| Name       | Sequence                                      | bp  | Reference       |
|------------|-----------------------------------------------|-----|-----------------|
| CYP6AS14   | TGACATTGAGTTGACGGACGATGAAACCTGCCGCGAAGAA      | 64  | this work       |
|            |                                              |     |                 |
| GSTS3      | AAACCGATAGCGCAGAGTAACGCATCATTGCCCTCCCCATTGT | 87  | this work       |
| Catalase   | TTTGGTGCTAGACGAATGTCCTCTCTTTTGCTCACTACATACAA | 92  | this work       |
| Apidaecin  | TTTTGCCCTTAGCAATTCTTTTGCTTAGGTCGAGTGCATCT    | 81  | Di Prisco et al. 2016 |
| Dorsal-1A  | TCGGATGGTCTACGAGCGAAGCATGCTTCTCAGCTTCTGCT    | 153 | Di Prisco et al. 2016 |
| Vitellogenin | AACGCCGTGAAAGGTGAACAGATCGTAGACACCTCGCATTTCC | 109 | this work       |
| PPOAct     | CGTTGAAAAAGTCGAAAGCAGATTTACGGACCCAGACGATT    | 112 | this work       |
| β-actin    | GATTTGTATGCCAACACTGTCTTTTGCATTCTGATTCCA      | 69  | Di Prisco et al. 2016 |
| RpL32      | CGTCATATGTTGCCAACTGGTTTTCATGAGCAATTTTCAGCACAA | 107 | this work       |
| DWV        | TTCATTAAAGCCACCTGGAACATCTTCGCGATTT           | 136 | Locke et al. 2012 |
|           | TTTCCTCATTAAACTGTGTGCTTTGTA                 |     |                 |
| BQCV       | AGTGGGCGGAGATGTATGC                        | 294 | Locke et al. 2012 |
| Virus | Primer | Forward | Reverse | Length | Source |
|-------|--------|---------|---------|--------|--------|
| BQCV  | B8150  | GGAGGTGAAGTGCTATATC | | | |
| CBPV  | F1818  | CAACCTGCCTCAACACAG  | AATCTGGCAAGGTTGACTGG  | 296 | Locke et al. 2012 |
| CBPV  | B2077  | | | | |
| SBV   | F3164  | TTGGAACACGCATTCTCTG  | GCTCTAACCTCGCATCAAC  | 226 | Locke et al. 2012 |
| SBV   | B3461  | | | | |
| ABPV  | F6548  | TCATAACCTGCGATCAAG  | CTGAATAATACTGTGCATATC  | 197 | Locke et al. 2012 |
| KIABPV | B6707 | | | | |

Table S2: Primers used for the quantification of selected honey bee genes and viruses.

Locke, B., et al. (2012). "Host adaptations reduce the reproductive success of Varroa destructor in two distinct European honey bee populations." Ecology and Evolution 2(6): 1144-1150.

Di Prisco, G., et al. (2016). "A mutualistic symbiosis between a parasitic mite and a pathogenic virus undermines honey bee immunity and health." Proceedings of the National Academy of Sciences 113(12): 3203-3208.