Supplement Table S1 Primers used for *Aphelenchoides besseyi* cDNA, genomic DNA and qRT-PCR analysis

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| primer names | Target gene | Sequence (5'-3') | Description |
| HSF-ace1-RACE | Ace-1 | GCCGGTTCAAATTTGGAGGA | 3' RACE |
| HSF-ace1-NEST | Ace-1 | GTTGGCTGATGTGTTTCCACC |
| Rl-ace1-RACE | Ace-1 | AGGTTTTCCACCGGAACCTC |
| Rl-ace1-NEST | Ace-1 | CACGGACCGAGACGAAAAGA |
| Ace2-RACE | Ace-2 | CAGCATTATGATGGAGTGCG |
| Ace2-NEST | Ace-2 | GAATCCACCGAACGAGTTGGAT |
| Rl-ace3-RACE | Ace-3 | TGTGGCTTTGCACGAAAAGAA |
| HSF-ace3-RACE | Ace-3 | GGTTGGCAGATCAAATGAGTG |
| Ace3-NEST | Ace-3 | CGGAACAACCGCTTTTGACA |
| AUAP |  | GGCCACGCGTCGACTAGTAC |
| adapter primer |  | GGCCACGCGTCGACTAGTACTTTTTTTTTTTTTTTTT |
| HSF-ace1-RACE | Ace-1 | ATCGCCTGTAACGCTAACGAC | 5' RACE |
| HSF-ace1-NEST | Ace-1 | ACTTCTCAGCCAGACATCACG |
| Rl-ace1-RACE | Ace-1 | ACGGATAAACGACTCGCCAA |
| Rl-ace1-NEST | Ace-1 | CAATTCGCTGAGCACCGTTT |
| Ace2-RACE | Ace-2 | ATCCAACTCGTTCGGTGGATTC |
| Ace2-NEST | Ace-2 | GTGGAAACGCGGTGTCAATC |
| Ace3-RACE | Ace-3 | CTGCTCGGTTGGTCGAAGTA |
| Ace3-NEST | Ace-3 | CAAAGGCGGTCTGAACACAC |
| Poly G |  | GGGGGGGGGGGAAAGGG |
| Poly C |  | CCCTTTCCCCCCCCCCC |
| Ace1-FL-F | Ace-1 | AAGAGGCACGGGATGAACTG | cDNA amplification |
| Ace1-FL-R | Ace-1 | TAGCACACTGACCCTGTTGC |
| HSF-Ace2-FL-F | Ace-2 | ACGGACGATGTCGTTGTGAA |
| Rl-Ace2-FL-F | Ace-2 | GGGGTCCAGTTGAATTTCCGAAGAT |
| Ace2-FL-R | Ace-2 | GGTTTATTTTGTACATGAAGGCGGTAGT |
| Ace3-FL-F | Ace-3 | GCTTTTCGACCATCGACTTGG |
| Ace3-FL-R | Ace-3 | TTGGTTGTTTCGCATTCACCG |
| 18S-qPCR-F | 18s ribosomal DNA | TAGAGCGAAACTGCGAACGG | qRT-PCR |
| 18S-qPCR-R | 18s ribosomal DNA | AATAGCACTGCGACCCGAAG |
| Rl-ace1-qPCR-F | Ace-1 | CACATCCACAGCTCACGGTAAA |
| Rl-ace1-qPCR-R | Ace-1 | CTCCAAAGTACGTGTCCAGAGATTG |
| Rl-ace2-qPCR-F | Ace-2 | GTGCGATTCGTGGACTGGAAC |
| Rl-ace2-qPCR-R | Ace-2 | GCCAATAGTTCACCTTCCCAACG |
| Rl-ace3-qPCR-F | Ace-3 | CTTCGATTCCGTCCACCGATTG |
| Rl-ace3-qPCR-R | Ace-3 | TCGGCTGGTGACCAAATGTTC |
| HSF-ace1-qPCR-F | Ace-1 | GAATGGTCGCCAGTGATGGA |
| HSF-ace1-qPCR-R | Ace-1 | TGAACCGGCAAGTAGTTGGG |
| HSF-ace2-qPCR-F | Ace-2 | GGCGAAGCTCTTTCATTGCC |
| HSF-ace2-qPCR-R | Ace-2 | CATTGTGCCAGCAAGTACCG |
| HSF-ace3-qPCR-F | Ace-3 | ACCGCTGGATACACCAATCG |
| HSF-ace3-qPCR-R | Ace-3 | TTCAAATGCATCCAACGGCG |