

Supplementary Materials: Mass Spectrometry Analysis and Biological Characterization of the Predatory Ant *Odontomachus monticola* Venom and Venom Sac Components

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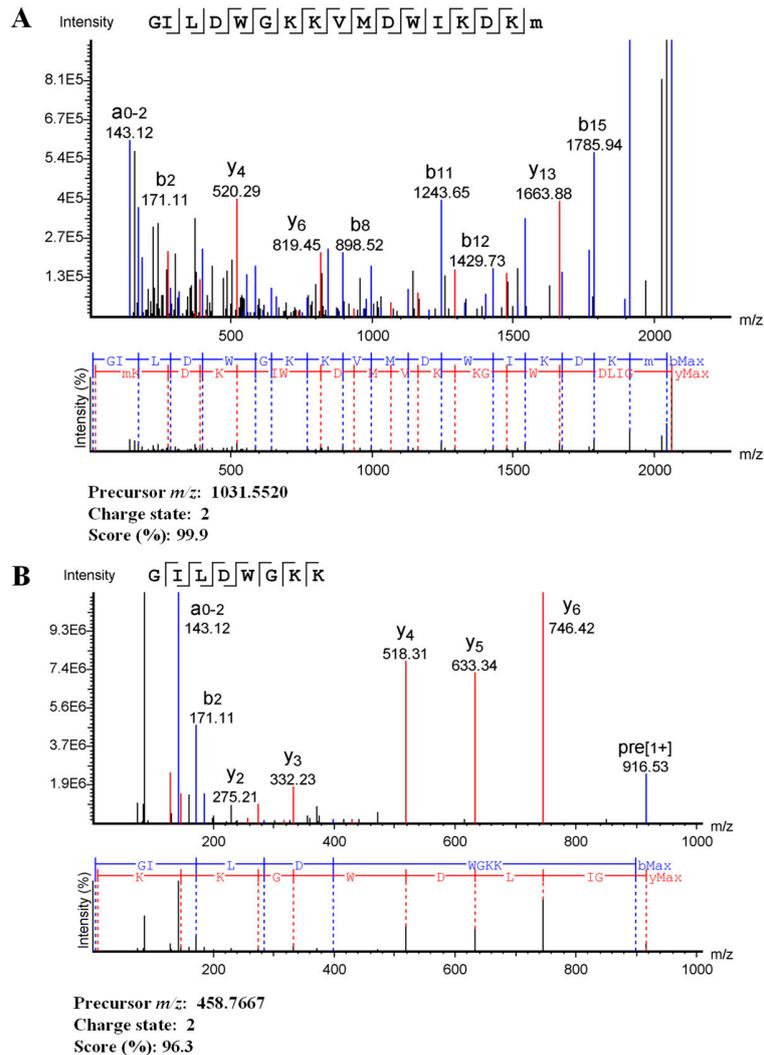


Figure S1. MS/MS spectra of pilosulin-like peptide 1. MS/MS spectra were obtained under a nonreducing condition without trypsin digestion (A) and under a reducing condition with trypsin digestion (B). The panel shows the annotated spectra and b- and y-ions of the pilosulin-like peptide 1 amino acid sequence. The peptide's precursor m/z and charge state are indicated. We referred to the transcriptome data of pilosulin-like peptide 1 for MS/MS spectrum interpretation.

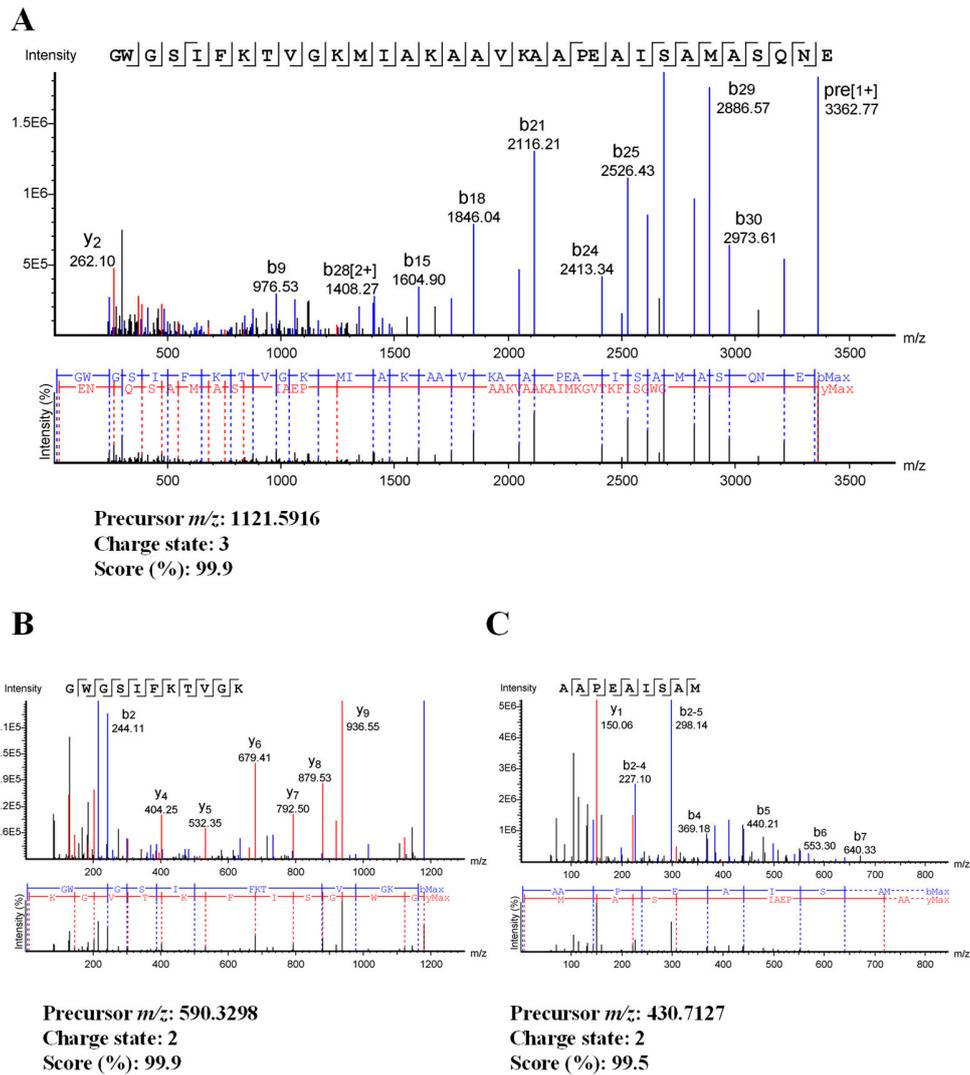


Figure S2. MS/MS spectra of pilosulin-like peptide 2. MS/MS spectra were obtained under a nonreducing condition without trypsin digestion (**A**), under a reducing condition without trypsin digestion (**B**), and under a reducing condition with trypsin digestion (**C**). The panel shows the annotated spectra and b- and y-ions of the pilosulin-like peptide 2 amino acid sequence. The peptide’s precursor m/z and charge state are indicated. We referred to the transcriptome data of pilosulin-like peptide 2 for MS/MS spectrum interpretation.

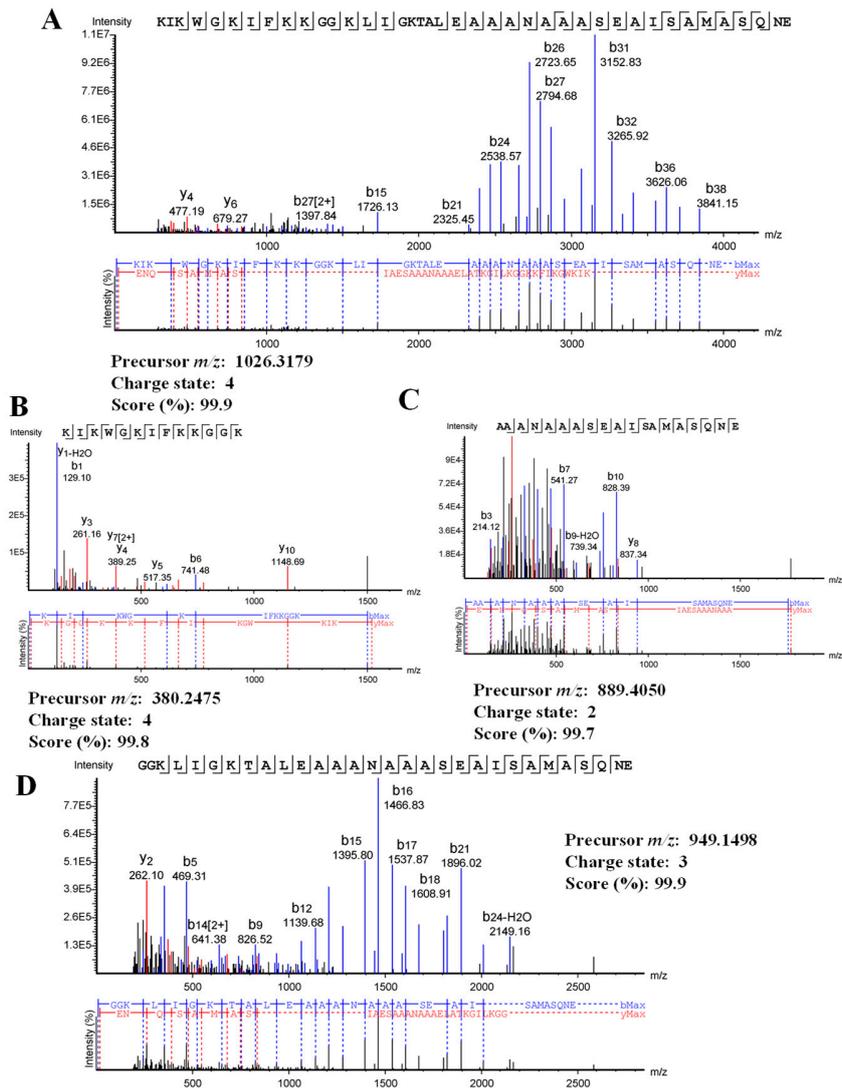


Figure S3. MS/MS spectra of pilosulin-like peptide 3. MS/MS spectra were obtained under a nonreducing condition without trypsin digestion (A,D) and under a reducing condition without trypsin digestion (B,C). The panel shows the annotated spectra and b- and y-ions of the pilosulin-like peptide 3 amino acid sequence. The peptide’s precursor *m/z* and charge state are indicated. We referred to the transcriptome data of pilosulin-like peptide 3 for MS/MS spectrum interpretation.

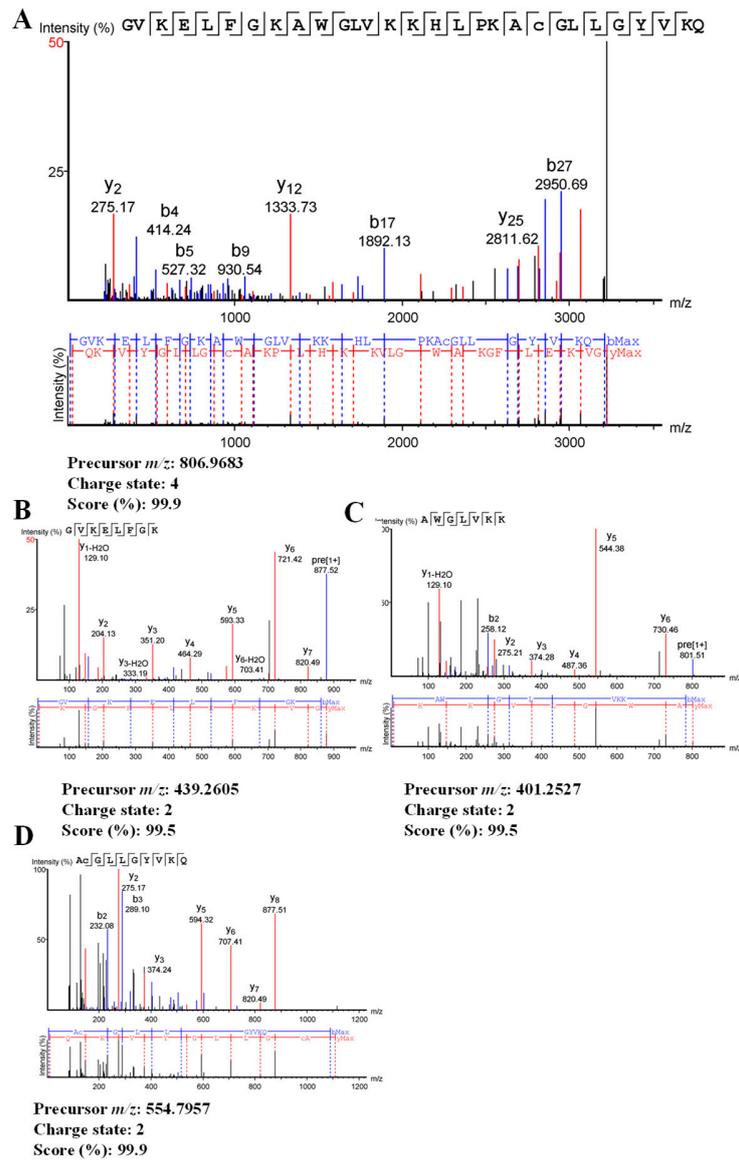


Figure S4. MS/MS spectra of pilosulin-like peptide 4. MS/MS spectra were obtained under a reducing condition without trypsin digestion (A) and under a reducing condition with trypsin digestion (B–D). The panel shows the annotated spectra and b- and y-ions of the pilosulin-like peptide 4 amino acid sequence. The peptide’s precursor *m/z* and charge state are indicated. We referred to the transcriptome data of pilosulin-like peptide 4 for MS/MS spectrum interpretation.

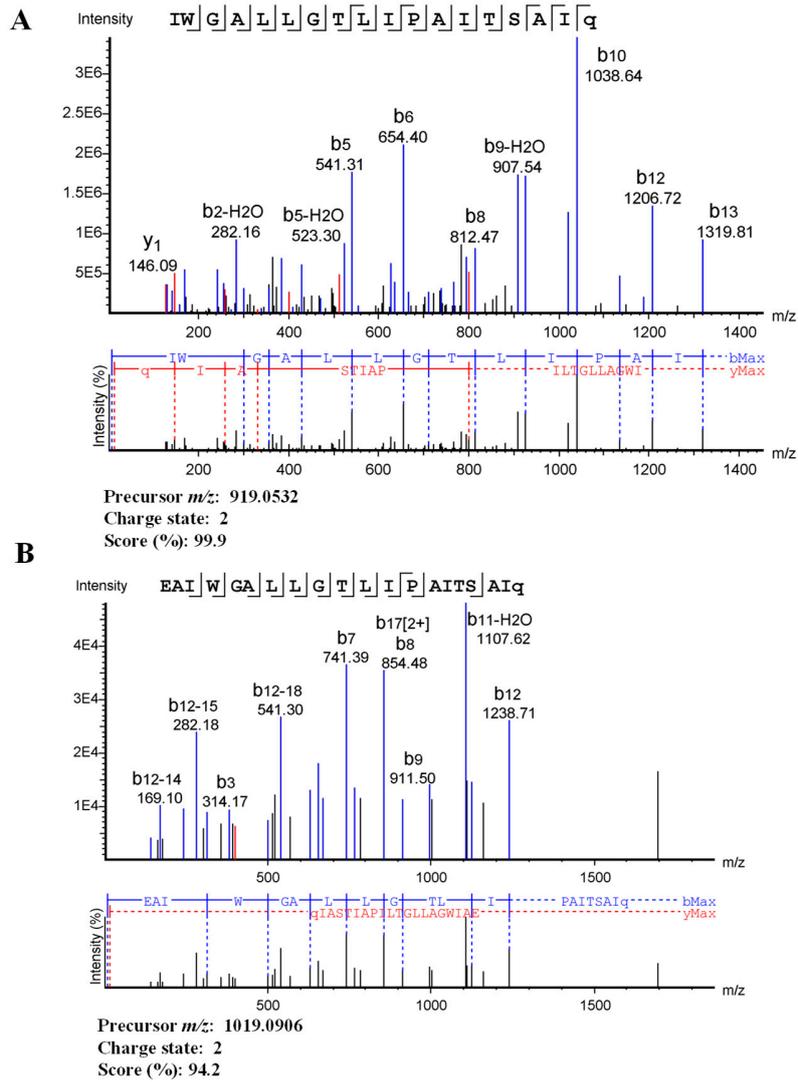
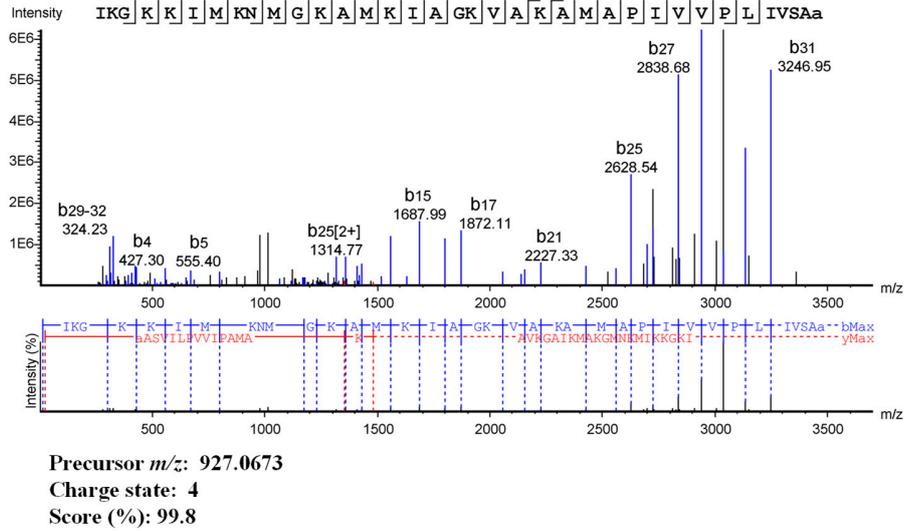
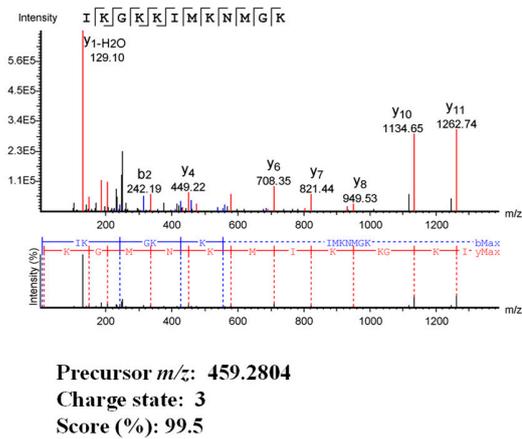


Figure S5. MS/MS spectra of pilosulin-like peptide 5. MS/MS spectra were obtained under a reducing condition without trypsin digestion (**A,B**). The panel shows the annotated spectra and b- and y-ions of the pilosulin-like peptide 5 amino acid sequence. The peptide's precursor m/z and charge state are indicated. We referred to the transcriptome data of pilosulin-like peptide 5 for MS/MS spectrum interpretation.

A



B



C

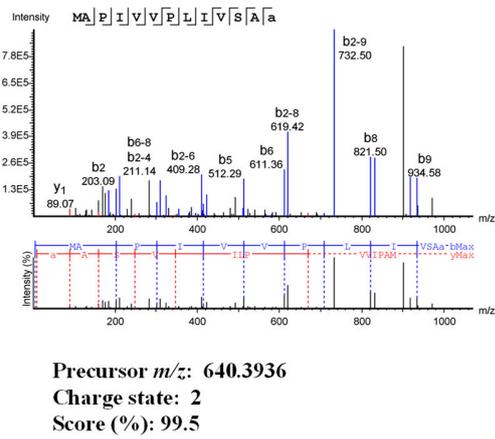


Figure S6. MS/MS spectra of pilosulin-like peptide 6. MS/MS spectra were obtained under a nonreducing condition without trypsin digestion (A,C) and under a reducing condition without trypsin digestion (B). The panel shows the annotated spectra and b- and y-ions of the pilosulin-like peptide 6 amino acid sequence. The peptide's precursor m/z and charge state are indicated. We referred to the transcriptome data of pilosulin-like peptide 6 for MS/MS spectrum interpretation.

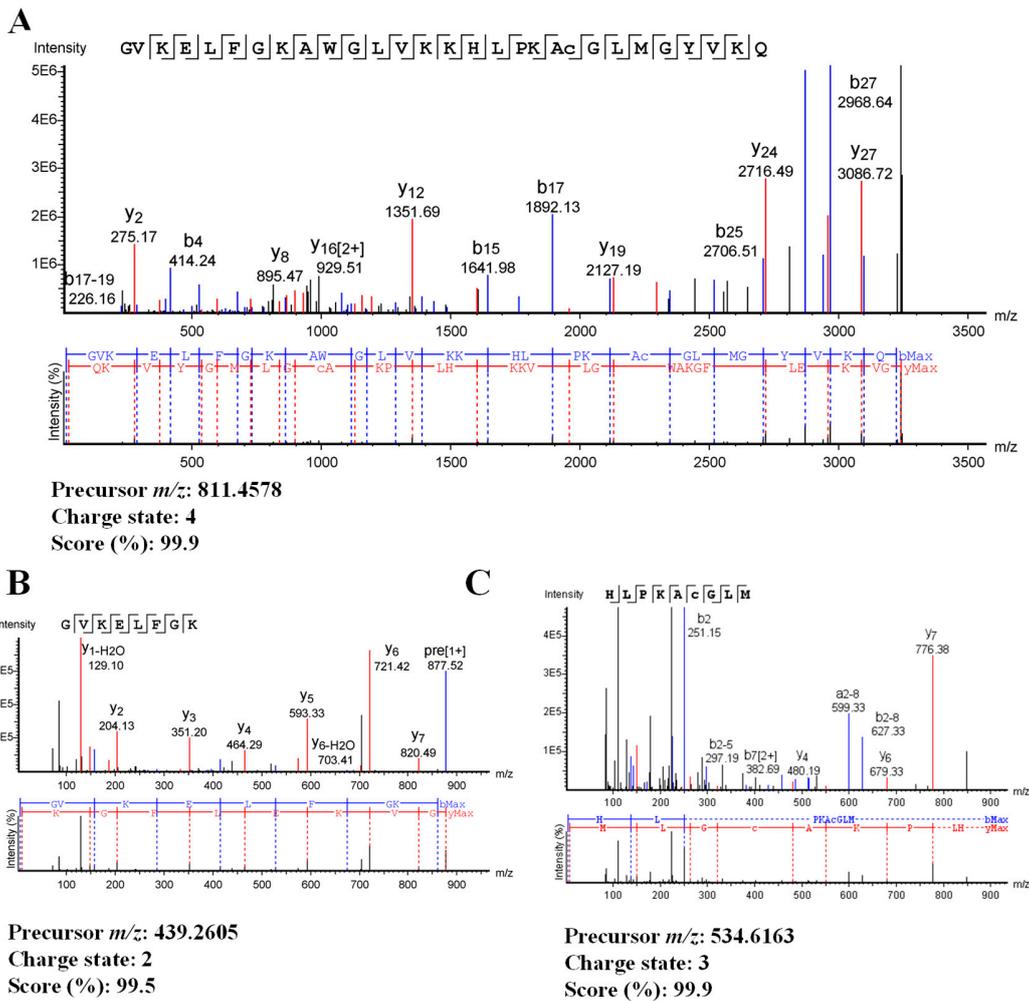
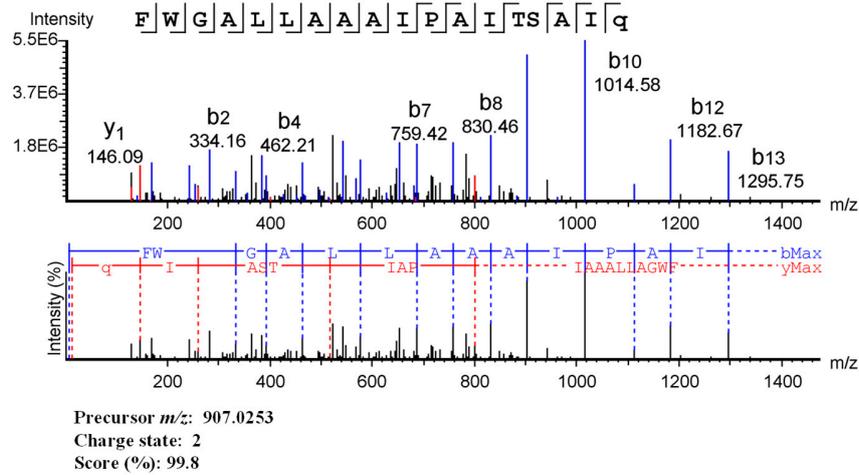


Figure S7. MS/MS spectra of pilosulin-like peptide 7. MS/MS spectra were obtained under a reducing condition without trypsin digestion (**A,C**) and under a reducing condition with trypsin digestion (**B**). The panel shows the annotated spectra and b- and y-ions of the pilosulin-like peptide 7 amino acid sequence. The peptide's precursor m/z and charge state are indicated. We referred to the transcriptome data of pilosulin-like peptide 7 for MS/MS spectrum interpretation.

A



B

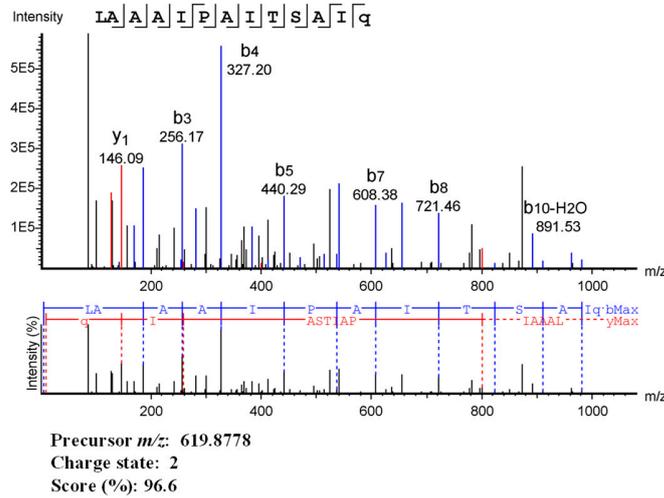


Figure S8. MS/MS spectra of pilosulin-like peptide 8. MS/MS spectra were obtained under a nonreducing condition without trypsin digestion (**A**) and under a reducing condition without trypsin digestion (**B**). The panel shows the annotated spectra and b- and y-ions of the pilosulin-like peptide 8 amino acid sequence. The peptide's precursor *m/z* and charge state are indicated. We referred to the transcriptome data of pilosulin-like peptide 8 for MS/MS spectrum interpretation.

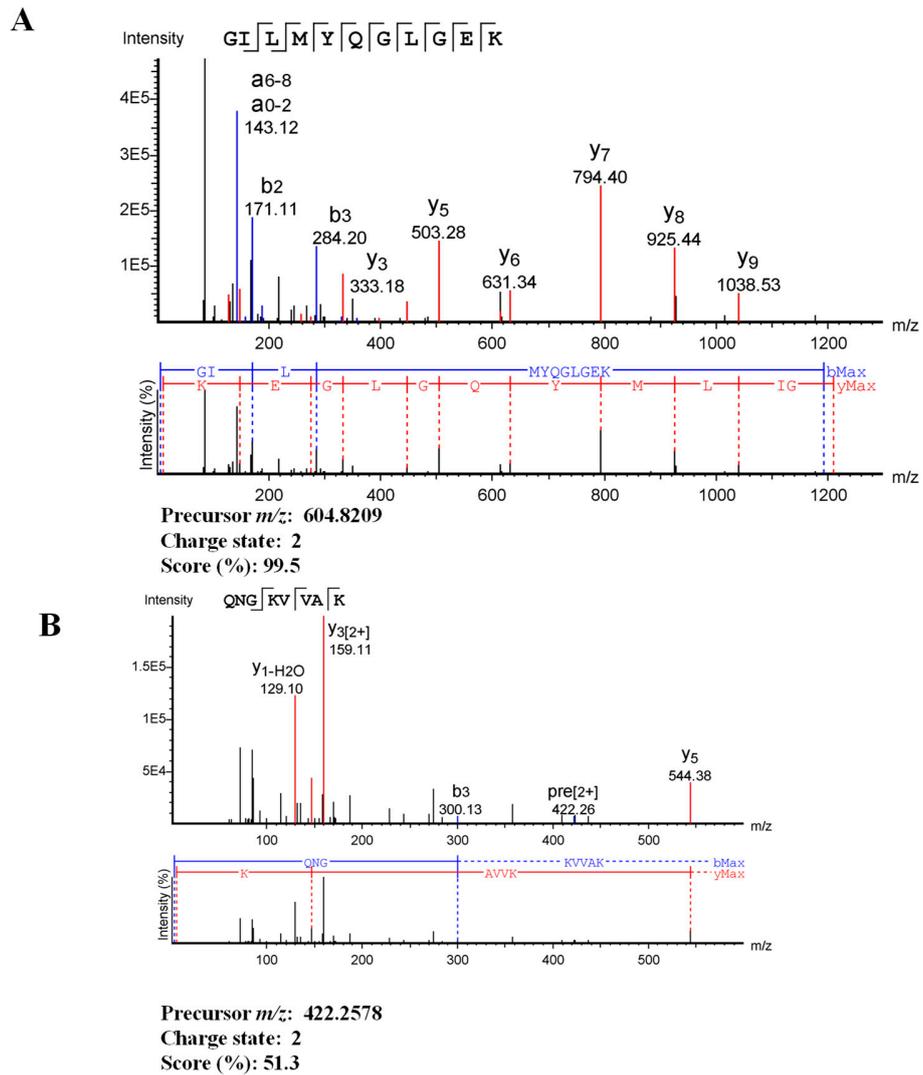


Figure S9. MS/MS spectra of pilosulin-like peptide 9. MS/MS spectra were obtained under a reducing condition with trypsin digestion (A,B). The panel shows the annotated spectra and b- and y-ions of the pilosulin-like peptide 9 amino acid sequence. The peptide's precursor m/z and charge state are indicated. We referred to the transcriptome data of pilosulin-like peptide 9 for MS/MS spectrum interpretation.

Met Lys Pro Ser Gly Leu Thr Leu Ala Phe Leu Val Val Phe Met	15
ATG AAA CCG TCG GGT CTC ACG TTG GCT TTC TTG GTA GTT TTT ATG	45
Met Ala Ile Met Tyr Asn Ser Val Gln Ala Glu Ala Leu Ala Asp	30
ATG GCG ATC ATG TAC AAT TCG GTA CAA GCG GAA GCA TTA GCT GAT	90
Ala Asp Ala Glu Ala Phe Ala Glu Ala Gly Val Lys Glu Leu Phe	45
GCC GAT GCC GAA GCC TTT GCC GAG GCT GGG GTC AAG GAA TTG TTT	135
Gly Lys Ala Trp Gly Leu Val Lys Lys His Leu Pro Lys Ala Cys	60
GGT AAA GCG TGG GGA CTT GTC AAA AAG CAC TTA CCC AAA GCG TGT	180
Gly Leu Met Gly Tyr Val Lys Gln	75
GGA CTG ATG GGA TAC GTA AAG CAA TAA TAA AGA AGA TAG ATG AAA	225
CAA CCG CAC CGA CGA TAC ACG GAA GGA CAT GAA TAA TGC TTT ACT	270
ATC AAA AAT TTC TTT CTG TTT ACA AGA ATG TCG TTT AAA TTG ATA	315
TTC TAT TAA AGA ATA AAA TTA TCT GCA AAC ACT TAA AAA AAA AAA	360
AAA AA	398

Figure S10. Nucleotide and deduced amino acid sequences of pilosulin-like peptide 7. The putative mature peptide is highlighted in gray. Nucleotide sequence corresponding to the raw reads of transcriptome analysis is underlined. Arrowhead indicates the predicted N-termini of mature pilosulin-like peptide 7. The nucleotide sequence of pilosulin-like peptide 7 has been assigned DDBJ/EMBL/GenBank Accession No. LC416796.

TAT GTG TGA AAG CTC TTC TAT AAT AAA ATA TAA TTG TAA TAA AAC	45	
CTG CAA GTA TCT CTT GTA CAA GGA ATC AAG AAA ACG TAT ATA AAC	90	
GGC GCA AAT GCA AGG AAT AAA CAT CAG TTG TGC AAT AAT CAC AAC	135	
	Met Lys Leu Ser Ala Leu Ser	7
TTC AGC TTT GCT CAA TAC GAA ATG ATG AAA TTG TCG GCT TTG TCG	180	
Leu Ala Phe Ala Ile Ile Leu Met Met Thr Ile Met Tyr Thr Lys	22	
TTG GCT TTT GCC ATA ATC CTT ATG ATG ACG ATC ATG TAT ACT AAA	225	
Ala Asp Ala Asp Ala Ser Ala Asp Ala Glu Ala Asp Ala Asp Ala	37	
GCG GAT GCG GAC GCA AGT GCC GAT GCT GAG GCC GAT GCG GAT GCT	270	
Glu Ala Glu Ala Phe Trp Gly Ala Leu Leu Ala Ala Ala Ile Pro	52	
GAA GCA GAA GCA TTC TGG GGT GCT CTG TTA GCA GCA GCA ATA CCA	315	
Ala Ile Thr Ser Ala Ile Gln Gly Lys	61	
GCA ATA ACT TCC GCA ATA CAA GGG AAA TAA ACG AAA GTA TTG AAA	360	
GCA ATC GAC GAC ACA TCA AAA TAG AAA ACG AAG AAG CGA TGA CTC	405	
TGG AAC GAA AGG AAA TGA ATA ATA CTA TAA AAA ATG AAT ACT ATC	450	
AAA AAT TTA TTC TAG CTT GCG TTT ATC GCA GAC AAT TGA TGT ATT	495	
AAT GTC GTT CGA TTG GCA TTA CAT TGG	522	

Figure S11. Nucleotide and deduced amino acid sequences of pilosulin-like peptide 8. The putative mature peptide is highlighted in gray. Arrowhead indicates the predicted N-termini of mature pilosulin-like peptide 8. The nucleotide sequence of pilosulin-like peptide 8 has been assigned DDBJ/EMBL/GenBank Accession No. LC416797.

Met	Lys	Pro	Ser	Gly	Leu	Thr	Phe	Ala	Phe	Leu	Val	Val	Phe	Met	15
<u>ATG</u>	<u>AAA</u>	<u>CCG</u>	<u>TCG</u>	<u>GGT</u>	<u>CTC</u>	<u>ACA</u>	<u>TTC</u>	<u>GCT</u>	<u>TTC</u>	<u>TTA</u>	<u>GTA</u>	<u>GTT</u>	<u>TTT</u>	<u>ATG</u>	45
Met	Ala	Ile	Met	Tyr	Asn	Ser	Val	Gln	Val	Thr	Ala	Asp	Ala	Asp	30
<u>ATG</u>	<u>GCG</u>	<u>ATC</u>	<u>ATG</u>	<u>TAC</u>	<u>AAT</u>	<u>TCG</u>	<u>GTA</u>	<u>CAA</u>	<u>GTG</u>	<u>ACA</u>	<u>GCT</u>	<u>GAT</u>	<u>GCC</u>	<u>GAT</u>	90
Ala	Asp	Ala	Glu	Ala	Glu	Ala	Leu	Ala	Asn	Ala	Leu	Ala	Glu	Ala	45
<u>GCC</u>	<u>GAT</u>	<u>GCT</u>	<u>GAA</u>	<u>GCC</u>	<u>GAA</u>	<u>GCC</u>	<u>CTT</u>	<u>GCC</u>	<u>AAT</u>	<u>GCC</u>	<u>CTT</u>	<u>GCC</u>	<u>GAG</u>	<u>GCT</u>	135
▼															
Gly	Ile	Leu	Met	Tyr	Gln	Gly	Leu	Gly	Glu	Lys	Ser	Asp	Gly	Leu	60
<u>GGG</u>	<u>ATC</u>	<u>TTG</u>	<u>ATG</u>	<u>TAC</u>	<u>CAA</u>	<u>GGA</u>	<u>CTG</u>	<u>GGG</u>	<u>GAA</u>	<u>AAA</u>	<u>AGT</u>	<u>GAT</u>	<u>GGA</u>	<u>TTG</u>	180
Asp	Gln	Gly	Gln	Asn	Gly	Lys	Val	Val	Ala						75
<u>GAT</u>	<u>CAA</u>	<u>GGA</u>	<u>CAA</u>	<u>AAT</u>	<u>GGG</u>	<u>AAA</u>	<u>GTA</u>	<u>GTA</u>	<u>GCA</u>	<u>AAG</u>	<u>AAA</u>	<u>TAA</u>	<u>TAA</u>	<u>AGA</u>	225
AGG	TAG	ATG	AAA	CAA	TCG	TAC	CGA	CAA	TAC	ACG	GAA	GGA	CAT	GGA	270
<u>TAA</u>	<u>TGC</u>	<u>TTT</u>	<u>ACT</u>	<u>ATC</u>	<u>AAA</u>	<u>AAT</u>	<u>TTC</u>	<u>TTT</u>	<u>CTA</u>	<u>TTT</u>	<u>ACG</u>	<u>GCA</u>	<u>ATG</u>	<u>TCG</u>	315
<u>TTT</u>	<u>AAA</u>	<u>TTG</u>	<u>ATA</u>	<u>TTC</u>	<u>TAT</u>	<u>TAA</u>	<u>AGA</u>	<u>ATA</u>	<u>AAA</u>	<u>TTT</u>	<u>TCT</u>	<u>GCA</u>	<u>AAC</u>	<u>ATA</u>	360
<u>AAA</u>	393														

Figure S12. Nucleotide and deduced amino acid sequences of pilosulin-like peptide 9. The putative mature peptide is highlighted in gray. Nucleotide sequence corresponding to the raw reads of transcriptome analysis is underlined. Arrowhead indicates the predicted N-termini of mature pilosulin-like peptide 9. The nucleotide sequence of pilosulin-like peptide 9 has been assigned DDBJ/EMBL/GenBank Accession No. LC416798.