

**Table 1. Spontaneous mutation rates among RNA viruses**

Virus	Genome size, kb	Mutational target, base	Mutation rate per replication	
			$\mu_b$	$\mu_g$
<b>Lytic virus</b>				
Q $\beta$	4.2	0.3	$1.5 \times 10^{-3}$	6.5
Polio	7.4	0.3	$1.3 \times 10^{-5}$	0.098
		0.3	$6.4 \times 10^{-5}$	0.48
		1.3	$1.6 \times 10^{-4}$	1.2
		8	$2.3 \times 10^{-3}$	17
VSV	11.2	0.7	$2.5 \times 10^{-4}$	2.8
		0.3	$3.8 \times 10^{-4}$	4.3
Flu A	13.6	849	$>7.3 \times 10^{-5}$	$>0.99$
<b>Retrovirus</b>				
SNV	7.8	288	$4.7 \times 10^{-6}$	0.037
		0.3	$3.6 \times 10^{-5}$	0.28
MuLV	8.3	0.3	$3.8 \times 10^{-7}$	0.0031
		1380	$>6.6 \times 10^{-6}$	$>0.055$
RSV	9.3	1125	$4.6 \times 10^{-5}$	0.43

Abbreviations: Flu A, influenza A virus; RSV, Rous sarcoma virus;  $\mu_b$ , average mutation rate per bp;  $\mu_g$ , mutation rate per genome.