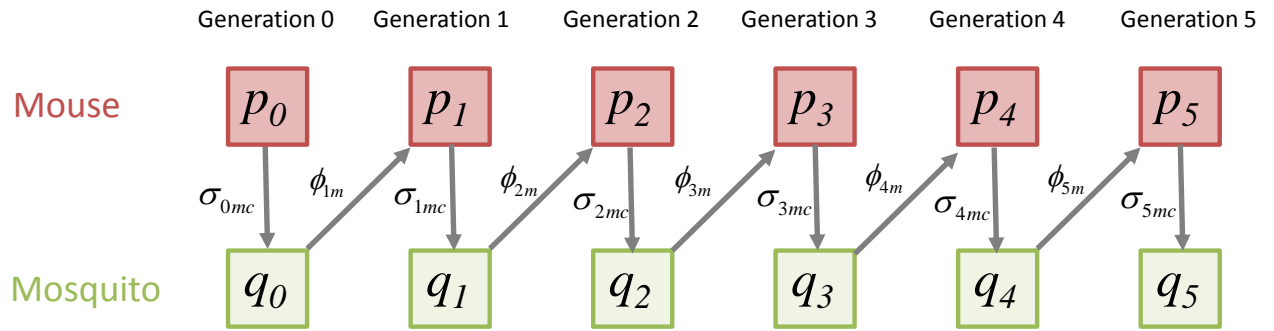


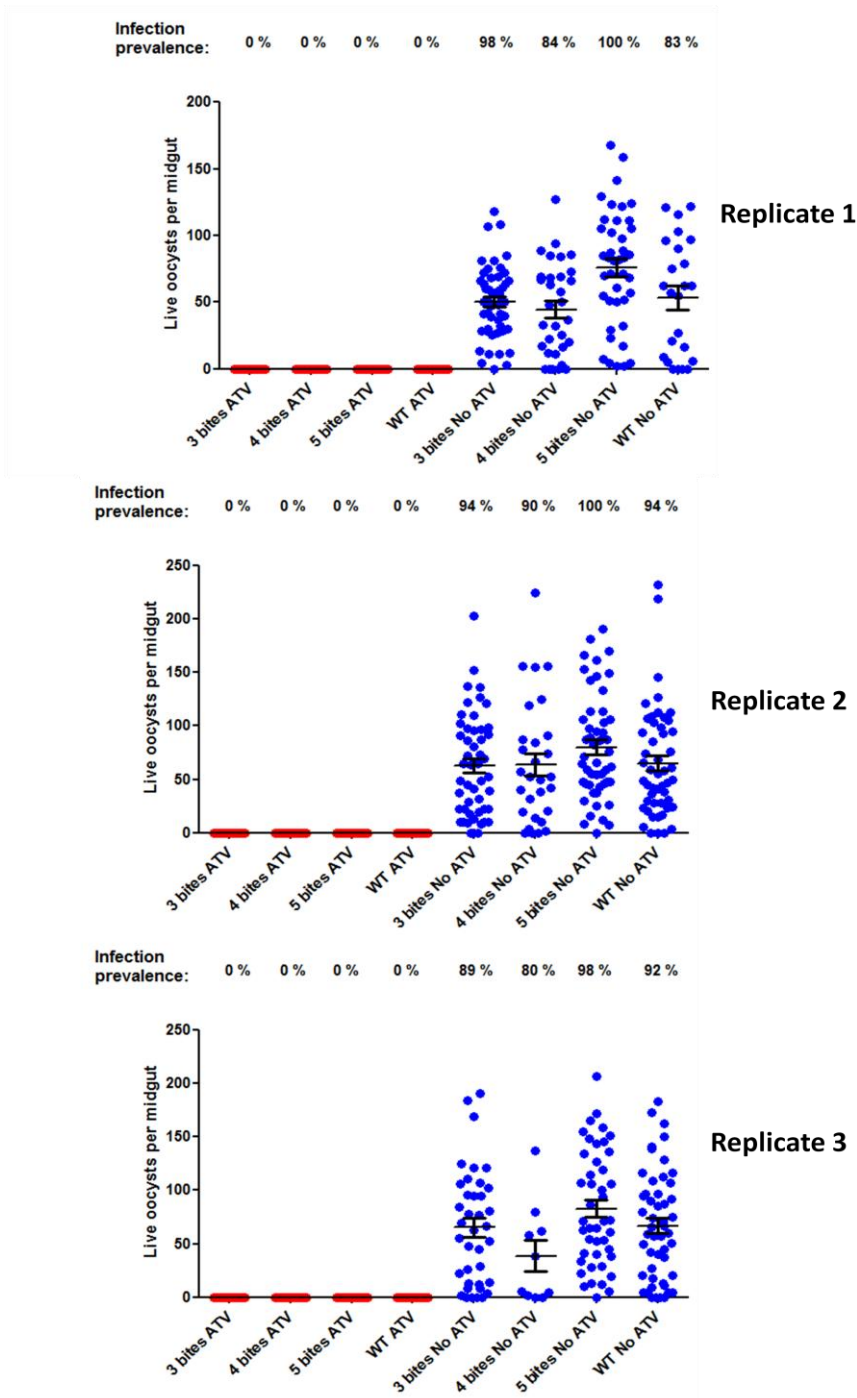
Supplementary Information:

Supplementary Figure S1: Schematic of the chain binomial model for the experiment.

Red boxes represent mouse populations whilst green boxes denote mosquito populations. The annotations are described in the text.



Supplementary Figure S2. Continued sensitivity of *Plasmodium berghei* following 5 cycles of transmission to atovaquone. ATV dosage was 0.5 mg/kg. DMSO (*i.p.*) was used as a negative control. Oocysts present on the mosquito midguts were counted 10 days post-feed. Data points indicate individual mosquitoes. X-axis groups represent individual mice. Horizontal lines indicate the mean number of oocysts for each mouse (+/- sem). Mean ATV impact from 3 replicates was 100% reduction in oocyst intensity and 100% reduction in infection prevalence. All parasites demonstrated complete ATV sensitivity identical to the originating WT *P. berghei* 2.34 parasite.



Supplementary Table S1. Effect of a TBI with a classically measured efficacy of TB_{ooc} 57/32% on sporozoite rate (proportion of biting mosquitoes with salivary gland sporozoites) over 5 successive transmission cycles. Figures in brackets and superscript are upper and lower 95% confidence intervals.

1 bite:

	Cycle 1	Cycle 2	Cycle 3	Cycle 4	Cycle 5
- TBI	0.4 ^(0.053-0.853)	0.4 ^(0.053-0.853)	0.4 ^(0.053-0.853)	0.6 ^(0.147-0.947)	0.4 ^(0.053-0.853)
+ TBI	0.4 ^(0.053-0.853)	0 ^(0-0.522)	0 ^(0-0.522)	0 ^(0-0.522)	0 ^(0-0.522)

2 bites:

	Cycle 1	Cycle 2	Cycle 3	Cycle 4	Cycle 5
- TBI	0.2 ^(0.025-0.556)	0.5 ^(0.187-0.813)	0.4 ^(0.122-0.738)	0.6 ^(0.262-0.878)	0.3 ^(0.067-0.652)
+ TBI	0.1 ^(0.003-0.445)	0.3 ^(0.067-0.652)	0 ^(0-0.308)	0 ^(0-0.308)	0 ^(0-0.308)

3 bites:

	Cycle 1	Cycle 2	Cycle 3	Cycle 4	Cycle 5
- TBI	0.53 ^(0.27-0.787)	0.73 ^(0.449-0.922)	0.67 ^(0.384-0.882)	0.6 ^(0.323-0.837)	0.53 ^(0.266-0.787)
+ TBI	0.47 ^(0.213-0.734)	0.53 ^(0.266-0.787)	0.47 ^(0.213-0.734)	0.53 ^(0.266-0.787)	0.6 ^(0.323-0.837)

4 bites:

	Cycle 1	Cycle 2	Cycle 3	Cycle 4	Cycle 5
- TBI	0.6 ^(0.361-0.809)	0.7 ^(0.457-0.881)	0.5 ^(0.272-0.728)	0.65 ^(0.4.8-0.846)	0.75 ^(0.509-0.913)
+ TBI	0.5 ^(0.272-0.728)	0.7 ^(0.457-0.881)	0.7 ^(0.457-0.881)	0.75 ^(0.509-0.913)	0.9 ^(0.683-0.988)

5 bites:

	Cycle 1	Cycle 2	Cycle 3	Cycle 4	Cycle 5
- TBI	0.6 ^(0.387-0.789)	0.52 ^(0.313-0.722)	0.48 ^(0.278-0.687)	0.64 ^(0.425-0.820)	0.76 ^(0.549-0.609)
+ TBI	0.68 ^(0.465-0.851)	0.48 ^(0.278-0.687)	0.72 ^(0.506-0.879)	0.6 ^(0.387-0.798)	0.8 ^(0.593-0.932)