

**Supporting Table S1. Oligonucleotides used in this study.**

Number	Primer sequences <sup>a</sup>	Note <sup>b</sup>
1	GCCATATGAACAATAACGATCTCTTTCAGG CATCACGT	
2	GCGGATCCATGGTGGTGGTGGTGGTGC GGCCGCTGAAGAGACGGTCACCAACGTGCC	
3	GCGCGGCCGCACACCCAGAAACGCTGGTG	
4	GCGGATCCTTACCAATGCTTAATCAGTGAGGC	
5	GCCCATGGCAGGTKCAGCTGGTGCAG	VH1a, sense
6	GCCCATGGCAGGTCCAGCTTGTGCAG	VH1b, sense
7	GCCCATGGSAGGTCCAGCTGGTACAG	VH1c, sense
8	GCCCATGGCARATGCAGCTGGTGCAG	VH1d, sense
9	GCCCATGGGARGTGCAGCTGGTGGAG	VH3a, sense
10	GCCCATGGCAGGTGCAGCTGGTGGAG	VH3b, sense
11	GCCCATGGGAGGTGCAGCTGTTGGAG	VH3c, sense
12	GCCCATGGGARGTGCAGCTGGTGCAG	VH5a, sense
13	GCGCGGCCGCTGAGGAGACGGTGAC	JH1,4,5,6, antisense
14	GCGCGGCCGCTGAGGAGACAGTGAC	JH2, antisense
15	GCGCGGCCGCTGAAGAGACGGTGAC	JH3, antisense
16	GCCCATGGGAAGTCCAAGTGAATCTGGTG GCGGTTTAGTT	
17	AGTTGAACCGCCAGAGCCGAAATMNNTGAGAC MNNTTCMNNACCTTTGCCTGGCGCMNNACGCAC CCAGCCCATAGCATAAGAAGAAAAGGTAAAGCCA CTTGCAGCACAGCT	
18	ATTTCCGGCTCTGGCGGTTCAACTNKNKTACNNKG ATAGCGTTAAAGGTCGTTTCACAATCTCC	
19	GCGCGGCCGCACTGCTCACAGTAACCAGGGTAC CCTG	

<sup>a</sup>K means G or T; S means C or G; R means A or G; M means A or C; and N means A, T, G, or C

<sup>b</sup>Sense and antisense primers sets for amplifying the V<sub>H</sub>1, V<sub>H</sub>3, and V<sub>H</sub>5 genes (<http://vbase.mrc-cpe.cam.ac.uk>)