**Supplementary material**

**Supplementary Tables**

**Supplementary Table S1** BLASTn result and information for DNA sequences in this study. The % identity refers to nucleotide matches with the identified DNA sequences in the NCBI database. bp =base pair.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| BLASTn result | | | | | | | |
| Name | Length (bp) | Identified species | | % Identity | | | |
| Lowest | | Highest | |
| Dvi\_ITS2\_05 | 596 | *Dictyocaulus viviparus* | | 98.02 | | 99.69 | |
| Dvi\_ITS2\_06 | 596 | *Dictyocaulus viviparus* | | 98.02 | | 99.69 | |
| Dvi\_ITS2\_07 | 593 | *Dictyocaulus viviparus* | | 97.22 | | 100 | |
| Dvi\_ITS2\_09 | 596 | *Dictyocaulus viviparus* | | 98.21 | | 99.78 | |
| Dvi\_ITS2\_14 | 596 | *Dictyocaulus viviparus* | | 97.62 | | 100 | |
| Oos\_ITS2\_13 | 378 | *Ostertagia ostertagi* | | 98.14 | | 100 | |
| Con\_ITS2\_16 | 381 | *Cooperia oncophora* | | 99.21 | | 99.74 | |
| DNA regions on the sequence | | | | | | | |
| Name | 5.8S rDNA  position | Length  (bp) | ITS2  position | Length  (bp) | 28S rDNA  position | | Length  (bp) |
| Dvi\_ITS2\_05 | 1 ... 87 | 87 | 88 … 543 | 456 | 544 … 596 | | 53 |
| Dvi\_ITS2\_06 | 1 ... 87 | 87 | 88 … 543 | 456 | 544 … 596 | | 53 |
| Dvi\_ITS2\_07 | 1 ... 87 | 87 | 88 … 540 | 453 | 541 … 593 | | 53 |
| Dvi\_ITS2\_09 | 1 ... 87 | 87 | 88 … 543 | 456 | 544 … 596 | | 53 |
| Dvi\_ITS2\_14 | 1 ... 87 | 87 | 88 … 543 | 456 | 544 … 596 | | 53 |
| Oos\_ITS2\_13 | 1 ... 87 | 87 | 88 … 325 | 238 | 326 … 378 | | 53 |
| Con\_ITS2\_16 | 1 ... 87 | 87 | 88 … 328 | 341 | 329 … 381 | | 53 |