

## Electronic supplementary material

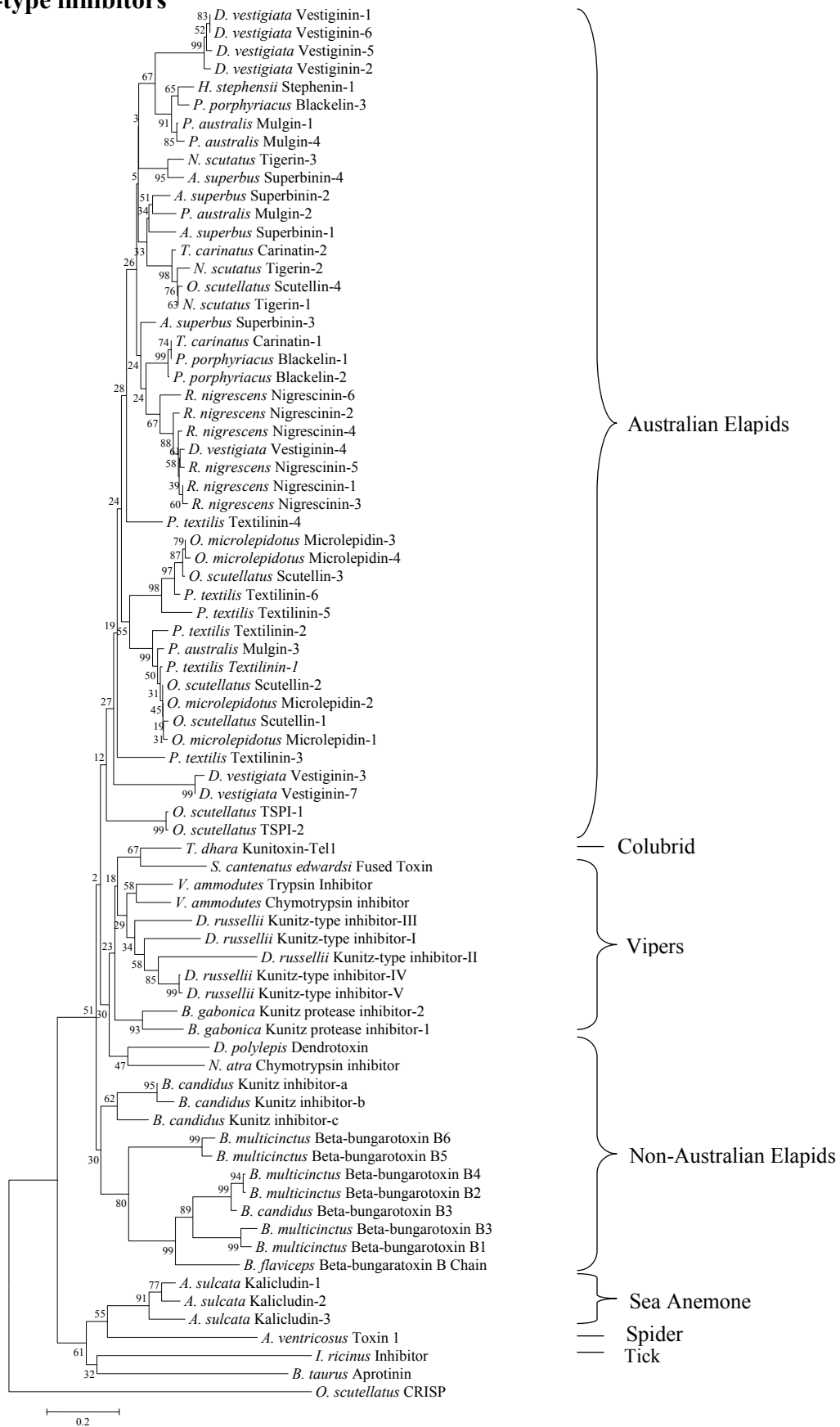
### Supplementary Figure Legends

**Supplementary Figure 1.** Phylogenetic analysis of (A) Kunitz-type serine protease inhibitors and (B) Waprin sequences performed with a Minimum Evolution test of phylogeny via the Neighbour-Joining method with 1,000 bootstrap replicates using MEGA version 2.1 software. A number of non-Australian snake, and non-snake species were included in the phylogenetic tree. In each instance, the cysteine-rich secretory protein (CRISP) toxin sequence from *O. scutellatus* (DQ084035) was selected as an out-group for the analysis. Clustering of the toxin sequences into clades according to their respective families is evident. pp 2–3.

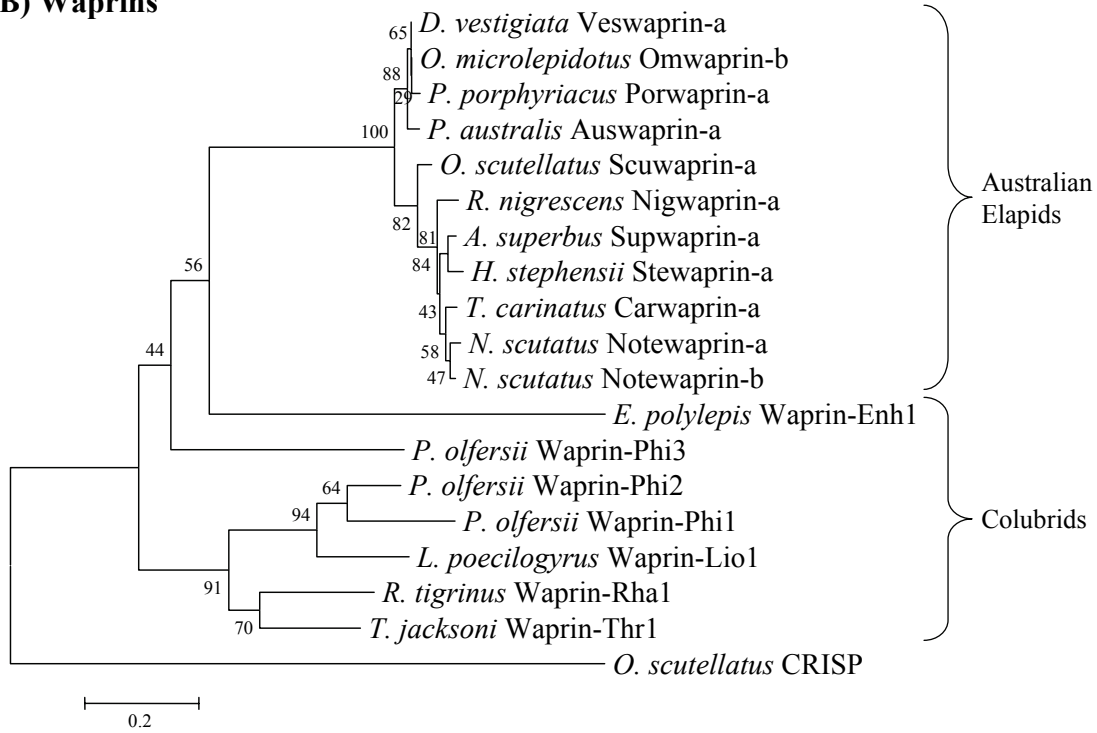
**Supplementary Figure 2.** Toxin sequence genomic organisation in Australian elapid snakes for (A) – (J) members of the waprin family (K) – (U) members of kunitz-type serine protease inhibitors and (V) TSPI and BPTI-like genomic sequences. pp 4–25.

Supplementary Figure 1.

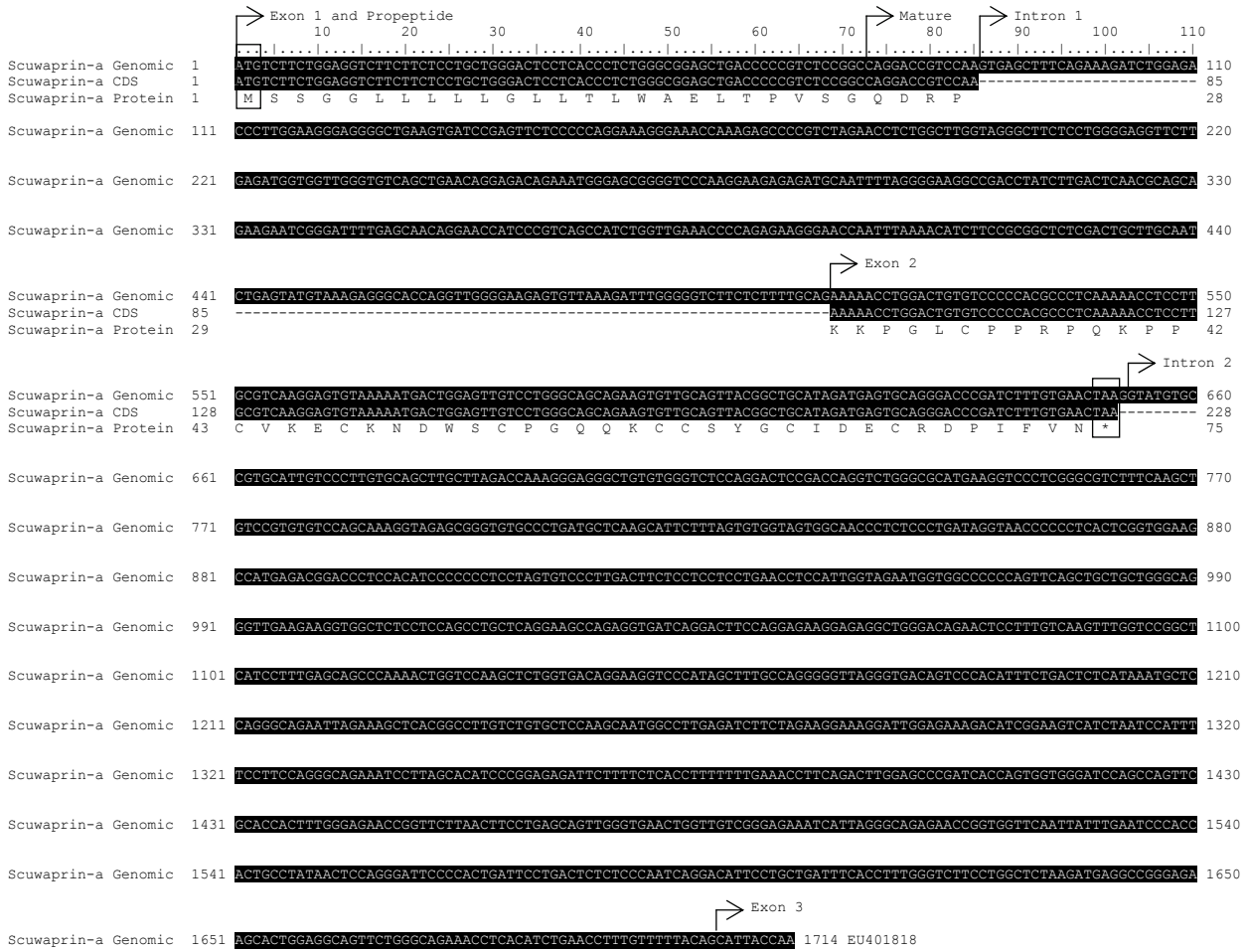
A) Kunitz-type inhibitors



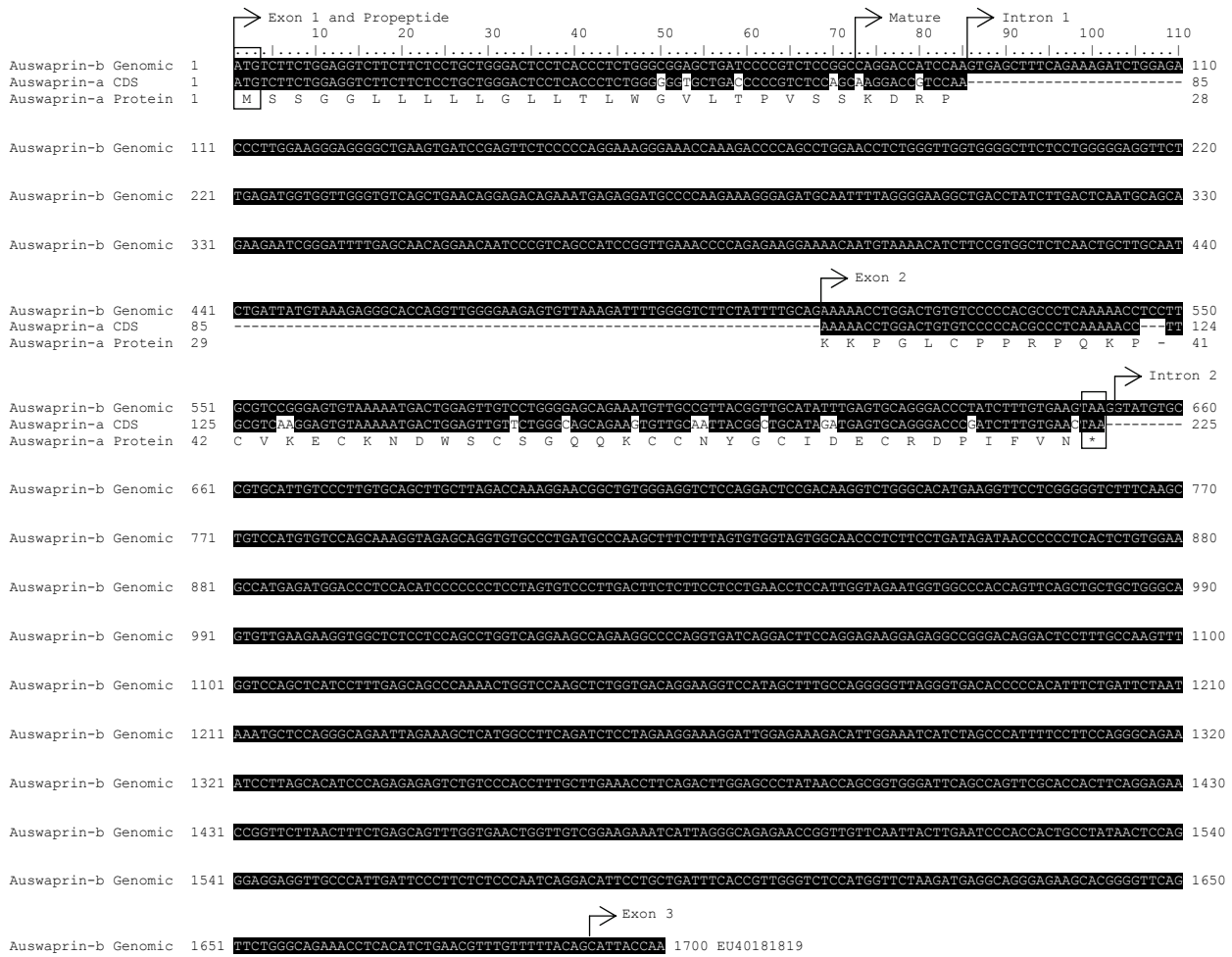
**B) Waprins**



## Supplementary Figure 2.



### A) *O. scutellatus* Scuwaprin-a Genomic Sequence



## B) *P. australis* Auswaprin-b Genomic Sequence

Porwaprin-b Genomic 1  
 Porwaprin-c Genomic 1  
 Porwaprin-d Genomic 1  
 Porwaprin-a CDS 1  
 Porwaprin-a Protein 1

Porwaprin-b Genomic 111  
 Porwaprin-c Genomic 110  
 Porwaprin-d Genomic 110

Porwaprin-b Genomic 220  
 Porwaprin-c Genomic 220  
 Porwaprin-d Genomic 220

Porwaprin-b Genomic 330  
 Porwaprin-c Genomic 330  
 Porwaprin-d Genomic 330

Porwaprin-b Genomic 440  
 Porwaprin-c Genomic 440  
 Porwaprin-d Genomic 440  
 Porwaprin-a CDS 85  
 Porwaprin-a Protein 29

Porwaprin-b Genomic 550  
 Porwaprin-c Genomic 550  
 Porwaprin-d Genomic 550  
 Porwaprin-a CDS 124  
 Porwaprin-a Protein 42

Porwaprin-b Genomic 660  
 Porwaprin-c Genomic 660  
 Porwaprin-d Genomic 660

Porwaprin-b Genomic 769  
 Porwaprin-c Genomic 766  
 Porwaprin-d Genomic 766

Porwaprin-b Genomic 879  
 Porwaprin-c Genomic 876  
 Porwaprin-d Genomic 876

Porwaprin-b Genomic 988  
 Porwaprin-c Genomic 986  
 Porwaprin-d Genomic 986

Porwaprin-b Genomic 1098  
 Porwaprin-c Genomic 1096  
 Porwaprin-d Genomic 1096

Porwaprin-b Genomic 1208  
 Porwaprin-c Genomic 1206  
 Porwaprin-d Genomic 1206

Porwaprin-b Genomic 1318  
 Porwaprin-c Genomic 1292  
 Porwaprin-d Genomic 1231

Porwaprin-b Genomic 1428  
 Porwaprin-c Genomic 1402  
 Porwaprin-d Genomic 1275

Porwaprin-b Genomic 1537  
 Porwaprin-c Genomic 1511  
 Porwaprin-d Genomic 1385

Porwaprin-b Genomic 1647  
 Porwaprin-c Genomic 1619  
 Porwaprin-d Genomic 1493

1730 EU401820  
 1702 EU401821  
 1576 EU401822

**C) *P. porphyriacus* Porwaprin-b, -c and -d Genomic Sequences**

Exon 1 and Propeptide      Mature      Intron 1      Exon 2      Intron 2      Exon 3

Nigwaprin-b Genomic 1      109  
 Nigwaprin-a Genomic 1      110  
 Nigwaprin-a CDS 1      85  
 Nigwaprin-a Protein 1      28  
 M S S G G L L L L L G L L T L W A E L T P V S G Q D R P

Nigwaprin-b Genomic 110  
 Nigwaprin-a Genomic 111  
 Nigwaprin-a CDS 85

Nigwaprin-b Genomic 220  
 Nigwaprin-a Genomic 221

Nigwaprin-b Genomic 330  
 Nigwaprin-a Genomic 331

Nigwaprin-b Genomic 440  
 Nigwaprin-a Genomic 441  
 Nigwaprin-a CDS 85  
 Nigwaprin-a Protein 29  
 V K F G L C P P R P Q K P P

Nigwaprin-b Genomic 550  
 Nigwaprin-a Genomic 551  
 Nigwaprin-a CDS 128  
 Nigwaprin-a Protein 43  
 C V K E C K N D W S C R G E Q K C C R Y G C I Y E C R D P I F V K \*

Nigwaprin-b Genomic 660  
 Nigwaprin-a Genomic 661

Nigwaprin-b Genomic 770  
 Nigwaprin-a Genomic 771

Nigwaprin-b Genomic 880  
 Nigwaprin-a Genomic 881

Nigwaprin-b Genomic 990  
 Nigwaprin-a Genomic 991

Nigwaprin-b Genomic 1100  
 Nigwaprin-a Genomic 1101

Nigwaprin-b Genomic 1210  
 Nigwaprin-a Genomic 1211

Nigwaprin-b Genomic 1320  
 Nigwaprin-a Genomic 1321

Nigwaprin-b Genomic 1418  
 Nigwaprin-a Genomic 1431

Nigwaprin-b Genomic 1528  
 Nigwaprin-a Genomic 1541

Nigwaprin-b Genomic 1638  
 Nigwaprin-a Genomic 1651  
 1717 EU401824  
 1730 EU401823

**D) *R. nigrescens* Nigwaprin-a and -b Genomic Sequences**

|             |         | Exon 1 and Propeptide |  |    |    |    |    |    |    |    |     | Mature |    |    |    |    |    |    |    |    |    | Intron 1 |     |    |    |    |    |    |    |    |    |    |               |     |
|-------------|---------|-----------------------|--|----|----|----|----|----|----|----|-----|--------|----|----|----|----|----|----|----|----|----|----------|-----|----|----|----|----|----|----|----|----|----|---------------|-----|
|             |         | 10                    | 20   | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110    | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100      | 110 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100           | 110 |
| Notwaprin-a | Genomic | 1                     | ATGCTCTCTGGAGGCTTCTTCTCCTGCTGGGACTCCTCACCCCTCTGGGGGGAGCTGACCCCGTCTCCAGCTGGACCTCCAAAGTGAAGTTTCAGAAAGATATTGAGA |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 110           |     |
| Notwaprin-b | Genomic | 1                     | ATGCTCTCTGGAGGCTTCTTCTCCTGCTGGGACTCCTCACCCCTCTGGGGGGAGCTGACCCCGTCTCCAGCTGGACCTCCAAAGTGAAGTTTCAGAAAGATATTGAGA |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 110           |     |
| Notwaprin-a | CDS     | 1                     | ATGCTCTCTGGAGGCTTCTTCTCCTGCTGGGACTCCTCACCCCTCTGGGGGGAGCTGACCCCGTCTCCAGCTGGACCTCCAAAGTGAAGTTTCAGAAAGATATTGAGA |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 85            |     |
| Notwaprin-b | CDS     | 1                     | ATGCTCTCTGGAGGCTTCTTCTCCTGCTGGGACTCCTCACCCCTCTGGGGGGAGCTGACCCCGTCTCCAGCTGGACCTCCAAAGTGAAGTTTCAGAAAGATATTGAGA |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 85            |     |
| Notwaprin-a | Protein | 1                     | M S S G G L L L L L G L L L T L W A E L T P V S S L D R P  |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 28            |     |
| Notwaprin-b | Protein | 1                     | M S S G G L L L L L G L L L T L W A E L T P V S S Q D R P  |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 28            |     |
|             |         |                       |  |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    |               |     |
| Notwaprin-a | Genomic | 111                   | CCCTTGAAGGGAGGGGCTGAAGTATCAGAGTTCTCCCCAGGAAAGGAAACCAAGACCCAGTCTGGAACCTTGCCCTAGCGGGGCTTCTCTGGGGAGGTTCT        |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 220           |     |
| Notwaprin-b | Genomic | 111                   | CCCTTGAAGGGAGGGGCTGAAGTATCAGAGTTCTCCCCAGGAAAGGAAACCAAGACCCAGTCTGGAACCTTGCCCTAGCGGGGCTTCTCTGGGGAGGTTCT        |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 220           |     |
|             |         |                       |  |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    |               |     |
| Notwaprin-a | Genomic | 221                   | TGAGATGGTGGTGGGTGTGAGCTGAACAGGAGACAGAAATGAGAGGATGCCCAAGAAAGAGAGATGCAATTTTAGGGGAAGGCTGACCTATCTTGACTCAATGACGCA |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 330           |     |
| Notwaprin-b | Genomic | 221                   | TGAGATGGTGGTGGGTGTGAGCTGAACAGGAGACAGAAATGAGAGGATGCCCAAGAAAGAGAGATGCAATTTTAGGGGAAGGCTGACCTATCTTGACTCAATGACGCA |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 330           |     |
|             |         |                       |  |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    |               |     |
| Notwaprin-a | Genomic | 331                   | GAAGAATCGGGATTTTGGAGCAACAGGAACAATCCCGTCAGCCATCCGGTTGAAACCCAGAGAGGAAACAAATGTAACATCTCCGTGGCTCTCACTGCTGCAAT     |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 440           |     |
| Notwaprin-b | Genomic | 331                   | GAAGAATCGGGATTTTGGAGCAACAGGAACAATCCCGTCAGCCATCCGGTTGAAACCCAGAGAGGAAACAAATGTAACATCTCCGTGGCTCTCACTGCTGCAAT     |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 440           |     |
|             |         |                       |  |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    |               |     |
| Notwaprin-a | Genomic | 441                   | CTGAGTATGTAAGAGGGCACCAGGTTGGGGAAGAGTAAAGATTTTGGGGTCTTCTATTTTTCAGAAAAACCTGGACTGTGTCCTCCCAAGCCCTCAAAAACCTCCTT  |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 550           |     |
| Notwaprin-b | Genomic | 441                   | CTGAGTATGTAAGAGGGCACCAGGTTGGGGAAGAGTAAAGATTTTGGGGTCTTCTATTTTTCAGAAAAACCTGGACTGTGTCCTCCCAAGCCCTCAAAAACCTCCTT  |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 550           |     |
| Notwaprin-a | CDS     | 85                    | -----AAAAACCTGGACTGTGTCCTCCCAAGCCCTCAAAAACCTCCTT-----  |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 127           |     |
| Notwaprin-b | CDS     | 85                    | -----AAAAACCTGGACTGTGTCCTCCCAAGCCCTCAAAAACCTCCTT-----  |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 127           |     |
| Notwaprin-a | Protein | 29                    | K K P G L C P P R P Q K P P  |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 42            |     |
| Notwaprin-b | Protein | 29                    | K K P G L C P P R P Q K P P  |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 42            |     |
|             |         |                       |  |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    |               |     |
| Notwaprin-a | Genomic | 551                   | CGCTCAGGAGTGTAAAAATGACTGGAGATGCTGGGAGCAGAAATGTGCCGTTACGGCTGCATATATGAGTGCAGGGATCCATCTTTGTGAAGTAAGGTATGTGC     |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 660           |     |
| Notwaprin-b | Genomic | 551                   | CGCTCAGGAGTGTAAAAATGACTGGAGATGCTGGGAGCAGAAATGTGCCGTTACGGCTGCATATATGAGTGCAGGGATCCATCTTTGTGAAGTAAGGTATGTGC     |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 660           |     |
| Notwaprin-a | CDS     | 128                   | CGCTCAGGAGTGTAAAAATGACTGGAGATGCTGGGAGCAGAAATGTGCCGTTACGGCTGCATATATGAGTGCAGGGATCCATCTTTGTGAAGTAA-----         |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 228           |     |
| Notwaprin-b | CDS     | 128                   | CGCTCAGGAGTGTAAAAATGACTGGAGATGCTGGGAGCAGAAATGTGCCGTTACGGCTGCATATATGAGTGCAGGGATCCATCTTTGTGAAGTAA-----         |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 228           |     |
| Notwaprin-a | Protein | 43                    | C V R E C K N D W R C P G E Q K C C R Y G C I Y E C R D P I F V K *  |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 75            |     |
| Notwaprin-b | Protein | 43                    | C V R E C K N D W I C P G E Q K C C R Y G C I Y E C R D P I F V K *  |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 75            |     |
|             |         |                       |  |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    |               |     |
| Notwaprin-a | Genomic | 661                   | CGTGCATTTGCCCTTGTGAGCTTGTAGACCAAGGAACCGCTGTGGGGGTTCTCCAGGACTCCGACAAAGGTGTGGGCACATGAAGTTCTCGGGGCTTTCAAGC      |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 770           |     |
| Notwaprin-b | Genomic | 661                   | CGTGCATTTGCCCTTGTGAGCTTGTAGACCAAGGAACCGCTGTGGGGGTTCTCCAGGACTCCGACAAAGGTGTGGGCACATGAAGTTCTCGGGGCTTTCAAGC      |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 770           |     |
|             |         |                       |  |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    |               |     |
| Notwaprin-a | Genomic | 771                   | TGTCCGTGTGTCCAGCAAGGTAGAGCAGGTTGCCCTGATGCTCAAGCATCTTTAGTGTGGTAGTGGCAACCTCTTCTGATAGATAACCCCTTCACTCTGTGGAA     |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 880           |     |
| Notwaprin-b | Genomic | 771                   | TGTCCGTGTGTCCAGCAAGGTAGAGCAGGTTGCCCTGATGCTCAAGCATCTTTAGTGTGGTAGTGGCAACCTCTTCTGATAGATAACCCCTTCACTCTGTGGAA     |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 880           |     |
|             |         |                       |  |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    |               |     |
| Notwaprin-a | Genomic | 881                   | GCCATGAGAGCGGACCTCCACATCCCCCTCTCTAGTGCCTTGCATCTCTTCTCTGACCTCCATTTGGTGAAGTGTGGCCACCACTGACTGCTGTGTGGCA         |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 990           |     |
| Notwaprin-b | Genomic | 881                   | GCCATGAGAGCGGACCTCCACATCCCCCTCTCTAGTGCCTTGCATCTCTTCTCTGACCTCCATTTGGTGAAGTGTGGCCACCACTGACTGCTGTGTGGCA         |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 990           |     |
|             |         |                       |  |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    |               |     |
| Notwaprin-a | Genomic | 991                   | GTGTTGAAGAGGTGGCTCTCTCCAGCCCTGGTCCAGGAAGCCAGAGCCCGGAGTATCAGGACTCCAGGAGAGGAGGCGGGGAGGACTCCTTTGCCAAGTTT        |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1100          |     |
| Notwaprin-b | Genomic | 991                   | GTGTTGAAGAGGTGGCTCTCTCCAGCCCTGGTCCAGGAAGCCAGAGCCCGGAGTATCAGGACTCCAGGAGAGGAGGCGGGGAGGACTCCTTTGCCAAGTTT        |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1100          |     |
|             |         |                       |  |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    |               |     |
| Notwaprin-a | Genomic | 1101                  | GGTCCAGCTCATCTTTGAGCAGCCAAAACCTGTTCCAAAGCTCTGGTACAGGAAGTCCCATAGCTTCGCCAGGGGTTAGGTTGACATCCACATTTCTGACTCTAA    |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1210          |     |
| Notwaprin-b | Genomic | 1101                  | GGTCCAGCTCATCTTTGAGCAGCCAAAACCTGTTCCAAAGCTCTGGTACAGGAAGTCCCATAGCTTCGCCAGGGGTTAGGTTGACATCCACATTTCTGACTCTAA    |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1210          |     |
|             |         |                       |  |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    |               |     |
| Notwaprin-a | Genomic | 1211                  | TAAATGCTCCGGGGCAGAATT-----   |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1231          |     |
| Notwaprin-b | Genomic | 1211                  | TAAATGCTCCGGGGCAGAATTAGAAAAGCTATGGCCCTGAGAATCTTGAAGGAAAGATTGGAGAAAGACATTGGAAGTCACTFAGTCCATTTCTCTCCAGGGCAGA   |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1320          |     |
|             |         |                       |  |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    |               |     |
| Notwaprin-a | Genomic | 1231                  | -----TGCTTGAACCTTCAGACTTGGACCCCTATAACCAAGTGTGGGATTCAGCCAGTTCGCACAGTTCAGGAGA                                  |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1303          |     |
| Notwaprin-b | Genomic | 1321                  | AATCTTACGACATCCCGGAGAGATTCTGCTCCACTTTGCTTGAACCTTCAGACTTGGACCCCTATAACCAAGTGTGGGATTCAGCCAGTTCGCACAGTTCAGGAGA   |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1430          |     |
|             |         |                       |  |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    |               |     |
| Notwaprin-a | Genomic | 1304                  | ACCGGTTCTTAACCTTCTGAGCAGTTTGGTGAAGTGTGTTGGAAGAAATCATTAGGGTAGAGAACCAGTGTTCATTACTTGAATCCACCACCTGCCTATAACTCC    |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1413          |     |
| Notwaprin-b | Genomic | 1431                  | ACCGGTTCTTAACCTTCTGAGCAGTTTGGTGAAGTGTGTTGGAAGAAATCATTAGGGTAGAGAACCAGTGTTCATTACTTGAATCCACCACCTGCCTATAACTCC    |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1539          |     |
|             |         |                       |  |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    |               |     |
| Notwaprin-a | Genomic | 1414                  | AGGGAGGAGTGTGGCCATTGATTCCTTCTCTCCAAACAGGACATTCCTGCTGATTTACAGCTTTGGGTTCCATGTTCTAAGATGAGGCAGGGAAGACAGGGGTT     |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1523          |     |
| Notwaprin-b | Genomic | 1540                  | AGGGAGGAGTGTGGCCATTGATTCCTTCTCTCCAAACAGGACATTCCTGCTGATTTACAGCTTTGGGTTCCATGTTCTAAGATGAGGCAGGGAAGACAGGGGTT     |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1649          |     |
|             |         |                       |  |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    |               |     |
| Notwaprin-a | Genomic | 1524                  | CAGTCTGGGCAGAACCTCACACTGAACCTTTGTTTTACAGCATTACCAA  |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1576 EU401825 |     |
| Notwaprin-b | Genomic | 1650                  | CAGTCTGTCGCAAGAACCTCACACTGAACCTTTGTTTTTACAGCATTACCAA   |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1702 EU401826 |     |

E) *N. scutatus* Notwaprin-a and -b Genomic Sequences



|             |         | Exon 1 and Propeptide |   |    |    |    |    |    |    |    |     | Mature |    |    |    |    |    |    |    |    |    | Intron 1 |     |    |    |    |    |    |    |    |    |    |               |     |
|-------------|---------|-----------------------|---|----|----|----|----|----|----|----|-----|--------|----|----|----|----|----|----|----|----|----|----------|-----|----|----|----|----|----|----|----|----|----|---------------|-----|
|             |         | 10                    | 20  | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110    | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100      | 110 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100           | 110 |
| Carwaprin-b | Genomic | 1                     | ATGCTCTCTGGAGTCTTCTTCCTGCTGGGACTCCTCACCCCTCGGGGAGCTGACCCCGCTCTCCAGCAGGACCGTCCAAGTGAAGTTCAGAAAAGATCTGAGA         |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 110           |     |
| Carwaprin-a | Genomic | 1                     | ATGCTCTCTGGAGTCTTCTTCCTGCTGGGACTCCTCACCCCTCGGGGAGCTGACCCCAATCTCCGGCCAGGACCGTCCAAGTGAAGTTCAGAAAAGATCTGGAGA       |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 110           |     |
| Carwaprin-a | CDS     | 1                     | ATGCTCTCTGGAGTCTTCTTCCTGCTGGGACTCCTCACCCCTCGGGGAGCTGACCCCAATCTCCGGCCAGGACCGTCCA                                 |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 85            |     |
| Carwaprin-a | Protein | 1                     | M S S G G L L L L L G L L T L W A E L T P I S G Q D R P   |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 28            |     |
|             |         |                       |   |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    |               |     |
| Carwaprin-b | Genomic | 111                   | CCCTTGGAAAGGAGGGGCTGAAGTATCAGAGTCTCCCTCCAGAAAGGAAACCAAGACCCAGTCTGAAACCTCTGGCTTGGTGGGGCTTCCTCTGGGGAGGTTCT        |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 220           |     |
| Carwaprin-a | Genomic | 111                   | CCCTTGGAAAGGAGGGGCTGAAGTATCAGAGTCTCCCTCCAGAAAGGAAACCAAGACCCAGTCTGAAACCTCTGGCTTGGTGGGGCTTCCTCTGGGGAGGTTCT        |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 199           |     |
|             |         |                       |   |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    |               |     |
| Carwaprin-b | Genomic | 221                   | TGAGATGTTGGTCTGGTCTCAGCTGAACAGGAGACAGAAAAGAGAGATGCCCAAGAAAGAGAGATGCAATTTAGGGGAAGGCTGACCTATCTTGAACCAATGCGAGCA    |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 330           |     |
| Carwaprin-a | Genomic | 200                   | TGAGATGTTGGTCTGGTCTCAGCTGAACAGGAGACAGAAAAGAGAGATGCCCAAGAAAGAGAGATGCAATTTAGGGGAAGGCTGACCTATCTTGAACCAATGCGAGCA    |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 309           |     |
|             |         |                       |   |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    |               |     |
| Carwaprin-b | Genomic | 331                   | GAAGAAATCGGGATTTTGGCAACAGGAAACATCCCGTCAGCCATCCGGTTGAAACCCAGAGAAAGAAACAATGTAACAACATCTCCGTGGCTCTCAACTGCTTGCAT     |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 440           |     |
| Carwaprin-a | Genomic | 310                   | GAAGAAATCGGGATTTTGGCAACAGGAAACATCCCGTCAGCCATCCGGTTGAAACCCAGAGAAAGAAACAATGTAACAACATCTCCGTGGCTCTCAACTGCTTGCAT     |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 419           |     |
|             |         |                       |   |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    |               |     |
| Carwaprin-b | Genomic | 441                   | CTGACTATCTAAGAGGGCACCAGGTTGGGGAAGAGTCTTAAGATTTTGGGCTCTTCTATTTTGCAGAAAACCTGGACTGTGTCCCCACGGCCCTCAAAAACCTCCTT     |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 550           |     |
| Carwaprin-a | Genomic | 420                   | CTGACTATCTAAGAGGGCACCAGGTTGGGGAAGAGTCTTAAGATTTTGGGCTCTTCTATTTTGCAGAAAACCTGGACTGTGTCCCCACGGCCCTCAAAAACCTCCTT     |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 529           |     |
| Carwaprin-a | CDS     | 85                    | -----AATAAAGCTGGACTGTGTCCCCACGGCCCTCAAAAACCTCCTT  |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 127           |     |
| Carwaprin-a | Protein | 29                    | K K P G L C P P R P Q K P P   |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 42            |     |
|             |         |                       |   |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    |               |     |
| Carwaprin-b | Genomic | 551                   | GCCTCAGGAGTGTAAAAATGACTGGAGATGTCCTGGGAGCAGAAATGTTGCCGTTACGGCTGCATATATGAGTGCAGGGATCCATCTTTGTGAAGTAAAGTATGTGC     |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 660           |     |
| Carwaprin-a | Genomic | 530                   | GTGTCAGGGAGTGTAAAAATGACTGGAGATGTCCTGGGAGCAGAAATGTTGCCGTTACGGCTGCATATATGAGTGCAGGGATCCATCTTTGTGAAGTAAAGTATGTGC    |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 639           |     |
| Carwaprin-a | CDS     | 128                   | GTGTCAGGGAGTGTAAAAATGACTGGAGATGTCCTGGGAGCAGAAATGTTGCCGTTACGGCTGCATATATGAGTGCAGGGATCCATCTTTGTGAAGTAA             |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 228           |     |
| Carwaprin-a | Protein | 43                    | C V R E C K N D W R C P G E Q K C C R Y G C I Y E C R D P I F V K *   |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    |               |     |
|             |         |                       |   |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    |               |     |
| Carwaprin-b | Genomic | 661                   | CGTGCATTGCCCTGTGCAGCTTGTCTAGACCAAGGAACCGCTGTGGGGGGTCTCCAGGACTCCGACAAAGTCTGGGCACATGAAGTTCCTCGGGGGTCTTTCAAGC      |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 770           |     |
| Carwaprin-a | Genomic | 640                   | CGTGCATTGCCCTGTGCAGCTTGTCTAGACCAAGGAACCGCTGTGGGGGGTCTCCAGGACTCCGACAAAGTCTGGGCACATGAAGTTCCTCGGGGGTCTTTCAAGC      |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 749           |     |
|             |         |                       |   |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    |               |     |
| Carwaprin-b | Genomic | 771                   | TCTCCGTGTCCAGCAAAGTATAGCAGGTTGCCCTGATGCTCAAGCATCTTTAGTGTGTAGTGGCAACCCCTCTTCCTGATAGATAACCCCTCACTCTGTGGAA         |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 880           |     |
| Carwaprin-a | Genomic | 750                   | TCTCCGTGTGTCCAGCAAAGTATAGCAGGTTGCCCTGATGCTCAAGCATCTTTAGTGTGTAGTGGCAACCCCTCTTCCTGATAGATAACCCCTCACTCTGTGGAA       |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 859           |     |
|             |         |                       |   |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    |               |     |
| Carwaprin-b | Genomic | 881                   | CCCATGAGACGGACCCCTCCACCTCCCCCTCCTAGTGTCCCTTGAACCTTCTCTCTCCCTGAACCTCCAATGGTAGAAATGGTGGCCACCAAGTTCAGCTGCTGCTGGGCA |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 990           |     |
| Carwaprin-a | Genomic | 860                   | CCCATGAGACGGACCCCTCCACACCCCTCCTAGTGTCCCTTGAACCTTCTCTCTCCCTGAACCTCCAATGGTAGAAATGGTGGCCACCAAGTTCAGCTGCTGCTGGGCA   |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 969           |     |
|             |         |                       |   |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    |               |     |
| Carwaprin-b | Genomic | 991                   | GTGTTGAAGAGGTGGCTCTCCCTCCAGCTGTGTCAGGAGCCAGAAAGGCCAGGCTGATCAGGACTTCCAGGAGAAGGAGAGGCTGGGGCAGGACTCCTTTGCCAAGTTT   |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1100          |     |
| Carwaprin-a | Genomic | 970                   | GTGTTGAAGAGGTGGCTCTCCCTCCAGCTGTGTCAGGAGCCAGAAAGGCCAGGCTGATCAGGACTTCCAGGAGAAGGAGAGGCTGGGGCAGGACTCCTTTGCCAAGTTT   |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1079          |     |
|             |         |                       |   |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    |               |     |
| Carwaprin-b | Genomic | 1101                  | GGTCCAGCTCATCTTTGAGGAGCCCAAACTGGTCCAAGTCTGGTGAACCTGAGTGGGGGTTGGGTGACACTCCCAATTTCTGACTCTAA                       |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1210          |     |
| Carwaprin-a | Genomic | 1080                  | GGTCCAGCTCATCTTTGAGGAGCCCAAACTGGTCCAAGTCTGGTGAACCTGAGTGGGGGTTGGGTGACACTCCCAATTTCTGACTCTAA                       |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1189          |     |
|             |         |                       |   |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    |               |     |
| Carwaprin-b | Genomic | 1211                  | TAAATGCTCCGGGGCAGAATTAGAAAGCTCATGGCCTTGAAGACTCTAGAAAGAAAGGATTGGAGAAAGACATTGGAAGTATCTAGTCCATTTTCCCTCCAGGGCAGA    |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1320          |     |
| Carwaprin-a | Genomic | 1190                  | TAAATGCTCCGGGGCAGAATTAGAAAGCTCATGGCCTTGAAGACTCTAGAAAGAAAGGATTGGAGAAAGACATTGGAAGTATCTAGTCCATTTTCCCTCCAGGGCAGA    |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1299          |     |
|             |         |                       |   |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    |               |     |
| Carwaprin-b | Genomic | 1321                  | AATCCTTAGTACATCCCGGAGAGATTCTGTCCACCTTTGCTTGAACCTTCAAGACTTGGAGCCCTATAACCAAGTGGTGGGATTGAGCCAGTTCGACAGCTCAGGAGA    |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1430          |     |
| Carwaprin-a | Genomic | 1300                  | AATCCTTAGTACATCCCGGAGAGATTCTGTCCACCTTTGCTTGAACCTTCAAGACTTGGAGCCCTATAACCAAGTGGTGGGATTGAGCCAGTTCGACAGCTCAGGAGA    |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1409          |     |
|             |         |                       |   |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    |               |     |
| Carwaprin-b | Genomic | 1431                  | ACCGTCTCTTAACCTTCTGAGCAGTTTGGTGAACCTGTTGTTGGAAGAAATCATTAGGGCAGAGAACCGGTTGTTCAATTAAGTGAATCCACCACTGCCTATAACTCCA   |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1540          |     |
| Carwaprin-a | Genomic | 1410                  | ACCGTCTCTTAACCTTCTGAGCAGTTTGGTGAACCTGTTGTTGGAAGAAATCATTAGGGCAGAGAACCGGTTGTTCAATTAAGTGAATCCACCACTGCCTATAACTCCA   |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1519          |     |
|             |         |                       |   |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    |               |     |
| Carwaprin-b | Genomic | 1541                  | GGGAGGAGTTGCCCATTTGATTCCTCTCTCCCAATCAGGACATTCCTGCTGATTTAGCTTTGGGTCTCCAGTCTAAGATGAGGCAGGAGAGACCGGGTTTC           |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1650          |     |
| Carwaprin-a | Genomic | 1520                  | GGGAGGAGTTGCCCATTTGATTCCTCTCTCCCAATCAGGACATTCCTGCTGATTTAGCTTTGGGTCTCCAGTCTAAGATGAGGCAGGAGAGACCGGGTTTC           |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1629          |     |
|             |         |                       |   |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    |               |     |
| Carwaprin-b | Genomic | 1651                  | AGTTCTGGCAGAAACCTCAGCTGAACCTTTGTTTTTACAGCATTACCAA   |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1702 EU401828 |     |
| Carwaprin-a | Genomic | 1630                  | AGTTCTGGCAGAAACCTCAGCTGAACCTTTGTTTTTACAGCATTACCAA   |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1681 EU401827 |     |

F) *T. carinatus* Carwaprin-a and -b Genomic Sequences

Exon 1 and Propeptide      Mature      Intron 1

10      20      30      40      50      60      70      80      90      100      110

Stewaprin-a Genomic 1      **ATGCTCTCTGGAGTCTTCTTCTCCCTGCTGGGACTCCTCACCCCTCTGGGCGGAGCTGATCCCGCTCCGGCCAGGACCATCCAACTGAGCTTTCAGAAAGATCTGGAG** 110  
 Stewaprin-a CDS 1      **ATGCTCTCTGGAGTCTTCTTCTCCCTGCTGGGACTCCTCACCCCTCTGGGCGGAGCTGATCCCGCTCCGGCCAGGACCATCCAA** 85  
 Stewaprin-a Protein 1      **M S S G G L L L L L L G L L T L W A E L I P V S G Q D H P** 28

Stewaprin-a Genomic 111      **CCCTTGAAGGAGGGGCTGAAGTATCCGAGTCTCTCCCGCAGGAAGGAAACCAAGAACCCAGTCTGGAACCTCTGGGTTGGTGGGGCTTCCTGGGGAGGTTC** 220

Stewaprin-a Genomic 221      **TGAGATGGTGGTTGGTGTCTCAGCTGAACAGGAGACAGAAATGAGAGGATGCCCAAGAAAGGAGATGCAATTTAGGGGAAGGCTGACATATCTTGACTCAATGCAGCA** 330

Stewaprin-a Genomic 331      **GAAGAATCGGGATTTTGAACAACAGGAACAATCCCGTCAGCCATCCGGTTGAAACCCAGAGAAGGAAACAATGTAAAAACATCTTCCGTGGCTCTCAACTGCTTGCAAT** 440

Stewaprin-a Genomic 441      **CTGATTATGTAAGAGGGCACCAGGTTGGGGAAGAGTGTAAAGATTTGGGGTCTTCFATTTGCAGAAAAACCTGGACTGTGTCCCCACGCCCTCAAAAACCCCTTT** 550  
 Stewaprin-a CDS 128      **CTGATTATGTAAGAGGGCACCAGGTTGGGGAAGAGTGTAAAGATTTGGGGTCTTCFATTTGCAGAAAAACCTGGACTGTGTCCCCACGCCCTCAAAAACCCCTTT** 127  
 Stewaprin-a Protein 29      **-----** **AAAAACCTGGACTGTGTCCCCACGCCCTCAAAAACCCCTTT** **-----** **K K P G L C P P R P Q K P P** 42

Stewaprin-a Genomic 551      **CGTCCGGGAGTGTAAAAATGACTGGAGTTGTCTCTGGGAGCAGAAATGTGCCGTTACGGTTGCATATTTGAGTGCAGGGACCCCTATCTTTGTGAAGTAAAGTATGTGC** 660  
 Stewaprin-a CDS 128      **CGTCCGGGAGTGTAAAAATGACTGGAGTTGTCTCTGGGAGCAGAAATGTGCCGTTACGGTTGCATATTTGAGTGCAGGGACCCCTATCTTTGTGAAGTAAAGTATGTGC** 228  
 Stewaprin-a Protein 43      **C V R E C K N D W S C P G E Q K C C R Y G C I F E C R D P I F V K \*** 75

Stewaprin-a Genomic 661      **CGTGCAITGTCCTTGTGCAGCTGTCTTAGACCAAGGAACGGCTGTGGAGGTCCTCCAGGACTCCGACAAGGCTGGGCACATGAAGTTCCTCGGGGCTTTCAAGC** 770

Stewaprin-a Genomic 771      **TGTCATGTGTCCAGCAAAGGTAGACAGGTTGCCCTGATGCCAAGCTTCTTTAGTGTGGTAGTGGCAACCTCTTCTGATAGATAACCCCTCACTCTGTGGAA** 880

Stewaprin-a Genomic 881      **GCCATGAGATGGACCTCCACATCCCCCTCTCAGTGTCCCTTGACTTCTCTTCTCCTGAACTCGATTGGTAGAATGGTGGCCACCAGTTGAGCTGCTGTGGCA** 990

Stewaprin-a Genomic 991      **GTGTTGAAGAAGGTGGCTCTCCTCCAGCCTGGTCAGGAAGCCAGAAGGCCAGGTTGATCAGGACTTCCAGGAGAAGGAGGCCGGGACAGGACTCCTTTGCCAAGTTT** 1100

Stewaprin-a Genomic 1101      **GGTCCAGCTCATCTTTGAGCAGCCCAAACTGGTCCAAGTCTGGTGCAGGAAGGTCATAGCTTTGCCAGGGGTTAGGGTGACACCCCAAGTTTCTGACTCTAAT** 1210

Stewaprin-a Genomic 1211      **AAATGCTCCAGGGCAGAAATTAGAAAGCTCATGGCCTTCAGATCTCCTAGAAAGGAAAGGATGGAGAAAGACATTGAAATCATCTAGCCATTTCTCTCCAGGGCAGAA** 1320

Stewaprin-a Genomic 1321      **ATCCTTAGCACATCCAGAGAGAGTCTGTCCACCTTTGCTTGAACCTTCAGACTTGGAGCCCTATAACCAGCGTGGGATTCAGCCAGTTCCGACCACTTCAGGAGAA** 1430

Stewaprin-a Genomic 1431      **CCGGTCTTAACTTCTGAGCAGTTGGTGAACGGTGTCTCGGAAGAAATCATTAGGGCAGAGAACCGGTTGTTCAATTAATGAAATCCACCACTGCCTATAAACCAG** 1540

Stewaprin-a Genomic 1541      **GGAGGAGGTTGCCATTTGATTCCTTCTTCCCAATCAGGACATTCCTGCTGATTTACCGTTGGGCTCCATGGTCTTAAGATGAGGCAGGAGAGACGAGGGGTTCCAG** 1650

Stewaprin-a Genomic 1651      **TTCTGGGCAGAAACCTCACATCTGAACGTTTGTTTTTACAGCATTACCAN** 1700 EU401829

Exon 2

Exon 3

## G) *H. stephensii* Stewaprin-a Genomic Sequence

|             |         | Exon 1 and Propeptide |  |    |    |    |    |    |    |    |     | Mature |    |    |    |    |    |    |    |    |    | Intron 1 |     |    |    |    |    |    |    |    |    |    |               |     |
|-------------|---------|-----------------------|--|----|----|----|----|----|----|----|-----|--------|----|----|----|----|----|----|----|----|----|----------|-----|----|----|----|----|----|----|----|----|----|---------------|-----|
|             |         | 10                    | 20   | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110    | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100      | 110 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100           | 110 |
| Supwaprin-b | Genomic | 1                     | ATGCTCTCTGGAGTCTCTTCTCTCTGCTGGGACTCCTCACCCCTCTGGGGGAGCTGAACCCGCTCTCGGGCAGGACGATCCCAAGTTCAGCTTTCAGAAAGATCTGGAG    |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 109           |     |
| Supwaprin-c | Genomic | 1                     | ATGCTCTCTGGAGTCTCTTCTCTCTGCTGGGACTCCTCACCCCTCTGGGGAGCTGAGCTGACCCCTCTCTCGGGCAGGACCGCCAGCTAGAGCTTTCAGAAAGATCTGGAG  |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 110           |     |
| Supwaprin-d | Genomic | 1                     | ATGCTCTCTGGAGTCTCTTCTCTCTGCTGGGACTCCTCACCCCTCTGGGGAGCTGACCCCTCTCTCGGGCAGGACCGTCCAAGTTCAGCTTTCAGAAAGATCTGGAG      |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 109           |     |
| Supwaprin-a | CDS     | 1                     | ATGCTCTCTGGAGTCTCTTCTCTCTGCTGGGACTCCTCACCCCTCTGGGGAGCTGAGCTGACCCCTCTCTCGGGCAGGACCGTCCAAGTTCAGCTTTCAGAAAGATCTGGAG |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 85            |     |
| Supwaprin-a | Protein | 1                     | M S S G G L L L L L L G F F L T L W A E L T P V S G Q D R P  |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 28            |     |
| Supwaprin-b | Genomic | 110                   | ACCCCTGGAAGGGAGGGGCTGAAGTATCCGAGTCTCTCCCCAGGAAAGGAAACCAAGSACCCAGTCTGSAACCTCTGGTTGGTGGGGTCTCTCTGGGGAGGTTTC        |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 219           |     |
| Supwaprin-c | Genomic | 111                   | ACCCCTGGAAGGGAGGGGCTGAAGTATCCGAGTCTCTCCCCAGGAAAGGAAACCAAGSACCCAGTCTGSAACCTCTGGTTGGTGGGGTCTCTCTGGGGAGGTTTC        |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 219           |     |
| Supwaprin-d | Genomic | 110                   | ACCCCTGGAAGGGAGGGGCTGAAGTATCCGAGTCTCTCCCCAGGAAAGGAAACCAAGSACCCAGTCTGSAACCTCTGGTTGGTGGGGTCTCTCTGGGGAGGTTTC        |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 218           |     |
| Supwaprin-b | Genomic | 220                   | TTGAGATGGTGGTGGGTGTGAGTGAACAGGAGACAGAAATCAGGATCCCAAGAAGCAGATGCAATTTTAGGGGAGGCAGACTATCTTGACTCAATGCAGC             |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 329           |     |
| Supwaprin-c | Genomic | 220                   | TTGAGATGGTGGTGGGTGTGAGTGAACAGGAGACAGAAATGGGAGGGGTCCTCAAGAAGAAGAGATGCAATTTTAGGGGAGGCAGACTATCTTGACTCAATGCAGC       |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 329           |     |
| Supwaprin-d | Genomic | 219                   | TTGAGATGGTGGTGGGTGTGAGTGAACAGGAGACAGAAATGGGAGGGGTCCTCAAGCAGAGAGATGCAATTTTAGGGGAGGCAGACTATCTTGACTCAATGCAGC        |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 328           |     |
| Supwaprin-b | Genomic | 330                   | AGAGAATCGGGATTTTGGCAACAGGAAACATCCCTCAGCCATCCGGTGAACCCAGAGAGGAAACCAATCAATCAAAACATCTCCCTGGCTCTCAACTGCTTGCAA        |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 439           |     |
| Supwaprin-c | Genomic | 330                   | AGAGAATCGGGATTTTGGCAACAGGAAACATCCCTCAGCCATCCGGTGAACCCAGAGAGGAAACCAATTTAAACATCTCCCTGGCTCTCAACTGCTTGCAA            |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 439           |     |
| Supwaprin-d | Genomic | 329                   | AGAGAATCGGGATTTTGGCAACAGGAAACATCCCTCAGCCATCCGGTGAACCCAGAGAGGAAACCAATTTAAACATCTCCCTGGCTCTCAACTGCTTGCAA            |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 438           |     |
| Supwaprin-b | Genomic | 440                   | TCCTGATGATGTAAGAGGGCACCAGTTGGGGAAGAGTGTAAAGATTTTGGGGTCTCTATTTTGCAGAAAACCTGGACTGTGCCCCACGCCCTCAAAAACCTCCT         |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 549           |     |
| Supwaprin-c | Genomic | 440                   | TCCTGATGATGTAAGAGGGCACCAGTTGGGGAAGAGCTTAAAGATTTTGGGGTCTCTATTTTGCAGAAAACCTGGACTGTGCCCCACGCCCTCAAAAACCTCCT         |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 549           |     |
| Supwaprin-d | Genomic | 439                   | TCCTGATGATGTAAGAGGGCACCAGTTGGGGAAGAGTGTAAAGATTTTGGGGTCTCTATTTTGCAGAAAACCTGGACTGTGCCCCACGCCCTCAAAAACCTCCT         |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 545           |     |
| Supwaprin-a | CDS     | 85                    | TCCTGATGATGTAAGAGGGCACCAGTTGGGGAAGAGTGTAAAGATTTTGGGGTCTCTATTTTGCAGAAAACCTGGACTGTGCCCCACGCCCTCAAAAACCTCCT         |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 126           |     |
| Supwaprin-a | Protein | 29                    | K K P G L C P P R P Q K P P  |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 42            |     |
| Supwaprin-b | Genomic | 550                   | TCCTGATGATGTAAGAGGGCACCAGTTGGGGAAGAGTGTAAAGATTTTGGGGTCTCTATTTTGCAGAAAACCTGGACTGTGCCCCACGCCCTCAAAAACCTCCT         |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 659           |     |
| Supwaprin-c | Genomic | 550                   | TCCTGATGATGTAAGAGGGCACCAGTTGGGGAAGAGTGTAAAGATTTTGGGGTCTCTATTTTGCAGAAAACCTGGACTGTGCCCCACGCCCTCAAAAACCTCCT         |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 659           |     |
| Supwaprin-d | Genomic | 546                   | TCCTGATGATGTAAGAGGGCACCAGTTGGGGAAGAGTGTAAAGATTTTGGGGTCTCTATTTTGCAGAAAACCTGGACTGTGCCCCACGCCCTCAAAAACCTCCT         |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 655           |     |
| Supwaprin-a | CDS     | 127                   | TCCTGATGATGTAAGAGGGCACCAGTTGGGGAAGAGTGTAAAGATTTTGGGGTCTCTATTTTGCAGAAAACCTGGACTGTGCCCCACGCCCTCAAAAACCTCCT         |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 228           |     |
| Supwaprin-a | Protein | 43                    | C V R E C K N D W S C P G E Q K C C R Y G C I F E C R D P I F V K *  |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 75            |     |
| Supwaprin-b | Genomic | 660                   | CCCTGCATTTGTCCTTGTGCAGCTTGTAGACCTTAAAGAACCGCTGTGGGAGTCTCCAGGACTCCGACAAGGTCTGGGCACATGAAGTTCTCTGGGGGCTTTTC         |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 765           |     |
| Supwaprin-c | Genomic | 660                   | CCCTGCATTTGTCCTTGTGCAGCTTGTAGACCTTAAAGAACCGCTGTGGGAGTCTCCAGGACTCCGACAAGGTCTGGGCACATGAAGTTCTCTGGGGGCTTTTC         |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 768           |     |
| Supwaprin-d | Genomic | 656                   | CCCTGCATTTGTCCTTGTGCAGCTTGTAGACCTTAAAGAACCGCTGTGGGAGTCTCCAGGACTCCGACAAGGTCTGGGCACATGAAGTTCTCTGGGGGCTTTTC         |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 760           |     |
| Supwaprin-b | Genomic | 766                   | CAAGCTGTCCTTGTGCCAGCAAAGGTAGACAGGTGTGCCCTGATGCCTAAGCTTCTTTAGTGTGGTAGTGGCAACCTCTCTCTGATACATAAACCCTCTACTCTG        |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 875           |     |
| Supwaprin-c | Genomic | 769                   | CAAGCTGTCCTTGTGCCAGCAAAGGTAGACAGGTGTGCCCTGATGCCTAAGCTTCTTTAGTGTGGTAGTGGCAACCTCTCTCTGATAGTAAACCCTCTACTCTG         |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 878           |     |
| Supwaprin-d | Genomic | 761                   | CAAGCTGTCCTTGTGCCAGCAAAGGTAGACAGGTGTGCCCTGATGCCTAAGCTTCTTTAGTGTGGTAGTGGCAACCTCTCTCTGATAGTAAACCCTCTACTCTG         |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 870           |     |
| Supwaprin-b | Genomic | 876                   | TGAAGCCATGAGTGGACCTCCACATCCGCCCTCTAGTGTCCCTGACTTCTCTCTCTGAACTCCATTTGGTGAATGGTGGCCACCCAGTTCAGCTGTGCTG             |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 985           |     |
| Supwaprin-c | Genomic | 879                   | TGAAGCCATGAGTGGACCTCCACATCCGCCCTCTAGTGTCCCTGACTTCTCTCTCTGAACTCCATTTGGTGAATGGTGGCCACCCAGTTCAGCTGTGCTG             |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 987           |     |
| Supwaprin-d | Genomic | 871                   | TGAAGCCATGAGTGGACCTCCACATCCGCCCTCTAGTGTCCCTGACTTCTCTCTCTGAACTCCATTTGGTGAATGGTGGCCACCCAGTTCAGCTGTGCTG             |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 980           |     |
| Supwaprin-b | Genomic | 986                   | GGCCAGTGTGAAGAAGGTGGCTCTCTCCAGCCTGGTCAGGAGCCAGAAAGCCCGAGTATCAGGACTCCAGGAGAAGGAGGCGGGACAGGACTCTTTGCCA             |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1095          |     |
| Supwaprin-c | Genomic | 988                   | GGCCAGTGTGAAGAAGGTGGCTCTCTCCAGCCTGGTCAGGAGCCAGAAAGCCCGAGTATCAGGACTCCAGGAGAAGGAGGCGGGACAGGACTCTTTGCCA             |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1097          |     |
| Supwaprin-d | Genomic | 981                   | GGCCAGTGTGAAGAAGGTGGCTCTCTCCAGCCTGGTCAGGAGCCAGAAAGCCCGAGTATCAGGACTCCAGGAGAAGGAGGCGGGACAGGACTCTTTGCCA             |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1082          |     |
| Supwaprin-b | Genomic | 1096                  | GGTTTGGTCCAGCTCATCTTTGAGCAGCCAAAACCTGGTCCAAGTCTGGTGCAGGAAAGGTTCCATAGCTTTTCCAGGGGGTATAGGTGACACTCCACATTTCTGAC      |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1204          |     |
| Supwaprin-c | Genomic | 1098                  | GGTTTGGTCCAGCTCATCTTTGAGCAGCCAAAACCTGGTCCAAGTCTGGTGCAGGAAAGGTTCCATAGCTTTTCCAGGGGGTATAGGTGACACTCCACATTTCTGAC      |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1207          |     |
| Supwaprin-d | Genomic | 1083                  | GGTTTGGTCCAGCTCATCTTTGAGCAGCCAAAACCTGGTCCAAGTCTGGTGCAGGAAAGGTTCCATAGCTTTTCCAGGGGGTATAGGTGACACTCCACATTTCTGAC      |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1192          |     |
| Supwaprin-b | Genomic | 1205                  | TCTAATAAATGCTCCAGGCGAGAATAGAAAGCTCATGGCCTT-----CAGATCTCTAGAAAGGAAAGGATTTGGAGAAAGACATTTGGAAT                      |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1290          |     |
| Supwaprin-c | Genomic | 1208                  | TCTAATAAATGCTCCAGGCGAGAATAGAAAGCTCATGGCCTT-----CAGATCTCTAGAAAGGAAAGGATTTGGAGAAAGACATTTGGAAT                      |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1317          |     |
| Supwaprin-d | Genomic | 1193                  | TCTAATAAATGCTCCAGGCGAGAATAGAAAGCTCATGGCCTT-----CAGATCTCTAGAAAGGAAAGGATTTGGAGAAAGACATTTGGAAT                      |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1302          |     |
| Supwaprin-b | Genomic | 1291                  | CATCTACCTCATTCTTCTCCAGGGCAGAAATCTTAGCACATCCCAAGAGAGCTGTGCTCCACCTTTGCTTGAACCTTCAGACTTGGAGCCCTATAACCAGCTGGTG       |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1399          |     |
| Supwaprin-c | Genomic | 1318                  | CATCTACCTCATTCTTCTCCAGGGCAGAAATCTTAGCACATCCCAAGAGAGCTGTGCTCCACCTTTGCTTGAACCTTCAGACTTGGAGCCCTATAACCAGCTGGTG       |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1426          |     |
| Supwaprin-d | Genomic | 1303                  | CATCTACCTCATTCTTCTCCAGGGCAGAAATCTTAGCACATCCCGGAGAGATCTTCTACCTTTTGAACCTTCAGACTTGGAGCCCTATAACCAGCTGGTG             |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1412          |     |
| Supwaprin-b | Genomic | 1400                  | GATTACGCCACTTCGCCACTTCAGGAGAACCGTTCTAACTTTCTGAGCACTTTGAACTGCTTCCGAGAAATCTTAGGCGCAGAACCGGTTCTCAAT                 |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1509          |     |
| Supwaprin-c | Genomic | 1427                  | GATTACGCCACTTCGCCACTTCAGGAGAACCGTTCTAACTTTCTGAGCACTTTGAACTGCTTCCGAGAAATCTTAGGCGCAGAACCGGTTCTCAAT                 |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1536          |     |
| Supwaprin-d | Genomic | 1413                  | GATTACGCCACTTCGCCACTTCAGGAGAACCGTTCTAACTTTCTGAGCACTTTGAACTGCTTCCGAGAAATCTTAGGCGCAGAACCGGTTCTCAAT                 |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1518          |     |
| Supwaprin-b | Genomic | 1510                  | ACTTGAATCCCACTGCTTATAACTCCAGGAGGAGGTTGCCATTGATTCCTCTCCCAATCAGGACTTCTGCTGATTTACCCCTGGGTCTCCCTGGT                  |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1616          |     |
| Supwaprin-c | Genomic | 1537                  | ACTTGAATCCCACTGCTTATAACTCCAGGAGGAGGTTGCCATTGATTCCTCTCCCAATCAGGACTTCTGCTGATTTACCCCTGGGTCTCCCTGGT                  |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1646          |     |
| Supwaprin-d | Genomic | 1519                  | ACTTGAATCCCACTGCTTATAACTCCAGGAGGAGGTTGCCATTGATTCCTCTCCCAATCAGGACTTCTGCTGATTTACCCCTGGGTCTCCCTGGT                  |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1622          |     |
| Supwaprin-b | Genomic | 1617                  | TCTAAGATGAGGCGAGGAGGAGGCTGGGTCAGTCTGGGCGAAGAACTCAGATCTGAACGTTGTTTACAGCATTACCAA                                   |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1700 EU401830 |     |
| Supwaprin-c | Genomic | 1647                  | TCTAAGATGAGGCGAGGAGGAGGCTGGGTCAGTCTGGGCGAAGAACTCAGATCTGAACGTTGTTTACAGCATTACCAA                                   |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1730 EU401831 |     |
| Supwaprin-d | Genomic | 1623                  | TCTAAGATGAGGCGAGGAGGAGGCTGGGTCAGTCTGGGCGAAGAACTCAGATCTGAACGTTGTTTACAGCATTACCAA                                   |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1706 EU401832 |     |

## H) *A. superbus* Supwaprin-b, -c and -d Genomic Sequences

Veswaprin-b Genomic 1 ATGCTCTCTGGAGTCTTCTTCTCTGCTGGGACTCCTCACCTCTGGGGAAGTCTGACCCCAATCTCCGGCCAGGACCGTCCAAGT GAGCTTTTCAGAAAGATCTGGAG 109  
 Veswaprin-c Genomic 1 ATGCTCTCTGGAGTCTTCTTCTCTGCTGGGACTCCTCACCTCTGGGGAGGAGTCTGACCCCGTCTCCAGTCCGACCGTCCAAGT GAGCTTTTCAGAAAGATCTGGAG 109  
 Veswaprin-d Genomic 1 ATGCTCTCTGGAGTCTTCTTCTCTGCTGGGACTCCTCACCTCTGGGGAAGTCTGACCCCGTCTCCAGTCCGACCGTCCAAGT GAGCTTTTCAGAAAGATCTGGAG 110  
 Veswaprin-a Genomic 1 ATGCTCTCTGGAGTCTTCTTCTCTGCTGGGACTCCTCACCTCTGGGGAAGTCTGACCCCGTCTCCAGTCCGACCGTCCAAGT GAGCTTTTCAGAAAGATCTGGAG 109  
 Veswaprin-a CDS 1 ATGCTCTCTGGAGTCTTCTTCTCTGCTGGGACTCCTCACCTCTGGGGAAGTCTGACCCCGTCTCCAGTCCGACCGTCCAAGT GAGCTTTTCAGAAAGATCTGGAG 85  
 Veswaprin-a Protein 1 M S S G G L L L L L G L L T L W E V L T P V S S K D R P 28

Veswaprin-b Genomic 110 ACCCTTGAAGGGAGGGTGAAGTATCAGAGTCTCCGCCAGGAAAGGAAACCAAGACCCAGTCTGAACTCTGGCTTGGCTTCCTCTGGGGAGGTT 198  
 Veswaprin-c Genomic 110 ACCCTTGAAGGGAGGGGCTGAAGTATCAGAGTCTCCGCCAGGAAAGGAAACCAAGACCCAGTCTGAACTCTGGCTTGGCTTCCTCTGGGGAGGTT 219  
 Veswaprin-d Genomic 111 ACCCTTGAAGGGAGGGGCTGAAGTATCAGAGTCTCCGCCAGGAAAGGAAACCAAGACCCAGTCTGAACTCTGGCTTGGCTTCCTCTGGGGAGGTT 219  
 Veswaprin-a Genomic 110 ACCCTTGAAGGGAGGGGCTGAAGTATCAGAGTCTCCGCCAGGAAAGGAAACCAAGACCCAGTCTGAACTCTGGCTTGGCTTCCTCTGGGGAGGTT 218

Veswaprin-b Genomic 199 TTAGAGTGGTGGTGGTGTGAGTGAACAGGAGACAGAAATGAGGATGCTCCCAAGAAAGAGAGATGCAATTTAGGGGAAGGCTGACCTATCTGACTCAATGCAGC 308  
 Veswaprin-c Genomic 220 TTGAGATGGTGGTGGTGTGAGTGAACAGGAGACAGAAATGAGGATGCTCCCAAGAAAGAGAGATGCAATTTAGGGGAAGGCTGACCTATCTGACTCAATGCAGC 329  
 Veswaprin-d Genomic 220 TTGAGATGGTGGTGGTGTGAGTGAACAGGAGACAGAAATGAGGAGGGGCTCCCAAGAAAGAGAGATGCAATTTAGGGGAAGGCTGACCTATCTGACTCAATGCAGC 329  
 Veswaprin-a Genomic 219 TTGAGATGGTGGTGGTGTGAGTGAACAGGAGACAGAAATGAGGAGGGGCTCCCAAGAAAGAGAGATGCAATTTAGGGGAAGGCTGACCTATCTGACTCAATGCAGC 328

Veswaprin-b Genomic 309 AGAAGATCGGGATTTGAGCAACAGGAAACATCCCTGACCCATCCGGTGTAAACCCAGAGAGAAACCAATFPAAACATCTCCCTGGCTCFAACTGCTGCAAC 418  
 Veswaprin-c Genomic 330 AGAAGATCGGGATTTGAGCAACAGGAAACATCCCTGACCCATCCGGTGTAAACCCAGAGAGAAACCAATFPAAACATCTCCCTGGCTCFAACTGCTGCAAC 439  
 Veswaprin-d Genomic 330 AGAAGATCGGGATTTGAGCAACAGGAAACATCCCTGACCCATCCGGTGTAAACCCAGAGAGAAACCAATFPAAACATCTCCCTGGCTCFAACTGCTGCAAC 439  
 Veswaprin-a Genomic 329 AGAAGATCGGGATTTGAGCAACAGGAAACATCCCTGACCCATCCGGTGTAAACCCAGAGAGAAACCAATFPAAACATCTCCCTGGCTCFAACTGCTGCAAC 438

Veswaprin-b Genomic 419 TCTGAGTATGTAAGAGGGCACCAGGTTGGGGAAGAGTGTAAAGATTTTGGGTCTTCTATTTTCAGAAAAACCTGGACTGTGCCCCACGCCCTCAAAAACCTCCT 528  
 Veswaprin-c Genomic 440 TCTGAGTATGTAAGAGGGCACCAGGTTGGGGAAGAGTGTAAAGATTTTGGGTCTTCTATTTTCAGAAAAACCTGGACTGTGCCCCACGCCCTCAAAAACCTCCT 549  
 Veswaprin-d Genomic 440 TCTGAGTATGTAAGAGGGCACCAGGTTGGGGAAGAGTGTAAAGATTTTGGGTCTTCTATTTTCAGAAAAACCTGGACTGTGCCCCACGCCCTCAAAAACCTCCT 549  
 Veswaprin-a Genomic 439 TCTGAGTATGTAAGAGGGCACCAGGTTGGGGAAGAGTGTAAAGATTTTGGGTCTTCTATTTTCAGAAAAACCTGGACTGTGCCCCACGCCCTCAAAAACCTCCT 545  
 Veswaprin-a CDS 85 -----AAAACCTGGACTGTGCCCCACGCCCTCAAAAACCT----- 123  
 Veswaprin-a Protein 29 K K P G L C P P R P Q K P - 41

Veswaprin-b Genomic 529 TCGTCAAGGGAGTAAAAATGACTGGAGTCTCTGGGAGCAGAAATGTTGCCCTACGGCTGCATATATGAGTGCAGGGATCCCTATCTTTGGAAGTAAAGTATGTC 638  
 Veswaprin-c Genomic 550 TCGTCAAGGGAGTAAAAATGACTGGAGTCTCTGGGAGCAGAAATGTTGCCCTACGGCTGCATATATGAGTGCAGGGATCCCTATCTTTGGAAGTAAAGTATGTC 659  
 Veswaprin-d Genomic 550 TCGTCAAGGGAGTAAAAATGACTGGAGTCTCTGGGAGCAGAAATGTTGCCCTACGGCTGCATATATGAGTGCAGGGATCCCTATCTTTGGAAGTAAAGTATGTC 659  
 Veswaprin-a Genomic 546 TCGTCAAGGGAGTAAAAATGACTGGAGTCTCTGGGAGCAGAAATGTTGCCCTACGGCTGCATATATGAGTGCAGGGATCCCTATCTTTGGAAGTAAAGTATGTC 655  
 Veswaprin-a CDS 124 TCGTCAAGGGAGTAAAAATGACTGGAGTCTCTGGGAGCAGAAATGTTGCCCTACGGCTGCATATATGAGTGCAGGGATCCCTATCTTTGGAAGTAAAGTATGTC 225  
 Veswaprin-a Protein 42 C V K E C K N D W S C P F G Q Q K C C N Y G C I D E C R D P I F V N \* 74

Veswaprin-b Genomic 639 CCGTGCATGTCCCTGTGCAGTGTGCTTAGAC-----AAAGAACCCGCTGTGGGGGCTCCAGGACTCCGACAGGCTGGGCACATGAAGTCTCTCGGGGGCTCT 744  
 Veswaprin-c Genomic 660 CCGTGCATGTCCCTGTGCAGTGTGCTTAGAC-----AAAGAACCCGCTGTGGGGGCTCCAGGACTCCGACAGGCTGGGCACATGAAGTCTCTCGGGGGCTCT 765  
 Veswaprin-d Genomic 660 CCGTGCATGTCCCTGTGCAGTGTGCTTAGAC-----AAAGAACCCGCTGTGGGGGCTCCAGGACTCCGACAGGCTGGGCACATGAAGTCTCTCGGGGGCTCT 768  
 Veswaprin-a Genomic 656 CCGTGCATGTCCCTGTGCAGTGTGCTTAGAC-----AAAGAACCCGCTGTGGGGGCTCCAGGACTCCGACAGGCTGGGCACATGAAGTCTCTCGGGGGCTCT 760

Veswaprin-b Genomic 745 CAAGCTGTCCGTGTGTCAGCAAAAGGTAGAGCAGGTTGCCCTGATGCTCAAGCATCTTTAGTGTGTAGTGGCAACCCCTTCTCTGATGATAAACCCTCTCACTCT 854  
 Veswaprin-c Genomic 766 CAAGCTGTCCGTGTGTCAGCAAAAGGTAGAGCAGGTTGCCCTGATGCTCAAGCATCTTTAGTGTGTAGTGGCAACCCCTTCTCTGATGATAAACCCTCTCACTCT 875  
 Veswaprin-d Genomic 769 CAAGCTGTCCGTGTGTCAGCAAAAGGTAGAGCAGGTTGCCCTGATGCTCAAGCATCTTTAGTGTGTAGTGGCAACCCCTTCTCTGATGATAAACCCTCTCACTCT 878  
 Veswaprin-a Genomic 761 CAAGCTGTCCGTGTGTCAGCAAAAGGTAGAGCAGGTTGCCCTGATGCTCAAGCATCTTTAGTGTGTAGTGGCAACCCCTTCTCTGATGATAAACCCTCTCACTCT 870

Veswaprin-b Genomic 855 TGAAGCCATGAGACGGACCTCCACACCCCCCTCTAGTGTCCCTGACTTCTCTCTCTGAACTCCATTTGGTGAATGTTGGCCACCAGTTCAGCTGTGTCT 964  
 Veswaprin-c Genomic 876 TGAAGCCATGAGACGGACCTCCACACCCCCCTCTAGTGTCCCTGACTTCTCTCTCTGAACTCCATTTGGTGAATGTTGGCCACCAGTTCAGCTGTGTCT 985  
 Veswaprin-d Genomic 879 TGAAGCCATGAGACGGACCTCCACACCCCCCTCTAGTGTCCCTGACTTCTCTCTCTGAACTCCATTTGGTGAATGTTGGCCACCAGTTCAGCTGTGTCT 987  
 Veswaprin-a Genomic 871 TGAAGCCATGAGACGGACCTCCACACCCCCCTCTAGTGTCCCTGACTTCTCTCTCTGAACTCCATTTGGTGAATGTTGGCCACCAGTTCAGCTGTGTCT 980

Veswaprin-b Genomic 965 GGGCAGTGTGAAGAAGTGGCTCTCTCCAGCTGGTCCAGGAAAGCAGAAAGGCCAGGTTGATCAGGACTCCAGGAGAAAGGAGGCTGGGGAGGACTCTTTGCCA 1074  
 Veswaprin-c Genomic 986 GGGCAGTGTGAAGAAGTGGCTCTCTCCAGCTGGTCCAGGAAAGCAGAAAGGCCAGGTTGATCAGGACTCCAGGAGAAAGGAGGCTGGGGAGGACTCTTTGCCA 1095  
 Veswaprin-d Genomic 988 GGGCAGTGTGAAGAAGTGGCTCTCTCCAGCTGGTCCAGGAAAGCAGAAAGGCCAGGTTGATCAGGACTCCAGGAGAAAGGAGGCTGGGGAGGACTCTTTGCCA 1097  
 Veswaprin-a Genomic 981 GGGCAGTGTGAAGAAGTGGCTCTCTCCAGCTGGTCCAGGAAAGCAGAAAGGCCAGGTTGATCAGGACTCCAGGAGAAAGGAGGCTGGGGAGGACTCTTTGCCA 1082

Veswaprin-b Genomic 1075 AGTTTGGTCCAGCTCATCTTTGAGCAGCCAAAACCTGGTCCAAGCTCTGGTGCAGAGGAGTCCCATAGCTTCGAGGGGTTGGGTGACACTCCACATTTCTGAC 1184  
 Veswaprin-c Genomic 1096 AGTTTGGTCCAGCTCATCTTTGAGCAGCCAAAACCTGGTCCAAGCTCTGGTGCAGAGGAGTCCCATAGCTTCGAGGGGTTGGGTGACACTCCACATTTCTGAC 1205  
 Veswaprin-d Genomic 1098 AGTTTGGTCCAGCTCATCTTTGAGCAGCCAAAACCTGGTCCAAGCTCTGGTGCAGAGGAGTCCCATAGCTTCGAGGGGTTGGGTGACACTCCACATTTCTGAC 1207  
 Veswaprin-a Genomic 1083 AGTTTGGTCCAGCTCATCTTTGAGCAGCCAAAACCTGGTCCAAGCTCTGGTGCAGAGGAGTCCCATAGCTTCGAGGGGTTGGGTGACACTCCACATTTCTGAC 1192

Veswaprin-b Genomic 1185 TCTAATAAATGCTCCGGCAGAAATGAAAGCTCATG-----GCTTGCAGACCTCTAGAGGAAAGGATTTGAGAAAGACATTTGGAAGT 1270  
 Veswaprin-c Genomic 1206 TCTAATAAATGCTCCGGCAGAAATGAAAGCTCATG-----GCTTGCAGACCTCTAGAGGAAAGGATTTGAGAAAGACATTTGGAAGT 1231  
 Veswaprin-d Genomic 1208 TCTAATAAATGCTCCGGCAGAAATGAAAGCTCATG-----GCTTGCAGACCTCTAGAGGAAAGGATTTGAGAAAGACATTTGGAAGT 1317  
 Veswaprin-a Genomic 1193 TCTAATAAATGCTCCGGCAGAAATGAAAGCTCATG-----GCTTGCAGACCTCTAGAGGAAAGGATTTGAGAAAGACATTTGGAAGT 1302

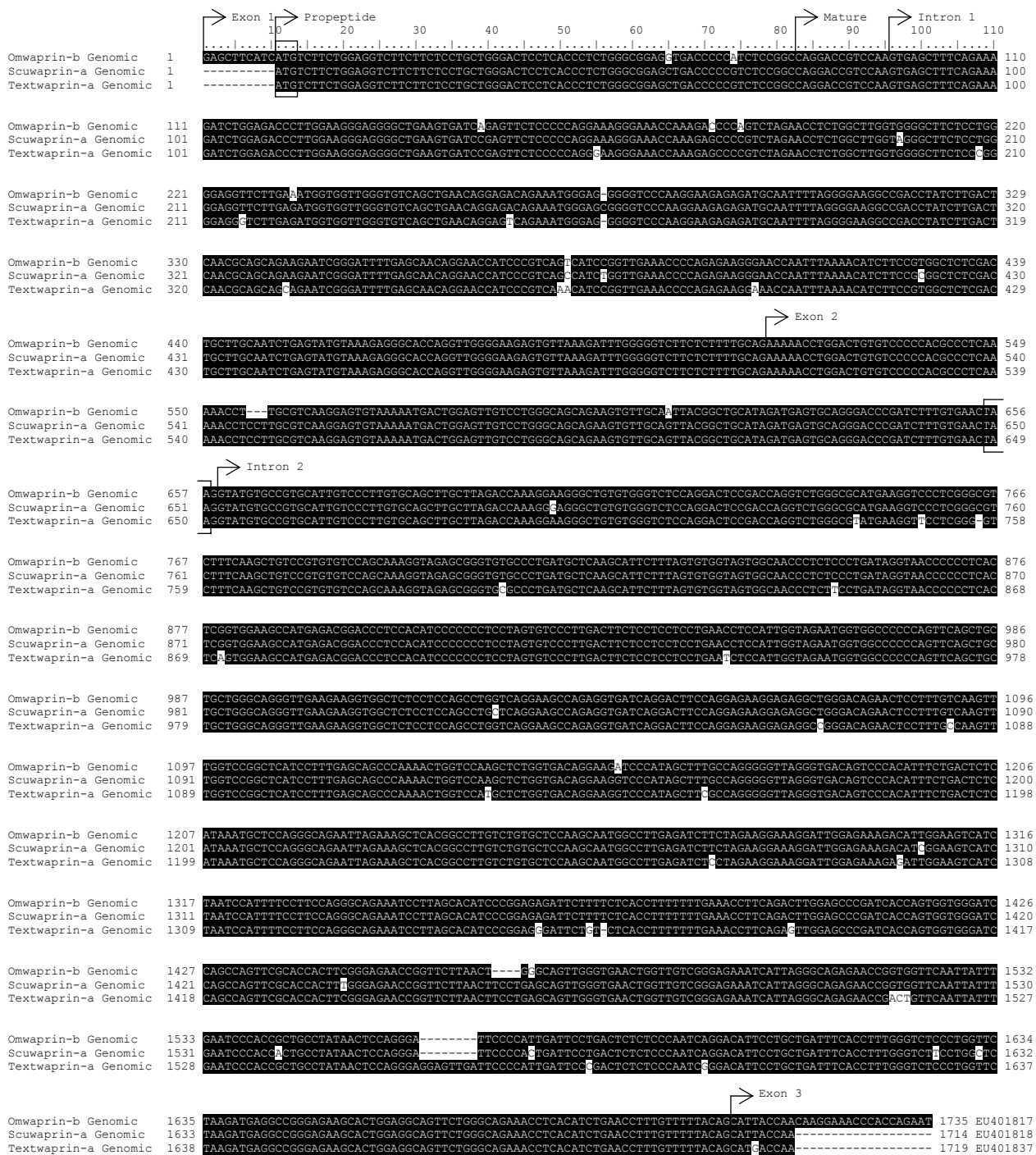
Veswaprin-b Genomic 1271 CATCTAGTCCATTTTCTTCCAGGGCAGAAATCTTATGATCCCGGAGAGATTTCTGTCACCTTTGCTTGAACCTTCAGACTTGGAGCCCTATAACCAGTGTGGG 1380  
 Veswaprin-c Genomic 1231 CATCTAGTCCATTTTCTTCCAGGGCAGAAATCTTATGATCCCGGAGAGATTTCTGTCACCTTTGCTTGAACCTTCAGACTTGGAGCCCTATAACCAGTGTGGG 1274  
 Veswaprin-d Genomic 1318 CATCTAGTCCATTTTCTTCCAGGGCAGAAATCTTATGATCCCGGAGAGATTTCTGTCACCTTTGCTTGAACCTTCAGACTTGGAGCCCTATAACCAGTGTGGG 1427  
 Veswaprin-a Genomic 1303 CATCTAGTCCATTTTCTTCCAGGGCAGAAATCTTATGATCCCGGAGAGATTTCTTTCACCTTTTGAACCTTCAGACTTGGAGCCCTATAACCAGTGTGGG 1412

Veswaprin-b Genomic 1381 ATTTCAGCAGTTCGCACAGCTCAGGAGAACCGGTTCTTAACCTCTGAGCAGTGTGGTGAACCTTTGTTGGAAGAAATCATTAGGGCAGAGAACGGTGTCTCAATT 1489  
 Veswaprin-c Genomic 1275 ATTTCAGCAGTTCGCACAGCTCAGGAGAACCGGTTCTTAACCTCTGAGCAGTGTGGTGAACCTTTGTTGGAAGAAATCATTAGGGCAGAGAACGGTGTCTCAATT 1384  
 Veswaprin-d Genomic 1428 ATTTCAGCAGTTCGCACAGCTCAGGAGAACCGGTTCTTAACCTCTGAGCAGTGTGGTGAACCTTTGTTGGAAGAAATCATTAGGGCAGAGAACGGTGTCTCAATT 1536  
 Veswaprin-a Genomic 1413 ATTTCAGCAGTTCGCACAGCTCAGGAGAACCGGTTCTTAACCTCTGAGCAGTGTGGTGAACCTTTGTTGGAAGAAATCATTAGGGCAGAGAACGGTGTCTCAATT 1517

Veswaprin-b Genomic 1490 ACTTGAATCCCACTGCTATAACTCCAGGAGGAGGTTGCCCATTTGATTTCC--TCTCTCCCAATCAGGACATCTCTGCTGATTTCCGCTTTGGGCTCTCCAGG 1597  
 Veswaprin-c Genomic 1385 ACTTGAATCCCACTGCTATAACTCCAGGAGGAGGTTGCCCATTTGATTTCC--TCTCTCCCAATCAGGACATCTCTGCTGATTTCCGCTTTGGGCTCTCCAGG 1492  
 Veswaprin-d Genomic 1537 ACTTGAATCCCACTGCTATAACTCCAGGAGGAGGTTGCCCATTTGATTTCC--TCTCTCCCAATCAGGACATCTCTGCTGATTTCCGCTTTGGGCTCTCCAGG 1646  
 Veswaprin-a Genomic 1518 ACTTGAATCCCACTGCTATAACTCCAGGAGGAGGTTGCCCATTTGATTTCC--TCTCTCCCAATCAGGACATCTCTGCTGATTTCCGCTTTGGGCTCTCCAGG 1621

Veswaprin-b Genomic 1598 TCTAAGATGAGCAGGAGAGAGCAAGGGTTGAGTCTGGCAGAAACCTCAACCTGAGACTTTGTTTTACAGCATTTACCA 1681 EU401833  
 Veswaprin-c Genomic 1493 TCTAAGATGAGCAGGAGAGAGCAAGGGTTGAGTCTGGCAGAAACCTCAACCTGAGACTTTGTTTTACAGCATTTACCA 1576 EU401834  
 Veswaprin-d Genomic 1647 TCTAAGATGAGCAGGAGAGAGCAAGGGTTGAGTCTGGCAGAAACCTCAACCTGAGACTTTGTTTTACAGCATTTACCA 1730 EU401835  
 Veswaprin-a Genomic 1622 TCTAAGATGAGCAGGAGAGAGCAAGGGTTGAGTCTGGCAGAAACCTCAACCTGAGACTTTGTTTTACAGCATTTACCA 1705 EU401836

**I) *D. vestigiata* Veswaprin-a, -b, -c and -d Genomic Sequences**



**J) *P. textilis* Textwaprin-a Genomic Sequence**



Genomic sequences for Os Kunitz-like, Scutellin-5, and Scutellin-3 across various genomic regions (Exon 1, Exon 2, Exon 3) and protein translations. Includes accession numbers (EU401842-401844) for Scutellin-3 Genomic sequences.

L) *O. scutellatus* Scutellin-3 and -5 Kunitz-type Genomic Sequences



M) *P. textilis* Textilinins-2 and -7 Kunitz-type Genomic Sequences



→ Exon 1 and Propeptide      Mature      Intron 1

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Mulgin-5 Genomic 1  ATGTCCTCTGGAGGTCCTCTCTCTCTGCTGGGACTCCTCACCCCTGGGAGGCGCTGACCCGCTCTCCAGCAGGACCGTCCAAGTGGAGTTGAGATCTTGAGACCCCTTC 109
Mulgin-1 CDS 1      ATGTCCTCTGGAGGTCCTCTCTCTCTGCTGGGACTCCTCACCCCTGGGAGGCGCTGACCCCGCTCTCCAGCAAGGACCGTCCAAGTGGAGTTGAGATCTTGAGACCCCTTC 85
Mulgin-2 CDS 1      ATGTCCTCTGGAGGTCCTCTCTCTCTGCTGGGACTCCTCACCCCTGGGAGGCGCTGACCCCGCTCTCCAGCAAGGACCGTCCAAGTGGAGTTGAGATCTTGAGACCCCTTC 85
Mulgin-3 CDS 1      ATGTCCTCTGGAGGTCCTCTCTCTCTGCTGGGACTCCTCACCCCTGGGAGGCGCTGACCCCGCTCTCCAGCAAGGACCGTCCAAGTGGAGTTGAGATCTTGAGACCCCTTC 85
Mulgin-4 CDS 1      ATGTCCTCTGGAGGTCCTCTCTCTCTGCTGGGACTCCTCACCCCTGGGAGGCGCTGACCCCGCTCTCCAGCAAGGACCGTCCAAGTGGAGTTGAGATCTTGAGACCCCTTC 85
Mulgin-1 Protein 1  M S S G G L L L L L G L L T L W E V L T P V S S K D R P 28

Mulgin-5 Genomic 110  CTAGGAGGGGCTGGAATGATCAGGGTTCTCCCCAGGAAGAGAGACCAAAAGGCGTGGTCTAGAAGTCTGGCTTGGTGGGGCTTCTCTGGAAAGTCTTTTATATCT 219
Mulgin-5 Genomic 220  CACTCTCTCATTTCTCTGTTTTCTTGTTCACAGTCAACCTCAACAGACAGCAAAAAATATACATTCATTTATACCTCTCTGTAGTCCCTCTTTTAAACACTTCGGGGT 329
Mulgin-5 Genomic 330  TTGTTGCTGGTAACTTTTATCCATTTCTTTTTCACATATTTAGACACCAAGTATAAATCCGTAAGAGGAAATTTCTGTAAAGAGAAATCTTTAACC 439
Mulgin-5 Genomic 440  ATTAGTGGTGGCTCTCTATCACCTTCTTTTCAAAGTCTTTTGTGTTTTCATCTCTTTTCCATAGTACTAACATTAAGTTTATCCATCCAGAAAAGTCCAGCATTTTC 549
Mulgin-5 Genomic 550  TGGGAGGTTCTTGAGATGGTGGTGGTGTGACGTGAACAGGAGATGGAAATGGGAGAGGTCCCTAGAAGAGATGGATTTTAGGGGAGGCTGATCTATCTCTATTC 659

Mulgin-5 Genomic 660  AATTTTTCACAGCCTCTCTCTCTCTGCTGCACTGACCCCGGACCATGTAAGGCAACTTCCAAGCCTTCTACTACACCCAGTTCCTGGTACATGCCTAGAGTTTATTTAT 769
Mulgin-1 CDS 85      GTTCTGTGAAGTGCCTGCTGACCCCGGACCATGTAAGGCAACTTCCAAGCCTTCTACTACACCCAGTTCCTGGTACATGCCTAGAGTTTATTTAT 183
Mulgin-2 CDS 85      AGTCTGTGAAGTGCCTGCTGACCCCGGACCATGTAAGGCAACTTCCAAGCCTTCTACTACACCCAGTTCCTGGTACATGCCTAGAGTTTATTTAT 183
Mulgin-3 CDS 85      ATTTCTGTGAAGTGCCTGCTGACCCCGGACCATGTAAGGCAACTTCCAAGCCTTCTACTACACCCAGTTCCTGGTACATGCCTAGAGTTTATTTAT 183
Mulgin-4 CDS 85      GTTCTGTGAAGTGCCTGCTGACCCCGGACCATGTAAGGCAACTTCCAAGCCTTCTACTACACCCAGTTCCTGGTACATGCCTAGAGTTTATTTAT 183
Mulgin-1 Protein 29  R F C E L P A D P G P C N G L F Q A F Y Y N P V Q R T C L K F R Y 61

Mulgin-5 Genomic 770  GGTGATCCCAAGGGAATCCTAACAATTTTAAGACCATAGAGAAATGCAAAACGCACCTGTGCTGGTAAAGTGGGAAGGAGTTCCAGACTGGCCTTTTCACTGAAAAGAC 879
Mulgin-1 CDS 184      GGTGATCCCAAGGGAATCCTAACAATTTTAAGACCATAGAGAAATGCAAAACGCACCTGTGCTGGTAAAGTGGGAAGGAGTTCCAGACTGGCCTTTTCACTGAAAAGAC 247
Mulgin-2 CDS 184      GGTGATCCCAAGGGAATCCTAACAATTTTAAGACCATAGAGAAATGCAAAACGCACCTGTGCTGGTAAAGTGGGAAGGAGTTCCAGACTGGCCTTTTCACTGAAAAGAC 247
Mulgin-3 CDS 184      GGTGATCCCAAGGGAATCCTAACAATTTTAAGACCATAGAGAAATGCAAAACGCACCTGTGCTGGTAAAGTGGGAAGGAGTTCCAGACTGGCCTTTTCACTGAAAAGAC 247
Mulgin-4 CDS 184      GGTGATCCCAAGGGAATCCTAACAATTTTAAGACCATAGAGAAATGCAAAACGCACCTGTGCTGGTAAAGTGGGAAGGAGTTCCAGACTGGCCTTTTCACTGAAAAGAC 247
Mulgin-1 Protein 62  G G C K G N P N T F K T I E E C K R T C A 82

Mulgin-5 Genomic 880  TCGTCTCTCTTAAAAATAGGCATAAGGTGGGTTCAAGAAACAATGTGGTCTCACAAACAGTCTGTGATTGATCAATAGAAAGGAATCTTGCACCTCTGGTGAACCTC 989

Mulgin-5 Genomic 990  TCCAATGACACATGGAGGAGTCTGGGCGAAAACCTCATATCCGGATGTTGTTTTACAGGCTGACCA 1061 EU401846
Mulgin-1 CDS 247      -----CATGA----- 252
Mulgin-2 CDS 247      -----CATGA----- 252
Mulgin-3 CDS 247      -----CATGA----- 252
Mulgin-4 CDS 247      -----CATGA----- 252
Mulgin-1 Protein 83  A * 83
  
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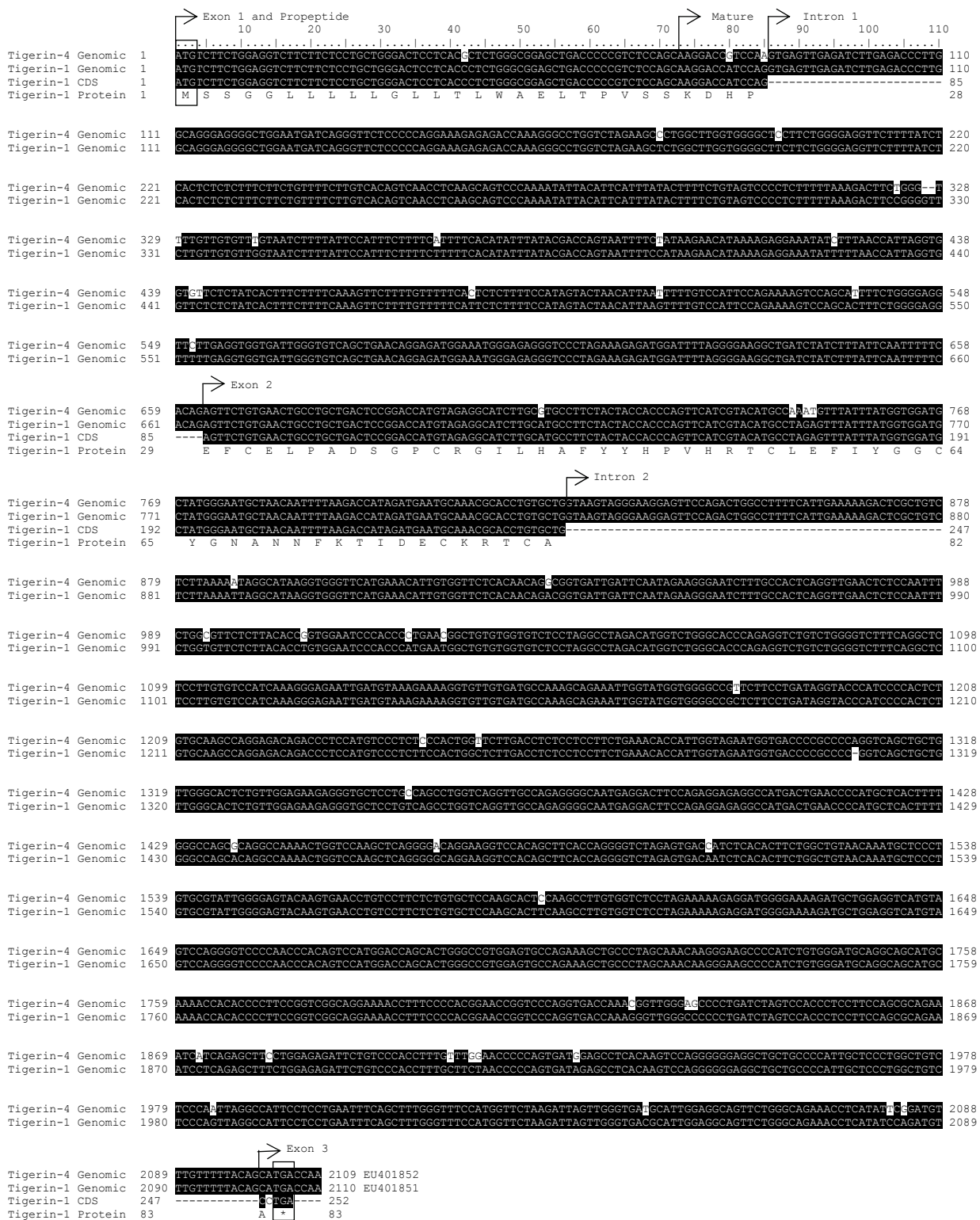
→ Exon 2      Intron 2      Exon 3

## N) *P. australis* Mulgin-1 Kunitz-type Genomic Sequence





### P) *R. nigrescens* Nigrescinin-1 Kunitz-type Genomic Sequence



**Q) *N. scutatus* Tigerin-1, and -4 Kunitz-type Genomic Sequences**





S) *H. stephensii* Stephenin-2 and -3 Kunitz-type Protein Sequences

|              |         | Exon 1 and Propeptide |   |    |    |    |    |    |    |    |     | Mature |    |    |    |    |    |    |    |    |    | Intron 1 |     |    |    |    |    |    |    |    |    |    |      |     |
|--------------|---------|-----------------------|---|----|----|----|----|----|----|----|-----|--------|----|----|----|----|----|----|----|----|----|----------|-----|----|----|----|----|----|----|----|----|----|------|-----|
|              |         | 10                    | 20  | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110    | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100      | 110 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100  | 110 |
| Superbinin-1 | Genomic | 1                     | ATGTCCTCTGGAGGCTTCTCTCTGCTGGGACTCCTCACCCCTCTGGGAGGTGCTGACCCCGCTCCAGCAAGGACCGTCCAGGTGAGTTGAGATCTTGAGACCCCTTG |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 110  |     |
| Superbinin-1 | CDS     | 1                     | ATGTCCTCTGGAGGCTTCTCTCTGCTGGGACTCCTCACCCCTCTGGGAGGTGCTGACCCCGCTCCAGCAAGGACCGTCCAG                           |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 85   |     |
| Superbinin-4 | Genomic | 1                     | ATGTCCTCTGGAGGCTTCTCTCTGCTGGGACTCCTCACCCCTCTGGGAGGTGCTGACCCCGCTCCAGCAAGGACCGTCCAGGTGAGTTGAGATCTTGAGACCCCTTG |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 110  |     |
| Superbinin-4 | CDS     | 1                     | ATGTCCTCTGGAGGCTTCTCTCTGCTGGGACTCCTCACCCCTCTGGGAGGTGCTGACCCCGCTCCAGCAAGGACCGTCCAG                           |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 85   |     |
| Superbinin-4 | Protein | 1                     | M S S G G L L L L L G L L T L W E V L T P V S S K D R P   |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 28   |     |
| Superbinin-1 | Genomic | 111                   | GCAGGGAGGGCTGGAATGATCAGGGTCTCCCCAGGAAAGAGACCAAAGGCGCTGGTCTAGAGCTCTGGCTGGTGGGCTCTCTCTGGGAGGTTCTTTATCT        |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 220  |     |
| Superbinin-4 | Genomic | 111                   | GCAGGGAGGGCTGGAATGATCAGGGTCTCCCCAGGAAAGAGACCAAAGGCGCTGGTCTAGAGCTCTGGCTGGTGGGCTCTCTCTGGGAGGTTCTTTATCT        |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 220  |     |
| Superbinin-1 | Genomic | 221                   | CACCTCTCTTTCTCTGTTTCTTGTCTACAGTCAACCTCAAACAGTCCCAAAATATTACATTCATTTATACTTTTCTGTAGTCCCGCTTTTAAAGACTTCCGGGCT   |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 330  |     |
| Superbinin-4 | Genomic | 221                   | CACCTCTCTTTCTCTGTTTCTTGTCTACAGTCAACCTCAAACAGTCCCAAAATATTACATTCATTTATACTTTTCTGTAGTCCCGCTTTTAAAGACTTCTTGGT    |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 329  |     |
| Superbinin-1 | Genomic | 331                   | CTTGTGTGTGGTAACTTTTATTCATTTCTTTCTTTTTCACATATTTATACAGCAGTAATTTTCCATAGAACATAAAGAGAAATATCTTTAAACCATTAGGTG      |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 440  |     |
| Superbinin-4 | Genomic | 330                   | CTTGTGTGTGGTAACTTTTATTCATTTCTTTCTTTTTCACATATTTATACAGCAGTAATTTTCCATAGAACATAAAGAGAAATATCTTTAAACCATTAGGTG      |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 439  |     |
| Superbinin-1 | Genomic | 441                   | GTCCTCTATCACTTTCTTTCAAAGTCTTTTGTCTTTTTCATCTCTTTTCAATAGTACTGACATTAAGTTTTCATCCAGGAAAGTCCAGGATTTCTGGGGAGG      |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 550  |     |
| Superbinin-4 | Genomic | 440                   | GTCCTCTATCACTTTCTTTCAAAGTCTTTTGTCTTTTTCATCTCTTTTCAATAGTACTGACATTAAGTTTTCATCCAGGAAAGTCCAGGATTTCTGGGGAGG      |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 549  |     |
| Superbinin-1 | Genomic | 551                   | TTCTTGAGATGGTATGGGTGTCAGCTGAACAAAAGATGAAATGGGAGAGGTCCTAGAAAAGATGGATTTAGGGGAAGGCTGATCTATCTTTATCAATTTTTC      |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 660  |     |
| Superbinin-4 | Genomic | 550                   | TTCTTGAGATGGTATGGGTGTCAGCTGAACAAAAGATGAAATGGGAGAGGTCCTAGAAAAGATGGATTTAGGGGAAGGCTGATCTATCTTTATCAATTTTTC      |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 659  |     |
| Superbinin-1 | Genomic | 661                   | ACAGAGTCTGTAAGTCCCTGCTGACACCGGACGATGTAAGGCAAAATCCAGCCCTCTACTACACCAGTTCATCTGACATGCTAGAGTTTATTATGGTGGATG      |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 770  |     |
| Superbinin-1 | CDS     | 85                    | ---ACTTCTGTAAGTCCCTGCTGACACCGGACGATGTAAGGCAAAATCCAGCCCTCTACTACACCAGTTCATCTGACATGCTAGAGTTTATTATGGTGGATG      |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 191  |     |
| Superbinin-4 | Genomic | 660                   | ACAGAGTCTGTAAGTCCCTGCTGACACCGGACGATGTAAGGCAAAATCCAGCCCTCTACTACACCAGTTCATCTGACATGCTAGAGTTTATTATGGTGGATG      |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 769  |     |
| Superbinin-4 | CDS     | 85                    | ---ACTTCTGTAAGTCCCTGCTGACACCGGACGATGTAAGGCAAAATCCAGCCCTCTACTACACCAGTTCATCTGACATGCTAGAGTTTATTATGGTGGATG      |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 191  |     |
| Superbinin-4 | Protein | 29                    | N F C H L P H D T G P C K R N T Q A F Y Y N P V Y H T C L K F I Y S G C                                     |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 64   |     |
| Superbinin-1 | Genomic | 771                   | CAAAGGAAATCCFAACRAATTTAAGACCATAGATGAATGCGAACGACCTGTGCTGTAAGTGGGAAGGAGTCCAGACTTGCCTTTTCATTGAAAAGACTCCCTGTC   |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 880  |     |
| Superbinin-1 | CDS     | 192                   | CAAAGGAAATCCFAACRAATTTAAGACCATAGATGAATGCGAACGACCTGTGCTGTAAGTGGGAAGGAGTCCAGACTTGCCTTTTCATTGAAAAGACTCCCTGTC   |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 247  |     |
| Superbinin-4 | Genomic | 770                   | CAAAGGAAATCCFAACRAATTTAAGACCATAGATGAATGCGAACGACCTGTGCTGTAAGTGGGAAGGAGTCCAGACTTGCCTTTTCATTGAAAAGACTCCCTGTC   |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 879  |     |
| Superbinin-4 | CDS     | 192                   | CAAAGGAAATCCFAACRAATTTAAGACCATAGATGAATGCGAACGACCTGTGCTGTAAGTGGGAAGGAGTCCAGACTTGCCTTTTCATTGAAAAGACTCCCTGTC   |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 247  |     |
| Superbinin-4 | Protein | 65                    | E G N A N N F K T I D E C K R T C A   |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 82   |     |
| Superbinin-1 | Genomic | 881                   | TCTTAAAAATAGGCATAGGTGGTTCATGAACATTTGTGGTCTCACACAGGCTGTGATGATCAATAGAGGAATCTTTGCCACACTGGTGAAGTCTCCAATTT       |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 990  |     |
| Superbinin-4 | Genomic | 880                   | TCTTAAAAATAGGCATAGGTGGTTCATGAACATTTGTGGTCTCACACAGGCTGTGATGATCAATAGAGGAATCTTTGCCACACTGGTGAAGTCTCCAATTT       |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 989  |     |
| Superbinin-1 | Genomic | 991                   | CTGGTGTCTCTTCCCCTGGAATCCACCCTGAATGGCTGTGTGTGTCTCTCTAGGCTAGACATGGTCTGGGACCCAGAGTCTTTCAAGGCTTTTTCAGGCTC       |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1100 |     |
| Superbinin-4 | Genomic | 990                   | CTGGTGTCTCTTCCCCTGGAATCCACCCTGAATGGCTGTGTGTGTCTCTCTAGGCTAGACATGGTCTGGGACCCAGAGTCTTTCAAGGCTTTTTCAGGCTC       |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1099 |     |
| Superbinin-1 | Genomic | 1101                  | TCCCTGTGTCATCAAAGGAGAAATGATGTAAGGAAAGGCTGTGTGATGCCAAGCAGAAATGGTATGGTGGGACTGTTCCCTCTGATAGTACCCATCCCACTCT     |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1210 |     |
| Superbinin-4 | Genomic | 1100                  | TCCCTGTGTCATCAAAGGAGAAATGATGTAAGGAAAGGCTGTGTGATGCCAAGCAGAAATGGTATGGTGGGACTGTTCCCTCTGATAGTACCCATCCCACTCT     |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1209 |     |
| Superbinin-1 | Genomic | 1211                  | GTGAAGCCAGGAGACGACCCCTCCATGTCCCTTCCCCTGGCTCTTGACCTTCCCTCTCTGACACCAATGGTGAATGGTACCCCGCCCAAGTCCAGTCTGTG       |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1320 |     |
| Superbinin-4 | Genomic | 1210                  | GTGAAGCCAGGAGACGACCCCTCCATGTCCCTTCCCCTGGCTCTTGACCTTCCCTCTCTGACACCAATGGTGAATGGTACCCCGCCCAAGTCCAGTCTGTG       |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1319 |     |
| Superbinin-1 | Genomic | 1321                  | TTGGGCATCTGTTGGAGAAGAGGTTCTCTGCCACCTGGTCAAGTTGCCAGAAGGGCAATGAGGACTTCCAGAGGAGGCGCATGACTGAACCCCATGCTCACTTTT   |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1430 |     |
| Superbinin-4 | Genomic | 1320                  | TTGGGCATCTGTTGGAGAAGAGGTTCTCTGCCACCTGGTCAAGTTGCCAGAAGGGCAATGAGGACTTCCAGAGGAGGCGCATGACTGAACCCCATGCTCACTTTT   |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1429 |     |
| Superbinin-1 | Genomic | 1431                  | GGGCGAGCGAGCCAAAACCTGGTCAAGCTCAGGGGACAGGAAGTCCACAGCTTCCACAGGGGCTCTAGAGTGAACAATCTCACACTTCTGGCTGAACAATGCTCCC  |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1539 |     |
| Superbinin-4 | Genomic | 1430                  | GGGCGAGCGAGCCAAAACCTGGTCAAGCTCAGGGGACAGGAAGTCCACAGCTTCCACAGGGGCTCTAGAGTGAACAATCTCACACTTCTGGCTGAACAATGCTCCC  |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1539 |     |
| Superbinin-1 | Genomic | 1540                  | TGTGGCAATGGGCAGTACAAGTGAAGCT-----   |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1568 |     |
| Superbinin-4 | Genomic | 1540                  | TGTGGCAATGGGCAGTACAAGTGAAGCTCTGTCTCTCTGCTCCAGCCTCCAAGCTTGGGGTCTCTAGAAAAGAGGATGGGGAAAGAAGCTGGAGGTCATGT       |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1649 |     |
| Superbinin-1 | Genomic | 1568                  | -----   |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1568 |     |
| Superbinin-4 | Genomic | 1650                  | AGTCCAGGGTCCCAACCCAGAGTCCATGGACAGCAGTCTGGCTGTGGATGCCAAGTGCCTTAGCAACAGGGAGCCCACTGTGGGATGCAGGCAGATG           |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1759 |     |
| Superbinin-1 | Genomic | 1568                  | -----CTTCCAGGCAGA   |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1582 |     |
| Superbinin-4 | Genomic | 1760                  | CAAARCCACACCCCTCCGGTCCGCGAAGAAACCTTTCCCCACAGAACCGGTCACAGTGCACCAAGTGGTGGAGCCCTGATCTAGTACCCCTCTTCCAGGCAGA     |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1869 |     |
| Superbinin-1 | Genomic | 1583                  | AATCCCTCAGAGCTTCTGGAGAGGTTCTGTCCACCTTGTCTGGAAACCCCAAGTATGGAGCTCACAAGTCCAGGGGGAGGCTGCTGCCCAATGCTCCCTGGCTGT   |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1692 |     |
| Superbinin-4 | Genomic | 1870                  | AATCCCTCAGAGCTTCTGGAGAGGTTCTGTCCACCTTGTCTGGAAACCCCAAGTATGGAGCTCACAAGTCCAGGGGGAGGCTGCTGCCCAATGCTCCCTGGCTGT   |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1979 |     |
| Superbinin-1 | Genomic | 1693                  | CTCCCAATTAGGCATCTCCCTGAATTTT-----CCAA--GGTTCCATGGTCTAAGATTAGTGGGTGACGCTTGGAGGCACTTCTGGCGAAGACCTCATATCGGGATG |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1798 |     |
| Superbinin-4 | Genomic | 1980                  | CTCCCAATTAGGCATCTCCCTGAATTTTGGGGTTCCATGGTCTAAGATTAGTGGGTGACGCTTGGAGGCACTTCTGGCGAAGACCTCATATCGGGATG          |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 2089 |     |
| Superbinin-1 | Genomic | 1799                  | TTTGTTTTTACAGCATGACCAA  |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 1820 |     |
| Superbinin-1 | CDS     | 247                   | -----CTTGA-----   |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 252  |     |
| Superbinin-4 | Genomic | 2090                  | TTTGTTTTTACAGCATGACCAA  |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 2111 |     |
| Superbinin-4 | CDS     | 247                   | -----CATGA-----   |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 252  |     |
| Superbinin-4 | Protein | 83                    | T *   |    |    |    |    |    |    |    |     |        |    |    |    |    |    |    |    |    |    |          |     |    |    |    |    |    |    |    |    |    | 83   |     |

T) *A. superbus* Superbinin-1 and -4 Kunitz-type Genomic Sequences





