

SUPPLEMENTARY TABLE S1. PROBABILITY TABLE FOR MONITORING EXPECTED INFECTION RATES^a

		Probability table						
		MID ^{p=0.32} per vessel (0.39 IUs/vessel)		MID ^{p=0.63} per vessel (1 IUs/vessel)		MID ^{p=0.98} per vessel (3.9 IUs/vessel)		
Outcome (infected vessels) (<i>r</i>)	Number of permutations	Probability of single outcome	Total probability (<i>p[r/n]</i>)	Probability of single outcome	Total probability (<i>p[r/n]</i>)	Probability of single outcome	Total probability (<i>p[r/n]</i>)	
$a = r/n$	$b = n!/(n-r!) \times r!$	$c = 0.32^r \times 0.68^{n-r}$	$d = b \times c$	$c = 0.63^r \times 0.37^{n-r}$	$d = b \times c$	$c = 0.98^r \times 0.02^{n-r}$	$d = b \times c$	
I	0/4	1	0.210	0.210	0.018	0.018	1.6E-07	1.6E-07
	1/4	4	0.100	0.401	0.031	0.126	7.8E-06	3.1E-05
	2/4	6	0.048	0.287	0.054	0.325	3.8E-04	0.002
	3/4	4	0.023	0.091	0.093	0.372	0.019	0.075
	4/4	1	0.011	0.011	0.160	0.160	0.922	0.922
II	0/10	1	0.020	0.020				
	1/10	10	0.010	0.096				
	2/10	45	0.005	0.207	nc		nc	
	3/10	120	0.002	0.264				
	4/10	210	0.001	0.220				
III	9/16	1.1E+04			1.5E-05	0.168		
	10/16	8.0E+03	nc		2.5E-05	0.202	nc	
	11/16	4.4E+03			4.3E-05	0.189		
IV	5/20	1.6E+04	1.0E-05	0.157				
	6/20	3.9E+04	4.8E-06	0.187	nc		nc	
	7/20	7.8E+04	2.3E-06	0.178				
V	31/100	2.9E+25	1.2E-27	0.037				
	32/100	1.4E+26	5.9E-28	0.085	nc		nc	
	33/100	2.9E+26	2.8E-28	0.084				
	62/100	5.7E+27			1.4E-29	0.079		
	63/100	3.4E+27	nc		2.4E-29	0.082	nc	
	64/100	2.0E+27			4.1E-29	0.082		
	97/100	1.6E+05					1.1E-06	0.182
	98/100	5.0E+03	nc		nc		5.5E-05	0.273
	99/100	100					0.003	0.271
100/100	1					0.133	0.133	

IU, infectious units; MID, minimal infectious dose; nc, not calculated.

^aThe possible outcomes (*r*) of *n* number of vessels inoculated with virus at different doses are presented as *a*, in the second column. The number of permutations for each outcome is given as *b*, in the third column. The probability of a single given outcome is denoted by *c*. Therefore the total probability of any combination resulting in *r/n* infections is calculated by *d*. Panel I displays the full outcome set of inoculating four vessels; note that the sum of all *d* probabilities equals 1. Panels I–IV display predicted outcomes for EIAVΔS2 dose validation experiments reported in this paper (see text), and panel V is included to confirm to the reader the validity of the calculations; the most probable outcomes correlate with the dose and rate of infection employed.