Supplementary Tables

Table S1

Primers used for Mutagenesis

Gene	Region	Primer Type	Sequence
Apobec3G	1	Mutagenic	5′-AGGAAGTTTCTTTACCAATTCAAAAATGAACCATGGGTCAGAGGACGGCATGAGACCTACCTG
		Reverse	CAGGTAGGTCTCATGCCGTCCTCTGACCCATGGTTCATTTTTGAATTGGTAAAGAAACTTCCT
	2	Mutagenic	ATCTTCACCGCGCGCATCTATGATGATCAAGGAAGAGCTCAGGAGGGGCTGCGGCGG
		Reverse	CCGCCGCAGCCCCTCCTGAGCTCTTCCTTGATCATCATAGATGCGCGCGGTGAAGAT
AID	1	Mutagenic	ACTTTCAACTTTAACAATGTCCGCTGGGCTAAGGGTCGGCGTGAGACTTACCTGTG
		Reverse	CACAGGTAAGTCTCACGCCGACCCTTAGCCCAGCGGACATTGTTAAAGTTGAAAGT
	2	Mutagenic	ATCAAGACTCTCTACTTCTGTGAGGACCGCAAGGCTGAGCCCGAGGGGCTGCGCACC
		Reverse	GGTGCGCAGCCCCTCGGGCTCAGCCTTGCGGTCCTCACAGAAGTAGAGAGTCTTGAT

Sequences of primers used to introduce APOBEC3G regions 1 and 2 into AID gene, and to introduce corresponding AID regions into Apobec3G gene are shown.

Table S2

DNA oligomers used for Deamination Assay

Name	**Sequence**
CCC-17	5′-ATTATTACCCATTTATT
UCC-17	5′-ATTATTAUCCATTTATT
CUC-17	5′-ATTATTACUCATTTATT
CCU-17	5′-ATTATTACCUATTTATT

Table S3

Frequency of Papillation promoted by AID Hybrids

Vector	AID	AID-A3GR1	AID-A3GR2	AID-A3GR1R2	A3G
0.000	0.029	0.007	0.074	0.063	1.000
0.002	0.012	0.003	0.051	0.046	0.981
0.000	0.010	0.003	0.061	0.044	0.986
0.004	0.011	0.002	0.021		1.000
0.009	0.026	0.024	0.042		1.000

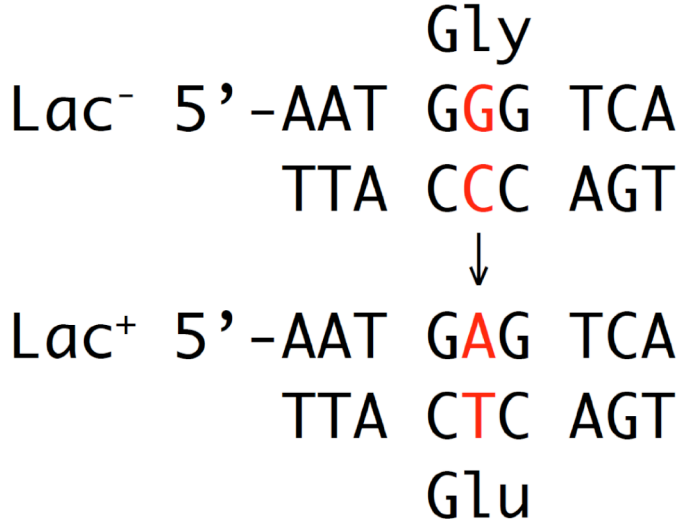
Ratio of number of cells with Lac^+ papillae to total number of cells. The numbers are from independent experiments.

Table S4

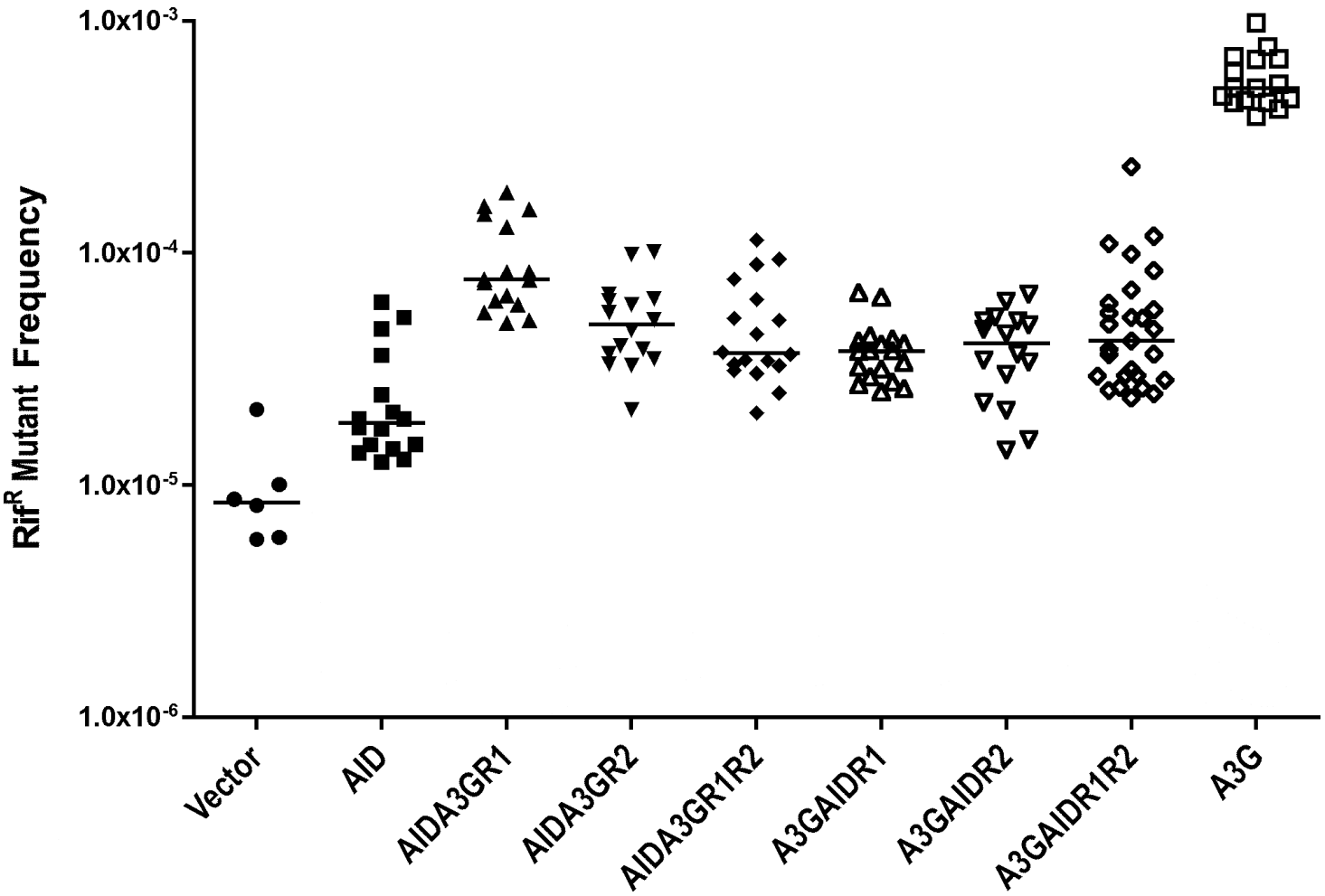
Frequency of Papillation promoted by A3G Hybrids

Vector	A3G	A3G-AIDR1	A3G-AIDR2	A3G-AIDR1R2	AID
0.000	1.000	1.000	0.013	0.111	0.029
0.002	0.981	0.999	0.016	0.120	0.012
0.000	0.986	1.000	0.010	0.045	0.010
0.004	1.000			0.053	0.011
0.009	1.000				0.026

Ratio of number of cells with Lac^+ papillae to total number of cells. The numbers are from independent experiments.

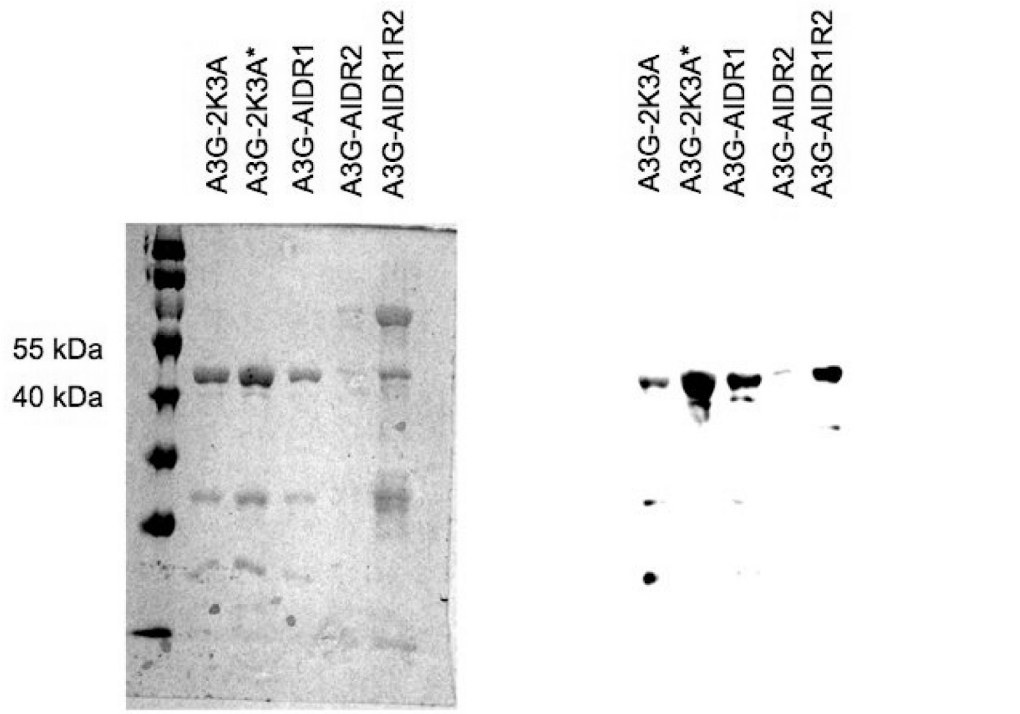


Supplementary Fig. S1: Sequence of the *lacZ* gene around codon 461 in CC102 and in its wild-type parent are shown. The G:C to A:T change needed to revert the allele is colored red.



Supplementary Fig. S2: Frequency of rifampicin-resistant mutants in cells expressing AID/A3G hybrids. Median values are shown by a horizontal line.

Supplementary Figure S3



* Protein from ion-exchange column following a glutathione affinity column

One microgram of purified APOBEC3G or its hybrids were electrophoresed in a SDS-PAGE gel, with the exception of A3GAIDR2 protein. Only 0.2 µg of the latter protein was added because of lower concentration of protein in the preparation. This was done with two gels prepared and electrophoresed in parallel. One of the gels was stained with coomassie brilliant blue G-250 staining solution (Fisher Scientific) and the other was used for Western blot analysis. The proteins were transferred to a Immobilon-P^{SQ} membrane (Millipore) and reacted with rabbit anti-human APOBEC3G antibody against carboxyl terminal 29 amino acids of the protein. The antibody was prepared by Dr. Jaisri Lingappa and was obtained through the NIH AIDS Research and Reference Reagent program, Division of AIDS, NIAID, NIH. HRP-linked anti-rabbit antibody was used as the secondary antibody (Pierce Chemical) and the visual signal was obtained by adding chemiluminescence substrate from Thermo Scientific and the image was captured using a CCD camera (Alpha Innotech).