

**Table S2.** The gBlock® Gene Fragment ordered for the bacterial 16S rRNA gene and the *Apis mellifera* COI gene. The primers (red) and the probes (blue) annealing regions are indicated in bold and underlined.

Bacteria	Sequence gBlock® Gene Fragment (5' to 3')	Size (pb)
<i>Frischella perrara</i> (16S rRNA, NR_118490.1)	AGATTAGCTAGTTGGTGGGGTAAAGGCTCACCAAG GCGACGATCTCTAGCTGGTCTGAGAGGATGACCAG CCACACTGGAAGTGAACACCGTCCAGACTCCTAC GGGAGGCAGCAGTGGGGAATATTGCACAATGGGG GAAACCCTGATGCAGCCATGCCGCGTGTATGAAGA AGGCCTTAGGGTTGTAAAGTACTTTCGGTGATGA <b><u>G</u></b> <b><u>GAAGTTATGTGTGGGATAAGC</u></b> ACATATAATTGAC GTTAGTTACAGAAGAAGCACCGGCTAACTCCGTGC CAGCAGCCCGCGTAATACGGAGGGTGCGAGCGTTA ATCGGAATGACTGGGCGTAAAGGGCATGTAGGCGG ATGATTAAGTTAGGTGTGAAAGCCT <b><u>CGGGCTCAAC</u></b> <b><u>CTGAGAATAG</u></b> CATTTAAACTGGTGATCTGGAGTA CTGTAGAGGGAGGTAGAATTCCACGTGTAGCGGTG AAATGCGTAGAGATGTGGAGGAATACCGGTGGCGA AG	490
<i>Gilliamella apicola</i> (16S rRNA, NR_121727.1)	GCACAAGCGGTGGAGCATGTGGTTTAATTTCGATGC AACGCGAAGAACCCTTACCTGGTCTTGACATCCACA GAATCTTGCAGAGATGCGGGAGTGCCTTCGGGAAC TGTGAGACAGGTGCTGCATGGCTGTCGTCAGCTCGT GTTGTGAAATGTTGGGTTAAGTCCCGCAACGAGCG CAACCCTTATC <b><u>CTTTGTTGCCATCGGTTAGGCC</u></b> GG GAACTCAAAGGAGACTGCCGTTGATAAAGCGGAGG AAGGTGGGGACGACGTCAAGTCATCATGGCCCTTA CGACCAGGGCTACACACGTGCTACAATGGCGTATA CAAAGGGAGGCGA <b><u>CCTCGCGAGAGCAAGCGG</u></b> AC CTCATAAAGTACGTCTAAGTCCGGATTGGAGTCTGC AACTCGACTCCATGAAGTCGGAATCGCTAGTAATC GTGAATCAGAATGTCACGGTGAATACGTTCCCGGG CCTTGTACACACCGCCCGTCACACCATGGGAG	487
<i>Snodgrassella alvi</i> (16S rRNA, NR_122055.1)	AACGATGACAATTAGCTGTTGGGACACTAGATGTCT TAGTAGCGAAGCTAACGCGTGAAATTGTCCGCCTG GGGAGTACGGTCGCAAGATTAATACTCAAAGGAAT TGACGGGGACCCGCACAAGCGGTGGATGATGTGGA TTAATTCGATGCAACGCGAAGAACCTTACCTGGTCT TGACATGTACGGAATCT <b><u>CTTAGAGATAGGAGAGT</u></b> <b><u>GCCTT</u></b> CGGGAACCGTAACACAGGTGCTGCATGGCT GTCGTCAGCTCGTGTGCTGAGATGTTGGGTTAAGTC CCGCAACGAGCGCAACCC <b><u>TTGTCATTAGTTGCCAT</u></b> <b><u>CATTAAGTT</u></b> GGGCACTCTAATGAGACTGCCGGTGA CAAACCGGAGGAAGGTGGGGATGACGTCAAGTCCT CATGGCCCTTATGACCAGGGCTTACACGTCATACA ATGGTCGGTACAGAGGGTAGCGAAGCCGCGAGGTG AAGCCAATCTCAGAAAGCCGATCGTAGTCCG	489
<i>Bifidobacterium asteroides</i> (16S rRNA, NR_044154.1)	AACAC <b><u>ATGCAAGTCGAACGGGATCC</u></b> GGGCAGCTT GCTGCCTGGTGAGAGTGGCGAACGGGTGAGTAATG CGTGACCAACCTGCCCCATGCTTCGGAATAGCTCCT GGAAACGGGTGTAATGCCGGATGCTCCGCACCGT	500

	<p>CGCATGATGGTGTGGGAAA<u>GGGTTTACCGGCATG</u>  <u>GGATG</u>GGGTTCGCTCCTATCAGCTTGTTGGCGGG  TGATGGCCTGCCAAGGCTTCGACGGGTAGCCGGCC  TGAGAGGGCGACCGGCCACATTGGGACTGAGATAC  GGCCCAGACTCCTACGGGAGGCAGCAGTGGGGAAT  ATTGCACAATGGGCGCAAGCCTGATGCAGCGACGC  CGCGTGCGGGATGACGGCCTTCGGGTTGTAAACCG  CTTTTGATTGGGAGCAAGCGAGAGTGAGTGTACCTT  TCGAATAAGCACCGGCTAACTACGTGCCAGCAGCC  CGGTAATACGTAGGGTGCAAGCGTTATCCGGATTT  ATTGGGCGT</p>	
<i>Bombilactobacillus mellis</i> (16S rRNA, NR_126249.1)	<p>TGCA<u>AGTCGAGCGCGGGAAGTCA</u>GGGAAGCCTTC  GGGTGGAACCTGGTGGAAACGAGCGGCGGATGGGTGA  GTAACACGTAGGTAACCTGCCCTAAAGCGGGGGAT  ACCATCTGGAAACAGGTGCTAATACCGCATAAACC  CAGCAGTCACATG<u>AGTGCTGGTTGAAAGACGGCT</u>  TCGGCTGTCACTTTAGGATGGACCTGCGGCGTATTA  GCTAGTTGGTGGAGTAACGGTTCACCAAGGCGATG  ATACGTAGCCGACCTGAGAGGGTAATCGGCCACAT  TGGGACTGAGACACGGCCCCAACTCCTACGGGAGG  CAGCAGTAGGGAATCTTCCACAATGGACGCAAGTC  TGATGGAGCAACGCCGCGTGGATGAAGAAGGTCTT  CGGATCGTAAAATCCTGTTGTTGAAGAAGAACGGT  TGTGAGAGTAACTGCTCATAGCGTGACGGTAATCA  ACCAGAAAGTCACGGCTAACTACGTGCCAGCAGCC  GC</p>	491
<i>Lactobacillus helsingborgensis</i> (16S rRNA, NR_126253.1)	<p>TGCAAGTCGAGCGAGCAATTTTGACGGAATACTTC  GGTAGGAAAGTCAGAAGCGCGAGCGGCGGATGGGT  GAGTAACACGTGG<u>GCAACCTGCCCTTTAGCTTGGG</u>  ATACCACTTGGAACAGGTGCTAATACCAAATAAG  CAGCACGAGCGCATGCTCGAGCTGAGAAAGGCGG  CTTTCGA<u>GCTGTCACTAAAGGATGGGC</u>CCGCGGT  GCATTAGCTAGTTGGAAGGTAACGGCTTACCAAG  GCGATGATGCATAGCCGAGTTGAGAGACTGACCGG  CCACATTGGGACTGAGACACGGCCCCAACTCCTAC  GGGAGGCAGCAGTAGGGAATCTTCCACAATGGACG  CAAGTCTGATGGAGCAACGCCGCGTGAGTGAAGAA  GGTTTTCGGATCGTAAAGCTCTGTTGTTGGTGAAGA  AGGACAAGGGTAGTAACTGATTCTTGTGTTGACGGTA  ATCAACCAGAAAGTCACGGCTAACTACGTGCCAGC  AG</p>	491
<i>Bartonella apis</i> (16S rRNA, NR_126253.1)	<p>AAGCCAAAATCAAATTTTCAACTTGAGAGTTTGATC  CTGGCTCAGAACGAACGCTGGCGGCAGGCTTAACA  CATGCAAGTCGAACGCACTTTTCGGAGTGAGTGGC  AGACGGGTGAGTAACGC<u>GTGGGAATCTACCTATT</u>  <u>TCTACG</u>GAATAACGCAGAGAAATTTGTGCTAATAC  CGTATACGTCCTTCGGGAGAAAGATTTATCG<u>GAGA</u>  <u>TAGATGAGCCCGCGTT</u>GGATTAGCTAGTTGGTGAG  GTAATGGCCACCAAGGCGACGATCCATAGCTGGT  CTGAGAGGATGACCAGCCACATTGGGACTGAGACA  CGGCCAGACTCCTACGGGAGGCAGCAGTGGGGAA</p>	471

	<p>TATTGGACAATGGGCGCAAGCCTGATCCAGCCATG  CCGCGTGAGTGATGAAGGCCCTAGGGTTGTAAAGC  TCTTTCACCGGTGAAGATAATGACGGTAACCGGAG  AAGAAGCCCCGGCTAA</p>	
<p><i>Bombella apis</i>  (16S rRNA,  NR_147774.1)</p>	<p>AAGATGATGACGGTACCTAGAGAAGAAGCCCCGG  CTAACTTCGTGCCAGCAGCCGCGGTAATACGAAGG  GGGCTAGCGTTGCTCGGAATGACTGGGCGTAAAGG  GCGCGTAGGCTGTCTGTACAGTCAGATGTGAAATCC  CCGGGCTTAACCTGGGAACTGCATTTGATACGTGCA  GACTAGAGT<u>CCGAGAGAGGGTTGTGGAATT</u>CCCA  <u>GTGTAGAGGTGAAATTC</u>GT<u>AGATATTGGGAAGA</u>  <u>ACACCG</u>GTTGCGAAGGCGGCAACCTGGCTCGGAAC  TGACGCTGAGGCGCGAAAAGCGTGGGGAGCGAACA  GGATTAGATACCCTGGTAGTCCACGCTGTAAACGAT  GTGTGCTGGATGTTGGGTGATTTTATCATTCACTGTC  GGAGCTAACGCGTTAAGCACACCGCCTGGGGAGTA  CGGCCGCAAGGTTGAAACTCAAAGGAATTGACGGG  GGCCCCGACAAGCGGTGGAGCATGTGGTTTAATTC</p>	490
<p><i>Apis mellifera</i>  (citocrome oxidase I,  OM203346.1)</p>	<p>GTTATACCATTTTAAATTGGAGGATTTGGAAATTGG  CTTATTCCTTTAATACTAGGATCACCTGATATAGCA  TTCCCCGAATAAATAATATTAGATTTTGATTACTTC  CTCCCTCATTATTTATACTTTTATTAAGAAATTTATTT  TA<u>TCCAAGACCAGGA</u><u>ACTGGAT</u>GAACAGTATATC  CACCATTATCAGCATATTTATATCATTCTTCACCTTC  AGTAGATTTTGCAATT<u>TTTTCTCTTCATATATCAGG</u>  <u>AATTCCT</u>CAATTATAGGATCATTAACTTAATAGT  TACAATTATAATAATAAAAAATTTTCTATAAATTA  TGACCAAATTTCAATTATTTCCATGATCAGTTTTTATT  ACAGCAATTTTATTAATTATATCATTACCTGTATTAG  CTGGAGCAATTACTATACTATTATTTGATCGAAATT  TTAATACATCATTTTTCGATCCTATAGGAGGTGGAG  ATCCAATTCTTTATCAACATTTA</p>	495