Supplementary Materials

Discovery of Novel Thanatin-Like Antimicrobial Peptides from Bean Bug *Riptortus pedestris*

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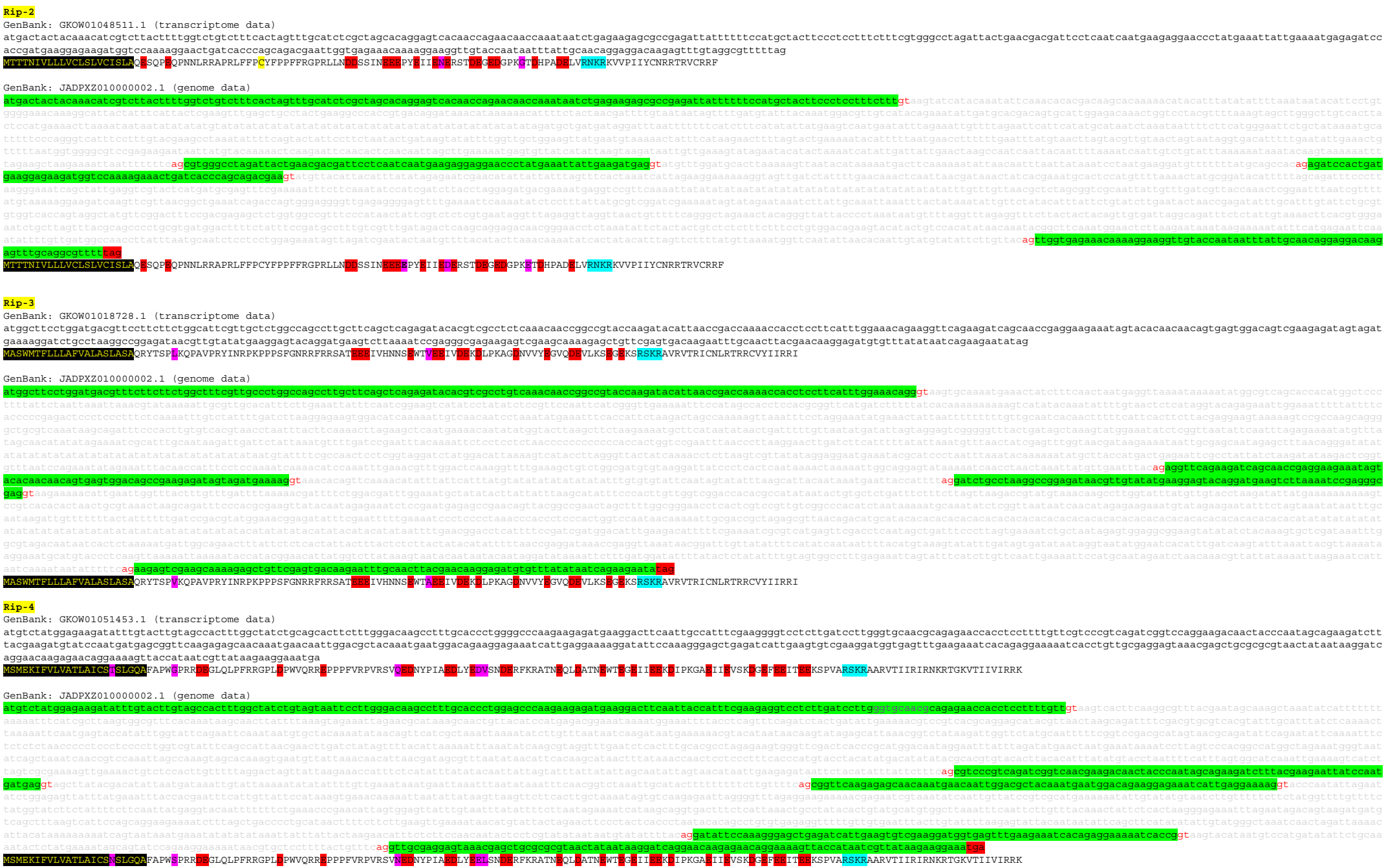

Figure S1. Analysis of Rip genes found in *R. pedestris*. Exons are highlighted in green; introns are highlighted in light grey. Signal peptide sequences are marked in yellow/black. Differences in structures of precursor proteins are highlighted in purple.

Supplementary Table S1. Oligonucleotide primers used in this study.

Name	Sequence 5'→3'	Description
Rip-2f	CGAGATCTATGAAGGTCGTTCCAATTAT CTACTGCAACCGGCGGACA	Synthesis of fragment encoding Rip-2 followed by insertion into pET expression plasmid
Rip-2r	GCGAATTCTTAAAAGCGACGACAAACCC GTGTCCGCCGGTTGCAGTAGA	
Rip-3f	CGAGATCTATGGCCGTCCGCGTCACCCGT ATCTGCAACCTTCGTACCCGCCGTTG	Synthesis of fragment encoding Rip-3 followed by insertion into pET expression plasmid
Rip-3r	GCGAATTCTTAGATACGACGAATGATGTA AACGCAACGGCGGGTACGAAGGTTGC	
Rip-4f	CGAGATCTATGGCAGCCCGCGTGACCATTA TCCGCATTCGCAACAAGCGCACCGGCAAA	Synthesis of fragment encoding Rip-4 followed by insertion into pET expression plasmid
Rip-4r	GCGAATTCTTATTTGCGACGAATCACAATG ATAGTAACTTTGCCGGTGCGCTTGTTGCG	
LptA-f	GCCGAGCTGATTGAAAAGGT	Amplification of lptA gene of *E. coli* (TA-cloning and sequencing)
LptA-r	ACGCTGAGGCGACGGAAAAT	
LptD-f	GAAAAAACGTATCCCCACTCTC	Amplification of lptD gene fragment of *E. coli* (TA-cloning and sequencing)
LptD-r	TGGCGCGATGTTCCAGTAAT	

Supplementary Table S2. Amino acid sequences and molecular masses of the peptides used in this study.

Peptide	Origin	Sequence	Molecular Mass, Da		Ref.
			Calculated $[M+H]^+$ value[1]	Measured value[2]	
Thanatin*	Rec	GSKKPVPIIYCNRRTGKCQRL	2415.32	2415.36	[1]
Rip-2	Rec	KVVPIIYCNRRTRVCRRF	2277.28	2277.14	This study
Rip-3	Rec	AVRVTRICNLRTRRCVYIIRRI	2728.60	2728.16	
Rip-4	Rec	AARVTIIRIRNKRTGKVTIIVIRRK	2931.89	2931.24	
AA139	Rec	GFCWYVCARRNGARVCYRRCN	2549.17	2549.95	[2]
Bac7[1-22]	Rec	RRIRPRPPRLPRPRPRPLPFPR	2783.72	2783.89	[3]
ChMAP-28	Rec	GRFKRFRKKLKRLWHKVGPFVGPILHY	3364.00	3364.22	[4]
Melittin	Synt	GIGAVLKVLTTGLPALISWIKRKRQQ	2846.74	2846.60	[5]
LL-37	Synt	LLGDFFRKSKEKIGKEFKRIVQRIKDFL RNLVPRTES	4491.58	4491.40	[3]

* recombinant thanatin [M21L] analog

[1] according to Expasy Isotopident tool

[2] monoisotopic m/z were measured using MALDI-TOF MS (the measured m/z values match well the corresponding calculated molecular masses)

Supplementary references:

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