

**Table S1** Primers used for measuring the amount of total and phylotypes specific bacteria in honeybee

Target group	Sequence (5' to 3')	Annealing temperature	Reference & Notes
<i>Bacteria universal</i>	F: AGAGTTTGATCCTGGCTCAG R: CTGCTGCCTCCCGTAGGAGT	59°C	(Powell et al., 2014)
<i>Snodgrassella alvi</i>	F: CTTAGAGATAGGAGAGTG R: TAATGATGGCAACTAATGACAA	55°C	(Martinson et al., 2012)
<i>Gilliamella apicola</i>	F: GTATCTAACAGGTGCATCAATT R: TCCTCTACAATACTCTAGTT	55°C	(Martinson et al., 2012)
<i>Firmicutes</i>	F: TGAAACTYAAAGGAATTGACG R: ACCATGCACCACCTGTC	59°C	(Bacchetti De Gregoris et al., 2011)
<i>Actinobacteria</i>	F: TACGGCCGCAAGGCTA R: TCRTCCCCACCTTCCTCCG	59°C	(Bacchetti De Gregoris et al., 2011)