**Supporting Table S2. Primers used in this study**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Genome/Gene** | **NCBI Accession No.; GI No.** | **Primer Name** | **Sequence (5'-3')** | **Product Size (bp)** | **Reference** |
|  |  |  |  |  |  |
| **Ribosomal Protein L8 (*Apis m.*)** | XM\_393671.3 GI:110760460 | Rpl8Fw | TGGATGTTCAACAGGGTTCATA | 100 | Evans et al. (2006) Insect Mol Bio |
|  |  | Rpl8Rev | CTGGTGGTGGACGTATTGATAA |  |  |
|  |  |  |  |  |  |
| **acute bee paralysis virus (ABPV)** | NC\_002548.1 GI:10314009 | ABPV-F-8125 | AGCCACTATGTGCTATCGTAT | 206 | Grabensteiner et al. (2007) J Invert Path |
|  |  | ABPV-R-8331 | ATGGTGACCTCTGTGTCATTA |  |  |
|  |  |  |  |  |  |
|  |  | qABPV-F-5457\* | GGATGAGAGAAGACCAATTG | 177 | Highfield et al. (2009) Appl Environ Micro |
|  |  | qABPV-R-5634\* | CCAATCTTGGGAATAAACATTAGTTC |  | this work |
|  |  |  |  |  |  |
| **black queen cell virus (BQCV)** | NC\_003784.1 GI:20451021 | qBQCVorf2F\_6664\* | TCCTCAAATCTGGAGCGAAC | 141 | this work  |
|  |  | qBQCVorf2R\_6805\* | GTATTCGCTGGCCGTAAAAC |  |  |
|  |  |  |  |  |  |
|  | NC\_003784.1 GI:20451021 | BQCV-F-7850 | TGGTCAGCTCCCACTACCTTAAAC | 700 | Benjeddou et al. (2001) Appl Environ Micro |
|  |  | BQCV-R-8550 | GCAACAAGAAGAAACGTAAACCAC |  |  |
|  |  |  |  |  |  |
| **chronic bee paralysis virus (CBPV)** | NC\_010711.1 GI:188543025  | CBPV-F\_2580 | AGTTGTCATGGTTAACAGGATACGAG | 454 | Ribiere et al. (2002) Apidologie |
|  |  | CBPV-R\_3034 | TCTAATCTTAGCACGAAAGCCGAG |  |  |
|  |  |  |  |  |  |
| **deformed wing virus (DWV)** | AY292384.1 GI:31540603 | DWV-F-1165 | CTTACTCTGCCGTCGCCCA | 194 | Chen et a. (2005) J Invert Path |
|  |  | DWV-R-1338 | CCGTTAGGAACTCATTATCGCG |  |  |
|  |  |  |  |  |  |
| **Israeli acute paralysis virus (IAPV)** | NC\_009025.1 GI:126010924 | IAPV-F-8860 | AGACACCAATCACGGACCTCAC | 474 | Maori et al (2007) J Gen Virol  |
|  |  | IAPV-R-9334 | AGATTTGTCTGTCTCCCAGTGCACAT |  |  |
|  |  |  |  |  |  |
| **Kashmir bee virus (KBV)** | NC\_004807.1 GI:30793779 | KBV-F-5406 | GATGAACGTCGACTATTGA | 412 | Stoltz et al. (1995) J Apicult Res |
|  |  | KBV-R-5818 | TGTGGGTTGGCTATGAGTCA |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| **sacbrood virus (SBV)** | AF092924.1 GI:4416206 | SBV-F-4958 | GCTGAGGTAGGATCTTTGCGT | 823 | Chen et al. (2004) J Invert Path |
|  |  | SBV-R-5781 | TCATCATCTTCACCATCCGA |  |  |
|  |  |  |  |  |  |
|  | AF092924.1 GI:4416206 | SBV-F-3103\*\* | GGTGTCTAACTTTTATGGACCACCA | 103 | Cox-Foster et al. (2007) Science |
|  |  | SBV-R-3206\*\* | CCTTTTCTATGCTATCATCCATCTGA |  |  |
|  |  |  |  |  |  |
| **aphid lethal paralysis virus strain Brookings (ALP-Br)** | Q871932 | qALP-Br F-2680\*\* | ACACCATAGTTCGCGAAGAACGCA | 141 | this work |
|  |  | qALP-Br R 2821\*\* | GCAGCACCGGAAACGTTTTTATGG |  |  |
|  |  |  |  |  |  |
|  |  | ALP-Br-F-2936\* | AACGTCGTATGCTACGATGAACTCG | 464 | this work |
|  |  | ALP-Br-R-3400\* | GGGTTAAATTCAATTCCAGTACCACGG |  |  |
|  |  |  |  |  |  |
| **Big Sioux River virus (BSRV)** |  | qBSRV-F-235  | GCGCCTATTTTCTGCAGCGCC | 281 | this work |
|  |  | qBSRV-R-546  | CCCGCGATATAATTGCGTTTGTGAGC |  |  |
|  |  |  |  |  |  |
|  |  | BSRV\_4714F\* | RGTGCAGCTTTATGCGTTGCC | 519 | this work |
|  |  | BSRV\_37R\*  | CCGCTGTTGAGAATAAGGATATCCAGG |  |  |
|  |  |  |  |  |  |
| **Lake Sinai virus (universal)**  |  | qLSVU-F-2350 | TTATCTCGCGCCGCCACCTC | 188 | this work |
|  |  | qLSVU-R-2538 | AGAGGGTACCGCGACACCCATG |  |  |
|  |  |  |  |  |  |
|  |  | LSV1&2U-F-4481 | CTTGAGACTCAGGGATTCGTCAC | 205 | this work |
|  |  | LSV1&2U-R-4686 | AGGGACGACGGAGCACAATT |  | this work |
|  |  |  |  |  |  |
| **Lake Sinai virus strain 1 (LSV1)**  | HQ871931 | qLSV1-F-2515\*\* | AGAGGTTGCACGGCAGCATG | 153 | this work |
|  |  | qLSV1-R-2668\*\* | GGGACGCAGCACGATGCTCA |  |  |
|  |  |  |  |  |  |
|  |  | LSV1-F-2294\* | TTATCTCGCGCCGCCACCTC | 672 | this work |
|  |  | LSV1-R-2966\* | ATCGCCGCTGCAACGTGACC |  |  |
|  |  |  |  |  |  |
| **Lake Sinai virus strain 2 (LSV2)**  | HQ888865 | qLSV2-F-1783\*\* | CGTGCTGAGGCCACGGTTGT | 225 | this work |
|  |  | qLSV2-R-2008\*\* | GCGGTGTCGATCTCGCGGAC |  |  |
|  |  |  |  |  |  |
|   |  | LSV2-F-3954\* | CGGCCGGTCTAGCGTGGTTG | 558 | this work |
|  |  | LSV2-R-4512 | TGGCAAGCTGTGACGAATCCCT |  |  |
|  |  |  |  |
|  | Primers for Negative strand PCR (Numbered according to LSV2 seq.) |  |  |
|  |  | LSVU-F-1483-TAGS | **GGCCGTCATGGTGGCGAATAA**GACTTCATCATCCATCTGTGCGA | 255 | this work  |
|  |  | LSV1-F-1434-TAGS | **GGCCGTCATGGTGGCGAATAA**CAGGTGCAGAGCAATTGGATTCA | 304 | this work  |
|  |  | LSV2-F-1434-TAGS | **GGCCGTCATGGTGGCGAATAA**TAGGTGTCGGGCCATAGGGTTTG | 304 | this work  |
|  |  | **TAGS Forward** | **GGCCGTCATGGTGGCGAATAA** |  | Plaskon et al. (2009) PLoS One |
|  |  |  |  |
|  |  | LSVU-R-1717 | CCATATCATAAGTTGGCAAGTG |  | this work  |
|  |  | LSVU-F-1483 | GACTTCATCATCCATCTGTGCGA | 234 | this work  |
|  |  | LSV1-F-1434 | CAGGTGCAGAGCAATTGGATTCA | 283 | this work  |
|  |  | LSV2-F-1434 | TAGGTGTCGGGCCATAGGGTTTG | 283 | this work  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| ***Nosema sp.***  | DQ235446.1 GI:7810022 | Nosema pan rRNA F-322 | GGCAGTTATGGGAAGTAACA | 207  | Chen et al. (2008) J Inv Path |
|  |  | Nosema pan rRNA R-529 | GGTCGTCACATTTCATCTCT |  |  |
|  |  |  |  |  |  |
| ***Nosema ceranae*** | DQ673615.1 GI:110293152 | Ncer 16S rRNA F-274 | CAGTTATGGGAAGTAATATTATATTG | 73  | Cox-Foster et al. (2007) Science |
|  |  | Ncer 16S rRNA R-347 | TTGATTTGCCCTCCAATTAATCAC |  |  |
|  |  |  |  |  |  |
|  | DQ486027.1 GI:94962170 | Nosema ceranae F-4186\*\* | CGGATAAAAGAGTCCGTTACC | 249  | Chen et al. (2008) J Inv Path |
|  |  | Nosema ceranae R-4435\*\* | TGAGCAGGGTTCTAGGGAT |  |  |
|  |  |  |  |  |  |
| ***Nosema apis*** | U97150.1 GI:2988413 | NosApis-F-4395 | CCATTGCCGGATAAGAGAGT | 379  | Chen et al. (2008) J Inv Path |
|  |  | NosApis-R-4774 | CACGCATTGCTGCATCATTGAC |  |  |
|  |  |  |  |  |  |
|  | U97150.1 GI:2988413 | NosApis-F-4395 | CCATTGCCGGATAAGAGAGT | 268  | Chen et al. (2008) J Inv Path |
|  |  | NosApis-R-4663 | CCACCAAAAACTCCCAAGAG |  |  |
|  |  |  |  |  |  |
| ***Crithidia mellificae*** |  | CF\_TrypanF1 | GTTGACGGAATCAACCAAACAAAT | 715  | Cox-Foster et al. (2007) Science |
|  |  | CF\_TrypanR1 | GCGTCAGAGGTGAAATTCTTAGACC |  |  |
|  |  |  |  |  |  |
|  |  | qCrFw1\*\* | TCCACTCTGCAAACGATGAC | 153  | this work |
|  |  | qCrRev1\*\* | GGGCCGAATGGAAAAGATAC |  |  |
|  |  |  |  |  |  |
|  |  | Crith\_GAPDH | TTYGCCGYATYGGYCGCATGG | 802 | Hamilton et al. (2004) Int J Parasitol |
|  |  |  | GTTYTGCAGSGTCGCCTTGG |  |  |
|  |  |  |  |  |  |
| ***Spiroplasma sp.*** |  | Spiroplasma\_271\_F28 | CGCAGACGGTTTAGCAAGTTTGGG | 271 | Liang et al. (2010) Lett Appl Microbiol |
|  |  | Spiroplasma\_271\_R5 | AGCACCGAACTTAGTCCGACAC |  |  |
|  |  |  |  |  |  |
| ***A. borealis*** |  | Phorid\_rRNA 1F | GTACACCTATACATTGGGTTCGTACATTAC | 500 | this work |
|  |  | Phorid\_rRNA 1R | GAGRGCCATAAAAGTAGCTACACC |  |  |
| **\* End-point PCR screening primers used in this work** |
| **\*\* qPCR primers used in this work** |