRSVFLQSVDRPYAKH	341

Supplemental Fig. 3

```
B.mori LTP-III                        0 ------------------------------------------------------------------- 0
D.plexippus (EHJ73751.1)              0 ------------------------------------------------------------------- 0
D.plexippus (EHJ73750.1)              0 ------------------------------------------------------------------- 0
D.ponderosae (AEE62911.1)             0 ------------------------------------------------------------------- 0
T.castaneum (XP_972731.1)             0 ------------------------------------------------------------------- 0
A.florea (XP_003697952.1)             0 ------------------------------------------------------------------- 0
A.mellifera (XP_395658.4)             0 ------------------------------------------------------------------- 0
B.impatiens (XP_003492016.1)          0 ------------------------------------------------------------------- 0
M.rotundata (XP_003708008.1)          0 ------------------------------------------------------------------- 0
N.vitripennis (XP_001606118.1)        0 ------------------------------------------------------------------- 0
S.invicta (EFZ14465.1)                1 ------------------------------------------------------------MLHRCVP 7
A.echinatior (EGI63413.1)             0 ------------------------------------------------------------------- 0
H.saltator (EFN76863.1)               0 ------------------------------------------------------------------- 0
C.floridanus (EFN74421.1)             0 ------------------------------------------------------------------- 0
A.aegypti (XP_001654113.1)            1 --------------MHRQNTAGSGVEVPTTESPKVNTQSLLCKLTHPAQTDTIISDDLRSVSVIIPK 53
A.aegypti (XP_001653919.1)            0 ------------------------------------------------------------------- 0
C.quinquefasciatus (XP_001863022.1)   0 ------------------------------------------------------------------- 0
A.gambiae (XP_312626.4)               0 ------------------------------------------------------------------- 0
A.darlingi (EFR25164.1)               0 ------------------------------------------------------------------- 0
D.virilis (XP_002052633.1)            0 ------------------------------------------------------------------- 0
D.mojavensis (XP_002002021.1)         0 ------------------------------------------------------------------- 0
D.grimshawi (XP_001989184.1)          0 ------------------------------------------------------------------- 0
D.willistoni (XP_002064455.1)         0 ------------------------------------------------------------------- 0
D.simulans (XP_002078032.1)           0 ------------------------------------------------------------------- 0
D.sechellia (XP_002045314.1)          0 ------------------------------------------------------------------- 0
D.melanogaster (NP_608781.2)          0 ------------------------------------------------------------------- 0
D.melanogaster (AAL68365.1)           0 ------------------------------------------------------------------- 0
D.melanogaster (AAL48116.1)           0 ------------------------------------------------------------------- 0
D.erecta (XP_001968564.1)             0 ------------------------------------------------------------------- 0
D.yakuba (XP_002087828.1)             0 ------------------------------------------------------------------- 0
D.ananassae (XP_001965094.1)          0 ------------------------------------------------------------------- 0
D.pseudoobscura (XP_001356411.1)      0 ------------------------------------------------------------------- 0
A.pisum (XP_001945904.1)              1 MKTTVAVVAIALSLCGLFPFVTVALPVPGDGQNESVAAATELQTTTVLPVDTTTESVSPTATVPTDT 67
A.pisum (XP_001948728.2)              0 ------------------------------------------------------------------- 0
P.humanus corporis (XP_002425163.1)   0 ------------------------------------------------------------------- 0
D.pulex (EFX77001.1)                  0 ------------------------------------------------------------------- 0

B.mori LTP-III                        1 ---------------MKIALCLVLVILFQFRNCQEIPEEVSSEDE---------------------- 30
D.plexippus (EHJ73751.1)              1 -----------------MFNKIVVIVLFLCSSVLGDLQDV-------------------------TT 25
D.plexippus (EHJ73750.1)              1 ----------------MCIVRLTLLLLITIVKSQDENEYFESTDSDEFF----------------ET 35
D.ponderosae (AEE62911.1)             1 ----------------MTRTVVLLLLLSGWLVWGGAP------------------------------ 21
T.castaneum (XP_972731.1)             1 ----------------MRSLGIFLLLLSLNFCHSEVRNA---------------------------- 23
A.florea (XP_003697952.1)             1 ----------------MKLLKLFFVLFYFIKINQCDIKISTV-----------------------KN 28
A.mellifera (XP_395658.4)             1 ----------------MKVLKLFFVLFYFIKIGQCDIKISTV-----------------------KN 28
B.impatiens (XP_003492016.1)          1 ----MVVHFDRMSKPEMHLPKLFLLFSFFIAIGQCDVQNSIG-----------------------KD 40
M.rotundata (XP_003708008.1)          1 ----------------MQFSKLFVYFAYCTLVCFCDVQQSFG-----------------------KN 28
N.vitripennis (XP_001606118.1)        1 ---------------MAREALVVFASTLLLLILSCQSARSDEAPA--------------------AT 32
S.invicta (EFZ14465.1)                8 GSAKKGINMQCETRSEMRVYAMVFLVMCCFLCSPCAGEE--PKPNVSSPSID--------------N 58
A.echinatior (EGI63413.1)             1 --------MRCKTRLEMRVYAVVFLIVCCFLCSSCASEE-LKTNNA-STSID--------------K 43
H.saltator (EFN76863.1)               1 ----------------MQIYAAFLVVVCCFLCPLCAGDD-LKLDDASSSSISK------------SK 38
C.floridanus (EFN74421.1)             1 ------------------MRAAILLIVCCFLCSLCAGDESKKLNDISSSSIN-------------DK 36
A.aegypti (XP_001654113.1)           54 KTDVETCPQTIETVMFRARLLIALLLFNCLLISTVR------CDEDKSSSAE---------ESSPED 105
A.aegypti (XP_001653919.1)            1 ----MDRERIHPPQYLAGCSSVVIMLFKCGIYFILQVII---LHVSPGR----------------SQ 44
C.quinquefasciatus (XP_001863022.1)   1 ------------MTKPRWKRLTALLLINCTLLALISNVR---CDDDKSSSGE---------DSTSDD 43
A.gambiae (XP_312626.4)               1 -------------MTMAKAVIALLWINLICLISVVV------CTTDAWP--------------NNGG 34
A.darlingi (EFR25164.1)               1 ----MDDPQSEVPLTHRFEHFAAIRLIRC---TLFERSS---CSGHAWTIVSVQTESRGQCRTKSVG 57
D.virilis (XP_002052633.1)            1 ------------------MKSLIVLLVALLILAY---------NVPAQAQDEN---------EAEGG 31
D.mojavensis (XP_002002021.1)         1 ------------------MKVLIVFLVAYLILG----------SVRAQDENAE---------ANDEN 30
D.grimshawi (XP_001989184.1)          1 ------------------MKALIVILVAIALIH------------CSSAQDVN---------EADDE 28
D.willistoni (XP_002064455.1)         1 ------------------MYNLIVILMGIGLLAHGTAAIQRELNEIPGAMDQD---------AGNET 40
D.simulans (XP_002078032.1)           1 ------------------MKPLIVVVLVGLLASGCHIVH----SQEPGDAVEQ---------EASES 36
D.sechellia (XP_002045314.1)          1 ------------------MKPLIVVVLVGLLASGCHIVH----SQEPGDAVEQ---------EASES 36
D.melanogaster (NP_608781.2)          1 ------------------MKPLIVVVLVGLMASGCHIVH----SQEPGDAVEQ---------EASES 36
D.melanogaster (AAL68365.1)           1 ------------------MKPLIVVVLVGLMASGCHIVH----SQEPGDAVEQ---------EASES 36
D.melanogaster (AAL48116.1)           1 ------------------MKPLIVVVLVGLMASGCHIVH----SQEPGDAVEQ---------EASES 36
D.erecta (XP_001968564.1)             1 ------------------MKPLIVLVLVGLLASGCHIVH----SQDPGEVVEQ---------EASES 36
D.yakuba (XP_002087828.1)             1 ------------------MKPLIVFVLVGLLASGCHIVH----SQEPGEAVEQ---------EASES 36
D.ananassae (XP_001965094.1)          1 -----------------MMKPLIIIAWL--MATSCYLVS----SQES-EAAEQ---------EVEKS 34
D.pseudoobscura (XP_001356411.1)      1 ------------------MKPLIGFLLVGLLMCQAQTQ-----PQDVDAIVEQ---------EAGET 35
A.pisum (XP_001945904.1)             68 TTEIVNETTAEPLETTTNDVVPTTTEDVVPTTTEEVVPTTTEDVVPTNNDDVVPTLELATSEATTAV 134
A.pisum (XP_001948728.2)              1 ----------------MKTNIILVIIFMLNTKCLCQFYAFD-----------------------DDV 28
P.humanus corporis (XP_002425163.1)   1 ---------------------MFVNSNDKFTIN---------------------------------- 12
D.pulex (EFX77001.1)                  1 -MKWLSVFFLVFLCASGTEIEPGDPEDIGPDAPQGTAPPTQTSDLPEETK----------------- 49
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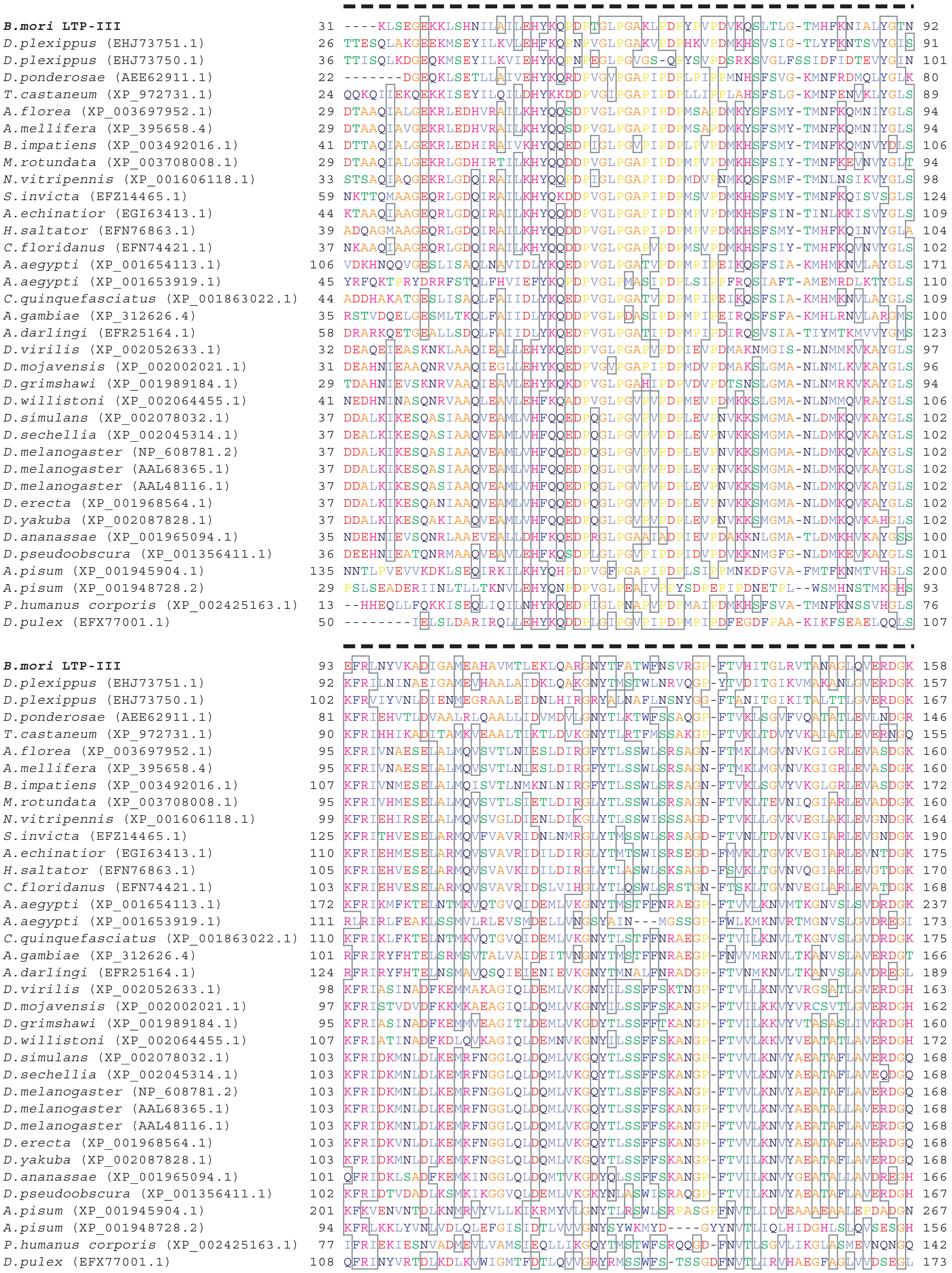

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B.mori LTP-III                           31 ----KLSEGEKKLSHNILAILEHYKQPDPTGLPGAKLPDPYPVPDVKQSLTLG-TMHFKNIALYGTN 92
D.plexippus (EHJ73751.1)                 26 TTESQLAKGEEKMSEYILKVLEHFKQPNPVGLPGAKVPDPHKVPDMKHSVSIG-TLYFKNTSVYGIS 91
D.plexippus (EHJ73750.1)                 36 TTISQLKDGEQKMSEYILKVIEHYKQPNPEGLPGVGS-QPYSVPDSRKSVGLFSSIDFIDTEVYGIN 101
D.ponderosae (AEE62911.1)                22 -------DGEQKLSETLLAIVEHYKQRDPVGVPGAPIPDPLPIPPMNHSFSVG-KMNFRDMQLYGLK 80
T.castaneum (XP_972731.1)                24 QQKQIIEKQEKKISEYILQILDHYKKDDPVGIPGAPIPDPLLIPPLAHSFSLG-KMNFENVKLYGLS 89
A.florea (XP_003697952.1)                29 DTAAQIALGEKRLEDHVRAILKHYQQSDPVGLPGAPIPDPMSAPDMKYSFSMY-TMNFKQMNIYGLS 94
A.mellifera (XP_395658.4)                29 DTAAQIAVGEKRLEDHVRAILKHYQQSDPVGLPGAPIPDPMSAPDMKYSFSMY-TMNFKQMNIYGLS 94
B.impatiens (XP_003492016.1)             41 DTTAQIALGEKRLEDHIRAIVKHYQQEDPIGLPGVPIPDPLPVPDMKHSFSMY-TMNFKQMNVYDLS 106
M.rotundata (XP_003708008.1)             29 DTAAQIALGEKRLGDHIRTILKHYQQDDPVGLPGAPIPDPMPVPDMKHSFSIY-TMNFKEVNVYGLT 94
N.vitripennis (XP_001606118.1)           33 STSAQIAQGEKRLGDQIRAILKHYQQPDPIGLPGAPIPDPMDVPNMKQSFSMF-TMNLNSIKVYGLS 98
S.invicta (EFZ14465.1)                   59 NKTTQMAAGEQRLGDQIRAILKHYQKDDPVGLPGAPIPDPMSVPDMKHSFSMY-TMNFKQISVSGLS 124
A.echinatior (EGI63413.1)                44 KTAAQIAAGEQRLGDQIRAILKHYQQDDPVGLPGAPIPDPMPVPDMKHSFSIN-TINLKKISVYGLS 109
H.saltator (EFN76863.1)                  39 ADQAGMAAGEQRLGDQIRAILKHYQQDDPVGLPGAPIPDPMPVPDMKHSFSMY-TMHFKQINVYGLA 104
C.floridanus (EFN74421.1)                37 NKAAQIAAGEQRLGDQIRAILKHYQQDDPVGLPGAPVPDPMSVPDMKHSFSIY-TMHFKQVNVYGLS 102
A.aegypti (XP_001654113.1)              106 VDKHNQQVGESLISAQLNAVIDLYKQEDPVGLPGATVPDPMPIPEIKQSFSIA-KMHMKNVLAYGLS 171
A.aegypti (XP_001653919.1)               45 YRFQKTPRYDRRFSTQLFHVIEFYKQPDPVGLPMASIPDPLSIPPFRQSIAFT-AMEMRDLKTYGLS 110
C.quinquefasciatus (XP_001863022.1)      44 ADDHAKATGESLISAQLFAIIDLYKQEDPVGLPGATVPDPMPIPEIKQSFSIA-KMHMKNVLAYGLS 109
A.gambiae (XP_312626.4)                  35 RSTVDQELGESMLTKQLFAIIDLYKQDDPVGLPDASIPDPMPIPEIRQSFSFA-KMHLRNVLARGMS 100
A.darlingi (EFR25164.1)                  58 DRARKQETGEALLSDQLFAIIDLYKQEDPVGLPGATIPDPMPIPDIRQSVSIA-TIYMTKMVVYGMS 123
D.virilis (XP_002052633.1)               32 DEAQEIEASKNKLAAQIEALLEHYKQEDPVGLPGAPVPDPIEVPDMAKNMGIS-NLNMMKVKAYGLS 97
D.mojavensis (XP_002002021.1)            31 DEAHNIEAAQNRVAAQIEGLLEHYKQEDPVGVPGAPIPDPMDVPDMAKSLGMA-NLNMLKVKAYGLS 96
D.grimshawi (XP_001989184.1)             29 TDAHNIEVSKNRVAAQIEAVLEHYKQKDPVGLPGAHIPDPVDVPDTSNSLGMA-NLNMRKVKAYGLS 94
D.willistoni (XP_002064455.1)            41 NEDHNINASQNRVAAQLEAVLEHFKQADPVGLPGVPVPDPMEVPDMKKSLGMA-NLNMMQVRAYGLS 106
D.simulans (XP_002078032.1)              37 DDALKIKESQASIAAQVEAMLVHFQQEDPQGLPGVPVPDPLEVPNVKKSMGMA-NLDMKQVKAYGLS 102
D.sechellia (XP_002045314.1)             37 DEALKIKESQASIAAQVEAMLVHFQQEDPQGLPGVPVPDPLEVPNVKKSMGMA-NLDMKQVKAYGLS 102
D.melanogaster (NP_608781.2)             37 DDALKIKESQASIAAQVEAMLVHFQQEDPQGLPGVPVPDPLEVPNVKKSMGMA-NLDMKQVKAYGLS 102
D.melanogaster (AAL68365.1)              37 DDALKIKESQASIAAQVEAMLVHFQQEDPQGLPGVPVPDPLEVPNVKKSMGMA-NLDMKQVKAYGLS 102
D.melanogaster (AAL48116.1)              37 DDALKIKESQASIAAQVEAMLVHFQQEDPQGLPGVPVPDPLEVPNVKKSMGMA-NLDMKQVKAYGLS 102
D.erecta (XP_001968564.1)                37 DDALKIKESQANIAAQVEAMLVHFQQEDPQGLPGVPVPDPLEVPNVKKSMGMA-NLDMKQVKAYGLS 102
D.yakuba (XP_002087828.1)                37 DDALKIKESQAKIAAQVEAMLVHFQQEDPQGLPGVPVPDPLEVPNVKKSMGMA-NLDMKQVKAHGLS 102
D.ananassae (XP_001965094.1)             35 NDEHNIEVSQNRLAAEVEALLDHFKQEDPRGLPGAAIADPIEVPDAKKNLGMA-TLDMKHVKAYGSS 100
D.pseudoobscura (XP_001356411.1)         36 DEEHNIEATQNRMAAQVEAVLEHFKQSDPLGLPGVPIPDPIDVPDVKKNMGFG-NLDMKEVKAYGLS 101
A.pisum (XP_001945904.1)                135 NNTLPVEVVKDKLSEQIRKILKHYQHPDPVGFPGAPIPDPLSIPPMNKDFGVA-FMTFKNMTVHGLS 200
A.pisum (XP_001948728.2)                 29 PSLSEADERIINLTLLTKNVLEHYQNPDPVGLPEAIVPPYSDPEPIPDNETPL--WSMHNSTMKGHS 93
P.humanus corporis (XP_002425163.1)      13 --HHEQLLFQKKISEQLIQILNHYKQEDPIGLPNAPVPDPMAIPDMKHSFSVA-TMNFKNSSVHGLS 76
D.pulex (EFX77001.1)                     50 --------IELSLDARIRQLLEHYKQDDPLGIPGVPIPDPMPIPDFEGDFPAA-KIKFSEAELQQLS 107

B.mori LTP-III                           93 EFRLNYVKADIGAMEAHAVMTLEKLQARGNYTFATWFNSVRGP-FTVHITGLRVTANAGLQVERDGK 158
D.plexippus (EHJ73751.1)                 92 KFRILNINAEIGAMEVHAALAIDKLQAKGNYTMSTWLNRVQGP-YTVDITGIKVMAKANLGVERDGK 157
D.plexippus (EHJ73750.1)                102 KFRVIYVNLDIENMEGRAALEIDNLHIRGRYALNAFLNSNYGG-FTANITGIKITALTTLGVERDGK 167
D.ponderosae (AEE62911.1)                81 KFRIEHVTLDVAALRLQAALLIDVMDVLGNYTLKTWFSSAQGP-FTVKLSGVFVQATATLEVLNDGR 146
T.castaneum (XP_972731.1)                90 KFRIHHIKADITAMKVEAALTIKTLDVKGNYTLRTFMSSAKGP-FTVKLTDVYVKAIATLEVERNGQ 155
A.florea (XP_003697952.1)                95 KFRIVNAESELALMQVSVTLNIESLDIRGFYTLSSWLSRSAGN-FTMKLMGVNVKGIGRLEVASDGK 160
A.mellifera (XP_395658.4)                95 KFRIVNAESELALMQVSVTLNIESLDIRGFYTLSSWLSRSAGN-FTMKLMGVNVKGIGRLEVASDGK 160
B.impatiens (XP_003492016.1)            107 KFRIVNMESELALMQISVTLNMKNLNIRGFYTLSSWLSRSAGN-FTVKLSGVYVKGLGRLEVASDGK 172
M.rotundata (XP_003708008.1)             95 KFRIVHMESELALMQVSVTLSIETLDIRGLYTLSSWLSRSAGN-FTVKLTEVNIQGIARLEVADDGK 160
N.vitripennis (XP_001606118.1)           99 KFRIEHIRSELALMQVSVGLDIENLDIKGLYTLSSWISSSAGD-FTVKLLGVKVEGLAKLEVGNDGK 164
S.invicta (EFZ14465.1)                  125 KFRITHVESELARMQVFVAVRIDNLNMRGLYTMSSWLSRSAGD-FTVNLTDVNVKGIARLEVGNDGK 190
A.echinatior (EGI63413.1)               110 KFRIEHMESELARMQVSVAVRIDILDIRGLYTMTSWISRSEGD-FMVKLTGVKVEGIARLEVNTDGK 175
H.saltator (EFN76863.1)                 105 KFRIEHVESELARMQVSVAVKIDILDIRGLYTLASWLSKSAGD-FSVKLTGVNVQGIARLEVGTDGK 170
C.floridanus (EFN74421.1)               103 KFRIEHVESELARMQVSVAVRIDSLVIHGLYTLQSWLSRSTGN-FTSKLTGVNVEGLARLEVATDGK 168
A.aegypti (XP_001654113.1)              172 KFRIKMFKTELNTMKVQTGVQIDEMLVKGNYTMSTFFNRAEGP-FTVVLKNVMTKGNVSLSVDRDGK 237
A.aegypti (XP_001653919.1)              111 RLRIRLFEAKLSSMVLRLEVSMDELLVNGSYAIN---MGSSGP-FWLKMKNVRTMGNVSLGVDREGI 173
C.quinquefasciatus (XP_001863022.1)     110 KFRIKLFKTELNTMKVQTGVQIDEMLVKGNYTLSTFFNRAEGP-FTVILKNVLTKGNVSLGVDRDGK 175
A.gambiae (XP_312626.4)                 101 RFRIRYFHTELSRMSVTALVAIDEITVNGNYTMSTFFNRAEGP-FNVVMRNVLTKANVSLAVERDGT 166
A.darlingi (EFR25164.1)                 124 RFRIRYFHTELNSMAVQSQIEIENIEVKGNYTMNALFNRADGP-FTVNMKNVLTKANVSLAVDREGL 189
D.virilis (XP_002052633.1)               98 KFRIASINADFKEMMAKAGIQLDEMLVKGNYILSSFFSKTNGP-FTVLLKNVYVRGSATLGVERDGH 163
D.mojavensis (XP_002002021.1)            97 KFRISTVDVDFKKMKAEAGIQLDQMLVKGNYILSSFFSKANGP-FTVILKKVYVRCSVTLGVERDGH 162
D.grimshawi (XP_001989184.1)             95 KFRIASINADFKEMMVEAGITLDEMLVKGDYTLSSFFTKANGP-FTVILKKVYVTASASLIVKRDGH 160
D.willistoni (XP_002064455.1)           107 KFRIATINADFKDLQVKAGIQLDEMNVKGNYILSSFFSKANGP-FTVVLKKVYVEATATLAVERDGH 172
D.simulans (XP_002078032.1)             103 KFRIDKMNLDLKEMRFNGGLQLDQMLVKGQYTLSSFFSKANGP-FTVVLKNVYAEATAFLAVERDGQ 168
D.sechellia (XP_002045314.1)            103 KFRIDKMNLDLKEMRFNGGLQLDQMLVKGQYTLSSFFSKANGP-FTVVLKNVYAEATAFLAVEQDGQ 168
D.melanogaster (NP_608781.2)            103 KFRIDKMNLDLKEMRFNGGLQLDQMLVKGQYTLSSFFSKANGP-FTVVLKNVYAEATAFLAVERDGQ 168
D.melanogaster (AAL68365.1)             103 KFRIDKMNLDLKEMRFNGGLQLDQMLVKGQYTLSSFFSKANGP-FTVVLKNVYAEATALLAVERDGQ 168
D.melanogaster (AAL48116.1)             103 KFRIDKMNLDLKEMRFNGGLQLDQMLVKGQYTLSSFFSKANGP-FTVVLKNVYAEATAFLAVERDGQ 168
D.erecta (XP_001968564.1)               103 KFRIDKVNLDLKEMKFNGGLQLDQMLVKGQYTLSSFFSKANGP-FTVVLKNVYAEATAFLAVERDGQ 168
D.yakuba (XP_002087828.1)               103 KFRIDKMNLDLKEMKFNGGLQLDQMLVKGQYTLSSFFSKANGP-FTVILKNVYAEATAFLAVERDGQ 168
D.ananassae (XP_001965094.1)            101 QFRIDKLSADFKEMKINGGLQLDQMTVKGDYQLSSFFSKANGP-FTVILKNVYGEATALLAVDREGH 166
D.pseudoobscura (XP_001356411.1)        102 KFRIDTVDADLKSMKIKGGVQLDEMLVKGKYNLASWISRAQGP-FTVILKNVYAEATAFLAVERDGH 167
A.pisum (XP_001945904.1)                201 KFKVENVNTDLKNMRVYVLLKIKRMYVLGNYTLRSWLSRPASGPFNVTLIDVEAAAEAALEPDADGN 267
A.pisum (XP_001948728.2)                 94 KFRLKKLYVNLVDLQLEFGISIDTLVVVGNYSYWKMYD----GYYNVTLIQLHIDGHLSLQVSESGH 156
P.humanus corporis (XP_002425163.1)      77 IFRIEKIESNVADMEVLVAMSIEQLLIKGQYTMSTWFSRQQGD-FNVTLSGVLIKGLASMEVNQNGQ 142
D.pulex (EFX77001.1)                    108 QFRINYVRTDLKDLKVWIGMTFDTLQVVGRYRMSSWFS-TSSGDFNVTLIRVHAEGFAGLVVDSEGL 173
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B.mori LTP-III                       159 IRAENIVMDLSASNIAVNLENA----EIISGFINTIGPFIFDSIKPYVLKEAYATIKTTMNEKIDEV 221
D.plexippus (EHJ73751.1)             158 LRAQDIKIDISFSTISMNFENAGFFGGMLQGIVNSIGTFLFDSIKPYVLKEAYTKAREEINKKLDEV 224
D.plexippus (EHJ73750.1)             168 LRAHDITMDVNFNNIAVNFENSGLLVGLLQGLFNSIGTILFESIKPNLLKEAYTNMRTEINKKIDQV 234
D.ponderosae (AEE62911.1)            147 LEAQDIAMDVTFKDMALDFQGLGFFASMFQGVMNSVGAFVFDSIKPFVLSEANANIRREVNKQAARM 213
T.castaneum (XP_972731.1)            156 LEAQDMDMDITFKGIAMDFKGLGFFANMFQGVINSVGTFIFDSIKPFILREVNTNLRNDVNKQVKKV 222
A.florea (XP_003697952.1)            161 LQAQNIDMDLTFENIAMDFKNLGFLGSVLQSTINSVGSFIFDSIKPFILKELNTKARGIANKQISQL 227
A.mellifera (XP_395658.4)            161 LQAQNIDMDLTFENVAMDFKNLGFLGSVLQSTINSVGSFIFDSIKPFILKELNTKARGIANKQISQL 227
B.impatiens (XP_003492016.1)         173 LQAQNIDLDLTFEKIDMDFKNLGFLGSVFQSMINSVGTFIFDSIKPFILKEINTKARGEANKQISQL 239
M.rotundata (XP_003708008.1)         161 LQAQDIDMDLTFDKIDMDFKNLGFLGSVFQGVINSIGTFIFDSIKPFILKEVNTNIRGEVNKQISQL 227
N.vitripennis (XP_001606118.1)       165 LHAQDIVMDLTFENIDLDFKNLGFFASLFQGVINSVGSFVFDSVKPYILQEVNTNVRGEVNKHISTL 231
S.invicta (EFZ14465.1)               191 LQAQDIDLNLLFDKIQLNFENLGFLGSVFQGIINSVGTFLFDSIKPFILKEVNTNVRGEINKQISQL 257
A.echinatior (EGI63413.1)            176 LQAQNIDMDLTFDKIDLDFKNLGFLGSVFQGVINSVGSFIFDGIKPFILKEVNTNIRGEVNKQISQL 242
H.saltator (EFN76863.1)              171 LQAQDIDMDLTFDKIDLDFKNLGFLGSVFQGVINSIGTFMFDSIKPFILKEVNMNVRGEVNKQISQL 237
C.floridanus (EFN74421.1)            169 LQATNIDMDLTFDKIDLDFKNLGFLATVFQSVINSIGSFLFDSIKPFILKEVNTNMRGEVNKHISQL 235
A.aegypti (XP_001654113.1)           238 VRTQDISLDIAFDDMSMDFQNLGFMGSIFQSVVNSASNLVFDTIKPFMLSEAYSKIRAEIDTRVENM 304
A.aegypti (XP_001653919.1)           174 LRTRDIELDFGFEDMAMDFQNLGWFGRVFQGLANAAPNMVFDMVKPYMLKEVHVKLQNEIDSQIEQQ 240
C.quinquefasciatus (XP_001863022.1)  176 VRTQDISLDIAFDDMSMDFQNLGFMGSIFQSVVNSASNLVFDTIKPFMLSEAYTKIREEIDTRVENM 242
A.gambiae (XP_312626.4)              167 LRTNDIELDIAFDDMAMDFQNLGFMGSIFQSVVNSASNLVYDTMKPFMLSEAYTKIRHEVDSRMLNI 233
A.darlingi (EFR25164.1)              190 LHTDNIELDIAFEEMAMDFQNLGFMGSIFQSVVNSASNLVYDTIKPYMLSEAYKKIREEVDVRIRNL 256
D.virilis (XP_002052633.1)           164 LTTEQIKMDITFGEMAMDFQNLGFLGSVFQSVINSAPNVVFDAMKPFMLQEADKQLRTEINAFIEKN 230
D.mojavensis (XP_002002021.1)        163 LTTEHIDMDITFGEMAMDFQNLGFLGSVFQGIINSAPNLVFDAMKPFMLQEADKQMRGEINTRIEKF 229
D.grimshawi (XP_001989184.1)         161 LTTDRIKMDISFGEMAMDFQNLGFLGSVFQGLINSAPNLVFDAMKPLMQKEVDQKLRIEINASIEKT 227
D.willistoni (XP_002064455.1)        173 LTTDSIKMDITFADMAMDFQNLGFLGTVFQGIVNSAPNLVFDAMKPFMLQEADKQLRGKINENIEKL 239
D.simulans (XP_002078032.1)          169 LATDRIKIDITFSDMTMDFQNLGLVGSVFQSVVNGAPNLVFDAMKPFMLQEADKKLRGEINVMIQKT 235
D.sechellia (XP_002045314.1)         169 LATDRIKIDITFSDMTMDFQNLGLVGSVFQSVVNGAPNLVFDAMKPFMLTEADKKLRGEINVMIQKT 235
D.melanogaster (NP_608781.2)         169 LATDRIKIDITFSDMTMDFQNLGLVGSVFQSVVNGAPNLVFDAMKPFMLQEADKKLRSEINVMIQKT 235
D.melanogaster (AAL68365.1)          169 LATDRIKIDITFSDMTMDFQNLGLVGSVFQSVVNGAPNLVFDAMKPFMLQEADKKLRSEINVMIQKT 235
D.melanogaster (AAL48116.1)          169 LATDRIKIDITFSDMTMDFQNLGLVGSVFQSVVNGAPNLVFDAMKPFMLQEADKKLRSEINVMIQKT 235
D.erecta (XP_001968564.1)            169 LATDRIKIDITFSDMTMDFQNLGLVGSVFQSVVNGAPNLVFDAMKPFMLQEADKKLRSEINVMIQKT 235
D.yakuba (XP_002087828.1)            169 LATDRIKIDITFSDMTMDFQNLGLVGSVFQSVVNGAPNLVFDAMKPFMLQEADKKLRSEINVMIQNT 235
D.ananassae (XP_001965094.1)         167 LATDRIKIDITFSDMTMDFQNLGFLGSVFQGVVNSAPNLVFDAMKPFMLQEADKQLRSEMDKFIQQS 233
D.pseudoobscura (XP_001356411.1)     168 LTTDRIKIDITFRDMAMDFQNLGFMGSLFQGMVNSAPNLVFDAMKPFMLQEADKQLRSEIDTMIKTS 234
A.pisum (XP_001945904.1)             268 LQATDTEMDMQFKDCELDFKNLGFAASMMQGVISSMGSVLFEGIKPFIINEVNTNLRADVNAQVKAI 334
A.pisum (XP_001948728.2)             157 LETNNLNMNMNYDSLHMDTDKLN--IPFYDSFVNSFTHFVVQTIKPIIMKLINVMIKEELNQKMKHF 221
P.humanus corporis (XP_002425163.1)  143 LEAQNINMDITFQNIAMNFQNLGFMGSIFQGIINSVGTFLFDSIKPLILSQVNDNVRGDVNKHIMEL 209
D.pulex (EFX77001.1)                 174 MQATNITFDVGFKDITMKFENLGFFGSLFQGIINSVGTFIFDSIKPLILGQINDQVQTNVNSQMKKL 240

B.mori LTP-III                       222 AGD--LQFPNSISPL-DMVIADVRKKVHQMDMDPYKIKDYNTSVSV--FVVTLADTWVMGISSFQRV 283
D.plexippus (EHJ73751.1)             225 AGD--VQFPNSISPL-DKVIADLRKKVRQINMDPYQINDYNSTVSI--FTVSLTHTWITGISSFQRV 286
D.plexippus (EHJ73750.1)             235 VGD--IEFPNTITPL-DMVIVDARNKIRDVKMDPLRIDDYNTSAGW--VNIYLKNTWLYGLSTINRV 296
D.ponderosae (AEE62911.1)            214 P----QRFPNSIAPC-DQVVAQARSMVRARGYDPYRVKALNTSLGL--ADVQLTHTWLYGAASFHRT 273
T.castaneum (XP_972731.1)            223 P----QKFPNSISPF-DQLIIDIRHKIRKAQFDPYKVNDYNTSVGV--FDIYMRHTWLYGLSSIHRV 282
A.florea (XP_003697952.1)            228 P----QYFPNSISPF-DMAIAELRKYISQMGYDPFKVNDYSQTVGI--FTVTSTHTWITGLASIYRM 287
A.mellifera (XP_395658.4)            228 P----QYFPNSISPF-DMAIAELRKYISQMNYDPFEVNDYSQTVGI--FTMTSTHTWITGLANIYRI 287
B.impatiens (XP_003492016.1)         240 P----QQFPNSISPF-DMLITEIRRQISEKGYDPFKVKDYSQTVGI--FTVMSTHTWITGLGSVYRM 299
M.rotundata (XP_003708008.1)         228 P----QYFPNSISPF-DMAVAEARKQVSQLGYDPFKVQDYSQSVGM--FTVTSTHTWITGLASFYRM 287
N.vitripennis (XP_001606118.1)       232 P----NYFPNSISPF-DMAVAEARKQVSDMGYDPFKVKDYSQSMGM--FTVTSSHTWLTGLASFYRM 291
S.invicta (EFZ14465.1)               258 P----QYFPNSISPF-DMAIAEARKYVSEMGYDPYKLQDYTQSVGI--FTVTSSHTWITGLASFYRM 317
A.echinatior (EGI63413.1)            243 P----QYFPNSISPF-DMAIAEARKQVSQMGYDPYQLKDYTQSVGI--FTMTSSHTWITGLASFYRM 302
H.saltator (EFN76863.1)              238 P----QYFPNSISPF-DMAVAEARKQVRLMGYDPYRVQDYTQSAGV--FTVTSSHTWITGLASFYRM 297
C.floridanus (EFN74421.1)            236 P----QYFPNSISPF-DMAVAEARKQVSEMGYDPYKLKDYSQIAGI--FTVTLSHTWITGLASFYRM 295
A.aegypti (XP_001654113.1)           305 TTEYNIVFPNSISPL-DMAIGEARTLVRNKKFDPYLIPDYNTTAGI--FGMHTSHTWIRGVSSFYRY 368
A.aegypti (XP_001653919.1)           241 VDKRAIVLANSVPPL-DLMISEARFLMRTKGFDPYHIPDYRNSLSI--FNLFLSGTRLRGLSNFYRS 304
C.quinquefasciatus (XP_001863022.1)  243 TTEHRILFPNSISPL-DMAIGEARTMVRNKHFDPYLIPDYNTTAGI--FGMQTTHTWIRGVSSFYRY 306
A.gambiae (XP_312626.4)              234 TVENQFTLPNSIAPL-DMAIGEMRRIVRNKGLDPFQVPDYNNTAGI--FGMQTSHTWISGGSSFYRY 297
A.darlingi (EFR25164.1)              257 TLEHDFILPNSITPL-DMAIGEMRAVVRNKGLDPFLVPDYNNTAGI--FGMRTMHTWMKGGSSFYRY 320
D.virilis (XP_002052633.1)           231 MGDR--RMPNSITPL-DSAIAEGRKLVRQKGLDPYHVADMNRTMGV--FSVQLSNTWINGISSFYRV 292
D.mojavensis (XP_002002021.1)        230 MGDR--RMPNSITPL-DSAIAGLRKMVREKGYDPYRLEDKNRTMGV--FSVQLTNTWITGCSSFYRV 291
D.grimshawi (XP_001989184.1)         228 LGDR--RMPNSITPL-DSVIAEGRKLVRQNGYDPYHLPDMNRTMGV--FSVQLANTWISGVSSFYRV 289
D.willistoni (XP_002064455.1)        240 MGDR--RLPNSITPL-DSAIAEARKKVRAMGYDPYHVPDMNRTVGV--FSVQLSHTWINGISSFYRV 301
D.simulans (XP_002078032.1)          236 LGDR--RLPNSITPL-DSAIAMARKMVRQQGYDPYHLPDVNRTMGV--FSVQLAHTWINGISSFYRV 297
D.sechellia (XP_002045314.1)         236 LGDR--RLPNSITPL-DSAIAMARKMVRQQGYDPYHLPDVNRTMGV--FSVQLAHTWINGISSFYRV 297
D.melanogaster (NP_608781.2)         236 LGER--RLPNSITPL-DSAIAMARKMVRQKGFDPYHLPDVNRTMGV--FSVQLAHTWINGISSFYRV 297
D.melanogaster (AAL68365.1)          236 LGER--RLPNSITPL-DSAIAMARKMVRQKGFDPYHLPDVNRTMGV--FSVQLAHTWINGISSFYRV 297
D.melanogaster (AAL48116.1)          236 LGER--RLPNSITPL-DSAIAMARKMVRQKGFDPYHLPDVNRTMGV--FSVQLTHTWINGISSFYRV 297
D.erecta (XP_001968564.1)            236 LGDR--RLPNSITPL-DSAIAMARKMVRQKGYDPYHLPDVNRTMGV--FSVQLAHTWINGISSFYRV 297
D.yakuba (XP_002087828.1)            236 LGDR--RLPNSITPL-DSAIAMARKMVREKGYDPYHLPDVNRTMGV--FSVQLANTWINGISSFYRV 297
D.ananassae (XP_001965094.1)         234 MGDR--KLPNSITPL-DSAIATARKMVREKGYDPYKLQDMNRTMGV--FSVQLSNTWISGLSSFYRV 295
D.pseudoobscura (XP_001356411.1)     235 MGDR--RLPNSITPL-DSAIAEGRKVVRQMGYDPYHLPDMNRTMGV--FSVQLSHTWIHGISSFYRV 296
A.pisum (XP_001945904.1)             335 T----SKLPKMTVPVPDLAVAEGRKYVQRMGYDPYHVADRHIDEGP--LNFTITELTVSGLSSFHRV 395
A.pisum (XP_001948728.2)             222 K-----RFPNTIPPV-DLLIAESRQQIKSMGFDPWRVDDLVNAVNFNIFSLDVNEIWISGLSSIYRL 282
P.humanus corporis (XP_002425163.1)  210 P----QRFPNSISPL-DMFISEMRKFARIKKFDPYKIDNYNNSAGI--FTVELTNTWVTGLASFYRV 269
D.pulex (EFX77001.1)                 241 N----HILPDSVAPL-DMAMAMGRAEIQENGMDPFEIPEYTSILGTG-VVVKIFNGTMHGLSTIHRT 301
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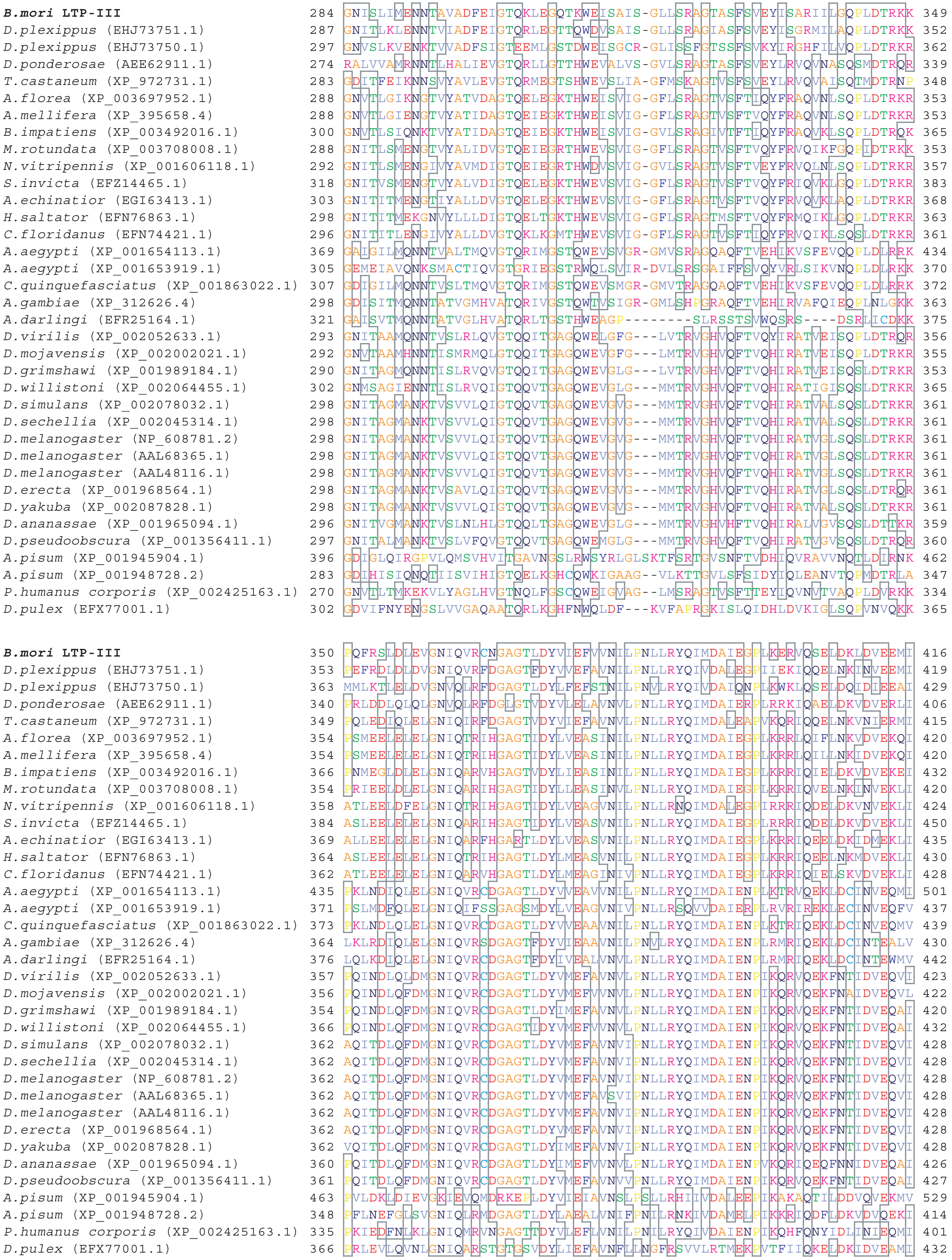

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B.mori LTP-III                          284 GNISLIMENNTAVADFEIGTQKLEGQTKWEISAIS-GLLSRAGTASFSVEYISARIILGQPLDTRKK 349
D.plexippus (EHJ73751.1)                287 GNITLKLENNTVIADFEIGTQRLEGTTQWDVSAIS-GLLSRAGIASFSVEYISGRMILAQPLDTRKK 352
D.plexippus (EHJ73750.1)                297 GNVSLKVENKTVVADFSIGTEEMLGSTDWEISGCR-GLISSFGTSSFSVKYIRGHFILVQPLDTRKR 362
D.ponderosae (AEE62911.1)               274 RALVVAMRNNTLHALIEVGTQRLLGTTHWEVALVS-GVLSRAGTASFSVEYLRVQVNASQSMDTRQR 339
T.castaneum (XP_972731.1)               283 GDITFEIKNNSVYAVLEVGTQRMEGTSHWEVSLIA-GFMSKAGTVSFSVEYLRVQVAISQTMDTRNP 348
A.florea (XP_003697952.1)               288 GNVTLGIKNGTVYATVDAGTQELEGKTHWEISVIG-GFLSRAGTVSFTIQYFRAQVNLSQPLDTRKR 353
A.mellifera (XP_395658.4)               288 GNVTLGIENGTVYATIDAGTQEIEGKTHWEISVIG-GFLSRAGTVSFTVQYFRAQVNLSQPLDTRKR 353
B.impatiens (XP_003492016.1)            300 GNVTLSIQNKTVYATIDAGTQEIEGKTHWEISVIG-GVLSRAGIVTFTIQYFRAQVKLSQPLDTRQK 365
M.rotundata (XP_003708008.1)            288 GNITLSMENGTVYALIDVGTQEIEGRTHWEVSVIG-GFLSRAGTVSFTVQYFRVQIKFGQPIDTRKK 353
N.vitripennis (XP_001606118.1)          292 GNITLSMENGIVYAVMDIGTQEIEGRTHWDVSVIG-GVLSRAGTVSFTVEYFRVQLNLSQPLDTRKR 357
S.invicta (EFZ14465.1)                  318 GNITVSMENGTVYALVDIGTQELEGKTHWEVSVIG-GFLSRAGTVSFTVQYFRIQVKLGQPLDTRKR 383
A.echinatior (EGI63413.1)               303 GNITITMENGTIYALLDVGTQELEGKTHWEVSVIG-GFLSRAGTVSFTVQYFRVQVKLAQPLDTRKR 368
H.saltator (EFN76863.1)                 298 GNITITMEKGNVYLLLDIGTQELTGKTHWEVSVIG-GFLSRAGTMSFTVQYFRMQIKLGQPLDTRKR 363
C.floridanus (EFN74421.1)               296 GNITITLENGIVYALLDVGTQKLKGMTHWEVSVIG-GFLSRAGTVSFTIQYFRVQIKLSQSLDTRKR 361
A.aegypti (XP_001654113.1)              369 GAIGILMQNNTVALTMQVGTQRIMGSTQWEVSVGR-GMVSRAGQAQFTVEHIKVSFEVQQPLDLRRK 434
A.aegypti (XP_001653919.1)              305 GEMEIAVQNKSMACTIQVGTGRIEGSTRWQLSVIR-DVLSRSGAIFFSVQYVRLSIKVNQPLDLRKK 370
C.quinquefasciatus (XP_001863022.1)     307 GDIGILMQNNTVSLTMQVGTQRIMGSTQWEVSMGR-GMVTRAGQAQFTVEHIKVSFEVQQPLDLRRK 372
A.gambiae (XP_312626.4)                 298 GDISITMQNNTATVGMHVATQRIVGSTQWTVSIGR-GMLSHPGRAQFTVEHIRVAFQIEQPLNLGKK 363
A.darlingi (EFR25164.1)                 321 GAISVTMQNNTATVGLHVATQRLTGSTHWEAGP--------SLRSSTSVWQSRS----DSRLICDKK 375
D.virilis (XP_002052633.1)              293 GNITAAMQNNTVSLRLQVGTQQITGAGQWELGFG---LVTRVGHVQFTVQYIRATVEISQPLDTRQR 356
D.mojavensis (XP_002002021.1)           292 GNVTAAMHNNTISMRMQLGTQQITGAGQWEVGFG---LMTRVGHVQFTVQHIRATVEISQPLDTRKR 355
D.grimshawi (XP_001989184.1)            290 GNITAGMQNNTISLRVQVGTQQITGAGQWEVGLG---LVTRVGHVQFTVQHIRATVEISQSLDTRKR 353
D.willistoni (XP_002064455.1)           302 GNMSAGIENNTISLRVQIGTQQVTGAGQWEVGLG---MMTRVGHVQFTVQHIRATIGISQSLDTRKR 365
D.simulans (XP_002078032.1)             298 GNITAGMANKTVSVVLQIGTQQVTGAGQWEVGVG---MMTRVGHVQFTVQHIRATVALSQSLDTRKR 361
D.sechellia (XP_002045314.1)            298 GNITAGMANKTVSVVLQIGTQQVTGAGQWEVGVG---MMTRVGHVQFTVQHIRATVALSQSLDTRKR 361
D.melanogaster (NP_608781.2)            298 GNITAGMANKTVSVVLQIGTQQVTGAGQWEVGVG---MMTRVGHVQFTVQHIRATVGLSQSLDTRKR 361
D.melanogaster (AAL68365.1)             298 GNITAGMANKTVSVVLQIGTQQVTGAGQWEVGVG---MMTRVGHVQFTVQHIRATVGLSQSLDTRKR 361
D.melanogaster (AAL48116.1)             298 GNITAGMANKTVSVVLQIGTQQVTGAGQWEVGVG---MMTRVGHVQFTVQHIRATVGLSQSLDTRKR 361
D.erecta (XP_001968564.1)               298 GNITAGMANKTVSAVLQIGTQQVTGAGQWEVGVG---MMTRVGHVQFTVQHIRATVGLSQSLDTRQR 361
D.yakuba (XP_002087828.1)               298 GNITAGMANKTVSVVLQIGTQQVTGAGQWEVGVG---MMTRVGHVQFTVQHIRATVALSQSLDTRKR 361
D.ananassae (XP_001965094.1)            296 GNITVGMANKTVSLNLHLGTQQLTGAGQWEVGLG---MMTRVGHVHFTVQHIRALVGVSQSLDTTKR 359
D.pseudoobscura (XP_001356411.1)        297 GNITALMANKTVSLVFQVGTQQVTGAGQWEMGLG---MMTRVGHVQFTVQHIRATVGVSQSLDTRQR 360
A.pisum (XP_001945904.1)                396 GDIGLQIRGPVLQMSVHVITGAVNGSLRWSYRLGLSKTFSRTGVSNFTVDHIQVRAVVNQTLDIRNK 462
A.pisum (XP_001948728.2)                283 GDIHISIQNQTIISVIHIGTQELKGHCQWKIGAAG--VLKTTGVLSFSIDYIQLEANVTQPMDTRLA 347
P.humanus corporis (XP_002425163.1)     270 GNVTLTMKEKVLYAGLHVGTNQLFGSCQWEIGVAG--LMSRAGTVSFTTEYIQVNVTVAQPLDVRKK 334
D.pulex (EFX77001.1)                    302 GDVIFNYENGSLVVGAQAATQRLKGHFNWQLDF---KVFAPRGKISLQIDHLDVKIGLSQPVNVQKK 365

B.mori LTP-III                          350 PQFRSLDLEVGNIQVRCNGAGTLDYVIEFVVNILPNLLRYQIMDAIEGPLKERVQSELDKLDVEEMI 416
D.plexippus (EHJ73751.1)                353 PEFRDLDLDVGNIQVRFDGAGTFDYVVEFAVNILPNLLRYQIVDALEGPIIEKIQQELNKINVEEMI 419
D.plexippus (EHJ73750.1)                363 MMLKTLELDVGNVQLRFDGAGTLDYLFEFSTNILPNVLRYQIVDAIQNPLKWKLQSELDQIDIEEAI 429
D.ponderosae (AEE62911.1)               340 PRLDDLQLQLGNVQLRFDGLGTVDYVLELAVNVLPNLLRYQIMDAIERPLRRKIQAELDKVDVERLI 406
T.castaneum (XP_972731.1)               349 PQLEDIQLELGNIQIRFDGAGTVDYVIEFAVNVLPNLLRYQIMDALEAPVKQRIQQELNKVNIERMI 415
A.florea (XP_003697952.1)               354 PSMEELELELGNIQTRIHGAGTIDYLVEASINILPNLLRYQIMDAIEGPLKRRLQIFLNKVDVEKQI 420
A.mellifera (XP_395658.4)               354 PSMEELELELGNIQTRIHGAGTIDYLVEASINILPNLLRYQIMDAIEGPLKRRLQILLNKIDVEKQI 420
B.impatiens (XP_003492016.1)            366 PNMEGLDLELGNIQARVHGAGTVDYLIEASINILPNLLRYQIMDAIEGPLKRRIQIELDKVDVEKEI 432
M.rotundata (XP_003708008.1)            354 PRIEELDLELGNIQARIHGAGTIDYLLEASINVLPNLLRYQIMDAIEGPLKRRIQVELNKINVEKLI 420
N.vitripennis (XP_001606118.1)          358 ATLEELDFELGNIQTRIHGAGTIDYLVEAGVNILPNLLRNQIMDALEGPIRRRIQDELDKVNVEKLI 424
S.invicta (EFZ14465.1)                  384 ASLEELELELGNIQARIHGAGTIDYLVEASVNILPNLLRYQIMDAIEGPLRRRIQDELDKVDVEKLI 450
A.echinatior (EGI63413.1)               369 ALLEELELELGNIQARFHGARTLDYLVEASVNILPNLLRYQIMDAIEGPLKRRIQEELDKIDMEKLI 435
H.saltator (EFN76863.1)                 364 ASLEELELELGNIQTRIHGAGTLDYLMEASVNILPNLLRYQIMDAIEGPLKRRIQEELNKMDVEKLI 430
C.floridanus (EFN74421.1)               362 ATLEELELELGNIQARVHGAGTLDYLMEAGINIVPNLLRYQIMDAIEGPLKRRIQIELSKVDVEKLI 428
A.aegypti (XP_001654113.1)              435 PKLNDIQLELGNIQVRCDGAGTLDYVVEAVVNILPNLLRYQIMDAIENPLKTRVQEKLDCINVEQMI 501
A.aegypti (XP_001653919.1)              371 PSLMDFQLELGNIQIFSSGAGSMDYLVEAGVNIVPNLLRSQVVDAIERPLRVRIREKLECINVEQFV 437
C.quinquefasciatus (XP_001863022.1)     373 PKLNDLQLELGNIQVRCDGAGTLDYVVEAAVNILPNLLRYQIMDAIENPLKTRIQEKLDCINVEQMV 439
A.gambiae (XP_312626.4)                 364 LKLRDIQLELGNIQVRSDGAGTFDYVIEAAVNILPNVLRYQIMDAIENPLRMRIQEKLDCINTEALV 430
A.darlingi (EFR25164.1)                 376 LQLKDIQLELGNIQVRCDGAGTFDYIVEALVNVLPNLLRYQIMDAIENPLRMRIQEKLDCINTEWMV 442
D.virilis (XP_002052633.1)              357 PQINDLQLDMGNIQVRCDGAGTLDYVMEFAVNVLPNLLRYQIMDAIENPIKQRVQEKFNTIDVEQVI 423
D.mojavensis (XP_002002021.1)           356 PQINDLQFDMGNIQVRCDGAGTLDYVMEFVVNVLPNLLRYQIMDAIENPIKQRVQEKFNAIDVEQVL 422
D.grimshawi (XP_001989184.1)            354 PQINDLQFDMGNIQVRCDGAGTLDYIMEFAVNVLPNLLRYQIMDAIENPIKQRVQEKFNTIDVEQAI 420
D.willistoni (XP_002064455.1)           366 PQINDLQFDMGNIQVRCDGAGTIDYVMEFVVNVLPNLLRYQIMDAIENPIKQRVQEKFNTIDVEQAI 432
D.simulans (XP_002078032.1)             362 AQITDLQFDMGNIQVRCDGAGTLDYVMEFAVNVIPNLLRYQIMDAIENPIKQRVQEKFNTIDVEQVI 428
D.sechellia (XP_002045314.1)            362 AQITDLQFDMGNIQVRCDGAGTLDYVMEFAVNVIPNLLRYQIMDAIENPIKQRVQEKFNTIDVEQVI 428
D.melanogaster (NP_608781.2)            362 AQITDLQFDMGNIQVRCDGAGTLDYVMEFAVNVIPNLLRYQIMDAIENPIKQRVQEKFNTIDVEQVI 428
D.melanogaster (AAL68365.1)             362 AQITDLQFDMGNIQVRCDGAGTLDYVMEFAVSVIPNLLRYQIMDAIENPIKQRVQEKFNTIDVEQVI 428
D.melanogaster (AAL48116.1)             362 AQITDLQFDMGNIQVRCDGAGTLDYVMEFAVNVIPNLLRYQIMDAIENPIKQRVQEKFNTIDVEQVI 428
D.erecta (XP_001968564.1)               362 AQITDLQFDMGNIQVRCDGAGTLDYVMEFAVNVIPNLLRYQIMDAIENPIKQRVQEKFNTIDVEQVI 428
D.yakuba (XP_002087828.1)               362 VQITDLQFDMGNIQVRCDGAGTLDYIMEFAVNVIPNLLRYQIMDAIENPIKQRVQEKFNTIDVEQVI 428
D.ananassae (XP_001965094.1)            360 PQITDLQFDMGNIQVRCDGAGTLDYIMEFVVNVLPNLLRYQIMDAIENPVKQRIQEQFNNIDVEQAI 426
D.pseudoobscura (XP_001356411.1)        361 PQITDLQFDMGNIQVRCDGAGTLDYVMEFAVNVVPNLLRYQIMDAIENPIKQRVQEKFNTIDVEQAI 427
A.pisum (XP_001945904.1)                463 PVLDKLDIEVGKIEVQMDRKEPLDYVIEIAVNSLPSLLRHIIVDALEEPIKAKAQTILDDVQVEKMV 529
A.pisum (XP_001948728.2)                348 PFLNEFGLSVGNIQLRMDGAGTLDYLAEALVNIFPNILRNKIVDAMELPIKKRIQDFLDKVDVQEKI 414
P.humanus corporis (XP_002425163.1)     335 PKIEDFNLKLGNIQMRVNGAGTTDYVLEFLVNILPNILRYQIVDAIENPIKQHFQNYIDLINIEQMI 401
D.pulex (EFX77001.1)                    366 PRLEVLQVNLGNIQARSTGTGSVDYLIEFAVNFLLNGFRSVVLRTMEKPVTFIIQKELDKIDVEAMI 432
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B.mori LTP-III                      417 HEKLPEIDEMAESG-----------FKLSSIIGKSEDEKDIRYDDDDFFN---      455
D.plexippus (EHJ73751.1)            420 KQELPKVDEMQETG-----------FKLSALQIQNEDEE--SYGDDDFFNF--      457
D.plexippus (EHJ73750.1)            430 KNELPRIDKLQEEG-----------FQLAMLRFINKTGD--NYDEDEFFNF--      467
D.ponderosae (AEE62911.1)           407 QENAPKLDDPDG---------------LTELTNLL------------------      426
T.castaneum (XP_972731.1)           416 KENVDKIDNPES---------------LKLL----------------------      431
A.florea (XP_003697952.1)           421 YEYIPSIEEKAR----QGMIPLEE-TNLE-LISPQDQDEQ-PFSESEENRGPS      466
A.mellifera (XP_395658.4)           421 YEYIPSIEEKAR----QGMIPLEE-ANLE-LISPQDQDEQ-PFSESEENRGPS      466
B.impatiens (XP_003492016.1)        433 YEHIPHIEEHATRH-IHGLVPPEE-TILEGLMPPQDQDEQ-PFSESEENRGPS      482
M.rotundata (XP_003708008.1)        421 YEKIPNIEEQAR-Y-IQGLIPAEE-TILEELIPPQDQDEQ-PFSESEEDRGPS      469
N.vitripennis (XP_001606118.1)      425 HEKIPDIEERAKMLQGPPLEELEDDIVLEEVTPPPEPDNEEPFSESEEERGQS      477
S.invicta (EFZ14465.1)              451 DEKIPVIEEQARW--LHDLVPAEE-TNLEEPTTHN-QDDLGPFSESEEERGPS      499
A.echinatior (EGI63413.1)           436 DEKIPMIEEQARW--MQGLTPSEE-TILEEPLPPNSQDDQTPFSESEEERGPS      485
H.saltator (EFN76863.1)             431 DDKIPEIEEQARW--MHGFKPAEE-TILETPTPSPDEDSQVPFSESEENRGLS      480
C.floridanus (EFN74421.1)           429 DEKIPMIEEQVK-----GLIPVEE-TILEESLLS-NQDDQIPFSESEENRGPS      474
A.aegypti (XP_001654113.1)          502 KKHVVEYEKRGF------------DMEV-DFKLC-------------------      522
A.aegypti (XP_001653919.1)          438 KRHVADFERRGT------------NMVV-DWRLCERKLPEK------------      465
C.quinquefasciatus (XP_001863022.1) 440 KKHVVEYEKRGF------------DMEL-DLKIC-------------------      460
A.gambiae (XP_312626.4)             431 RKYALEYEKHGI------------DIDLKDFELCEQQVPRGE-----------      460
A.darlingi (EFR25164.1)             443 RKYATEFEEHGI------------DLDLQDFELCHS-----------------      466
D.virilis (XP_002052633.1)          424 KQQIEKNDHEGG------------NFAIDMNLFKMF-----------------      447
D.mojavensis (XP_002002021.1)       423 KVALEKYKKDGL------------NFIYEYKLDNLPFN---------------      448
D.grimshawi (XP_001989184.1)        421 KQMAHKYEDEGS------------NFKFDLTQFKEYL----------------      445
D.willistoni (XP_002064455.1)       433 KQLAQKYEAEGS------------NFSFDFKI---------------------      452
D.simulans (XP_002078032.1)         429 KTMAQN------------------DFNFDPKLLGL------------------      445
D.sechellia (XP_002045314.1)        429 KTMAKN------------------DFNFDPKLLGL------------------      445
D.melanogaster (NP_608781.2)        429 KTMAQN------------------NFNFDPKLLGL------------------      445
D.melanogaster (AAL68365.1)         429 KTMAQN------------------NFNFDPKLLGL------------------      445
D.melanogaster (AAL48116.1)         429 KTMAQN------------------NFNFDPKLLGL------------------      445
D.erecta (XP_001968564.1)           429 KTMAQN------------------DFNFDPTLLGV------------------      445
D.yakuba (XP_002087828.1)           429 KTMAEN------------------NFNFDPKLLGI------------------      445
D.ananassae (XP_001965094.1)        427 KTMAQNYKADGK------------NFDFDFKTLGI------------------      449
D.pseudoobscura (XP_001356411.1)    428 KQLAHKYETEGS------------NFTFDFKI---------------------      447
A.pisum (XP_001945904.1)            530 EDRLPELDRMVGD----------------------------------------      542
A.pisum (XP_001948728.2)            415 EQRIPPIIDKMMEHN-----------ITDIFKENEILHEDINIVSKEDF----      452
P.humanus corporis (XP_002425163.1) 402 DEKLPTFYELLA---------------LNDTVNPEVNDIEF------------      427
D.pulex (EFX77001.1)                433 EEQLPKLSELKNDL---------------------------------------      446
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