

**Table. 2a**

Sample	Unique CDR3	Average length	CDR3 reads
Duck	13711	10.015±1.343	908195
Igκ <sup>-/-</sup> Igλ <sup>-/-</sup> DIgL	5401	10.932±0.525	1966937

**Table. 2b**

Sample	Total reads	SHM reads	SHM Frequency
Duck	45998645	33947	0.000738
Igκ <sup>-/-</sup> Igλ <sup>-/-</sup> DIgL	49733258	22933	0.000461