

Table S2. Primers for PCR Amplification

Gene name	Primer sequence 5'-3'	Annealing temperature	Product size (base pairs)
IGHG1	GACTGGCTGAATGGCAAGGAG (sense)	56°C	201
	GGCGATGTCGCTGGGATAGAA (antisense)		
CDR3	External V3, GAGGTGCAGCTCGAGCAGTCAGG (sense)	Touch down from 62°C to 52°C	80-110
	V4f, CAGGTGCAGCTGCTCGAGTCGGG (sense)		
	V6, CAGGTACAGCTCGAGCAGTCAGG (sense)		
	LJH, TGAGGAGACGGTGACC (antisense)		
Igκ	Internal ACACGGCYSTGTATTACTGT(sense)	55°C	
	GTGACCAGGGTNCCTTGGCCCAAG(antisense)		
AID	TGAGCAAAGCAGACTACGAGA (sense)	54°C	231
	GGGGTGAGGTGAAAGATGAG (antisense)		
RAG1	External GAAGAGGCGTGACAGTGCT (sense)	54°C	294
	CGAAATGCGTCTCGTAAGT (antisense)		
RAG2	Internal CCTTTTCACTGGACTTTGG (sense)	52°C	327
	TGATGGCTATTTGCACCCC (antisense)		
	External TGGATCTTTACCTGAAGATG (sense)		
	CTTGGCTTTCCAGAGAGTCC (antisense)		
RAG1	Internal CACAGCGTTTTGCTGAGCTC (sense)	54°C	
	AGCTTGCCTGAGGGTTCATG (antisense)		
RAG2	External TGGAAGCAACATGGGAAATG (sense)	52°C	193
	CATCATCTTCATTATAGGTGTC (antisense)		
CD19	Internal TTCTTGGCATAACCAGGAGAC (sense)	52°C	
	CTATTTGCTTCTGCACTG (antisense)		
Vκ	TACTATGGCACTGGCTGCTG (sense)	54°C	218
	CACGTTCCCGTACTGGTTCT (antisense)		
Iγ- Cγ	GACATCGAGCTCACCCAGTCTCC (sense)	54°C	280-295
	GAAATTGAGCTCACGCAGTCTCCA (sense)		
Iγ- Cγ	ACGTTTGAATTCCACCTTGGTCCC (antisense)	54°C	332
	External GGGCTTCCAAGCCAACAGGGCAGGACA (sense)		
Iγ- Cγ	CAAGCTGCTGGAGGGCACGGT (antisense)	52°C	
	Internal GGTGAACCGAGGGGCTTGT (sense)		
Iγλ	CGCTGCTGAGGGAGTAGAGT (antisense)	54°C	220
	GAGCCTGACGCCTGAG (sense)		
β-actin	ATTGAGGGTTTATTGAGTGACAG (antisense)	54°C	218
	TAAAGACCTCTATGCCAACACAG (sense)		
	CACGATGGAGGGGCGGACTCATC (antisense)		