

Supplementary table 1.
Mutation summary

<u>Titration</u>	<u>All sequences</u>						<u>Hypermutated sequences only</u>						<u>Non-hypermutated sequences only</u>					
1 0% wt-hA3G 100% E259Q-hA3G (8 sequences) (0 hypermutated)	From/To	A	C	G	T	Total	From/To	A	C	G	T	Total	From/To	A	C	G	T	Total
	A		0	0	0	4970	A		0	0	0	0	A		0	0	0	4970
	C	0		0	1	3272	C	0		0	0	0	C	0		0	1	3272
	G	1	0		0	4601	G	0	0		0	0	G	1	0		0	4601
	T	0	0	0		3800	T	0	0	0		0	T	0	0	0		3800
2 1% wt-hA3G 99% E259Q-hA3G (19 sequences) (2 hypermutated)	From/To	A	C	G	T	Total	From/To	A	C	G	T	Total	From/To	A	C	G	T	Total
	A		1	0	0	12557	A		1	0	0	1284	A		0	0	0	11273
	C	1		0	1	8242	C	0		0	0	838	C	1		0	1	7404
	G	61	0		0	11575	G	58	0		0	1174	G	3	0		0	10401
	T	0	6	0		9587	T	0	1	0		974	T	0	5	0		8613
3 3.3% wt-hA3G 96.7% E259Q-hA3G (19 sequences) (9 hypermutated)	From/To	A	C	G	T	Total	From/To	A	C	G	T	Total	From/To	A	C	G	T	Total
	A		0	3	0	11715	A		0	0	0	5618	A		0	3	0	6097
	C	0		0	0	7734	C	0		0	0	3682	C	0		0	0	4052
	G	218	1		0	10840	G	218	1		0	5177	G	0	0		0	5663
	T	0	1	1		8978	T	0	1	0		4287	T	0	0	1		4691
4 10% wt-hA3G 90% E259Q-hA3G (19 sequences) (15 hypermutated)	From/To	A	C	G	T	Total	From/To	A	C	G	T	Total	From/To	A	C	G	T	Total
	A		1	3	0	11950	A		0	3	0	9456	A		1	0	0	2494
	C	1		0	0	7843	C	1		0	0	6208	C	0		0	0	1635
	G	489	3		5	11002	G	488	3		5	8694	G	1	0		0	2308
	T	0	1	0		9106	T	0	1	0		7205	T	0	0	0		1901
5 33% wt-hA3G 67% E259Q-hA3G (15 sequences) (14 hypermutated)	From/To	A	C	G	T	Total	From/To	A	C	G	T	Total	From/To	A	C	G	T	Total
	A		0	0	1	9434	A		0	0	1	8802	A		0	0	0	632
	C	1		0	2	6181	C	1		0	2	5768	C	0		0	0	413
	G	1039	1		4	8689	G	1038	1		3	8107	G	1	0		1	582
	T	0	2	0		7189	T	0	2	0		6707	T	0	0	0		482
6 100% wt-hA3G 0% E259Q-hA3G (8 sequences) (8 hypermutated)	From/To	A	C	G	T	Total	From/To	A	C	G	T	Total	From/To	A	C	G	T	Total
	A		1	0	0	4854	A		1	0	0	4854	A		0	0	0	0
	C	0		0	2	3200	C	0		0	2	3200	C	0		0	0	0
	G	590	1		2	4486	G	590	1		2	4486	G	0	0		0	0
	T	0	1	0		3719	T	0	1	0		3719	T	0	0	0		0
TOTAL	From/To	A	C	G	T	Total	From/To	A	C	G	T	Total	From/To	A	C	G	T	Total
	A		3	6	1	55480	A		2	3	1	30014	A		1	3	0	25466
	C	3		0	6	36472	C	2		0	4	19696	C	1		0	2	16776
	G	2398	6		11	51193	G	2392	6		10	27638	G	6	0		1	23555
	T	0	11	1		42379	T	0	6	0		22892	T	0	5	1		19487
	TOTAL	2401	20	7	18	185524	TOTAL	2394	14	3	15	100240	TOTAL	7	6	4	3	85284