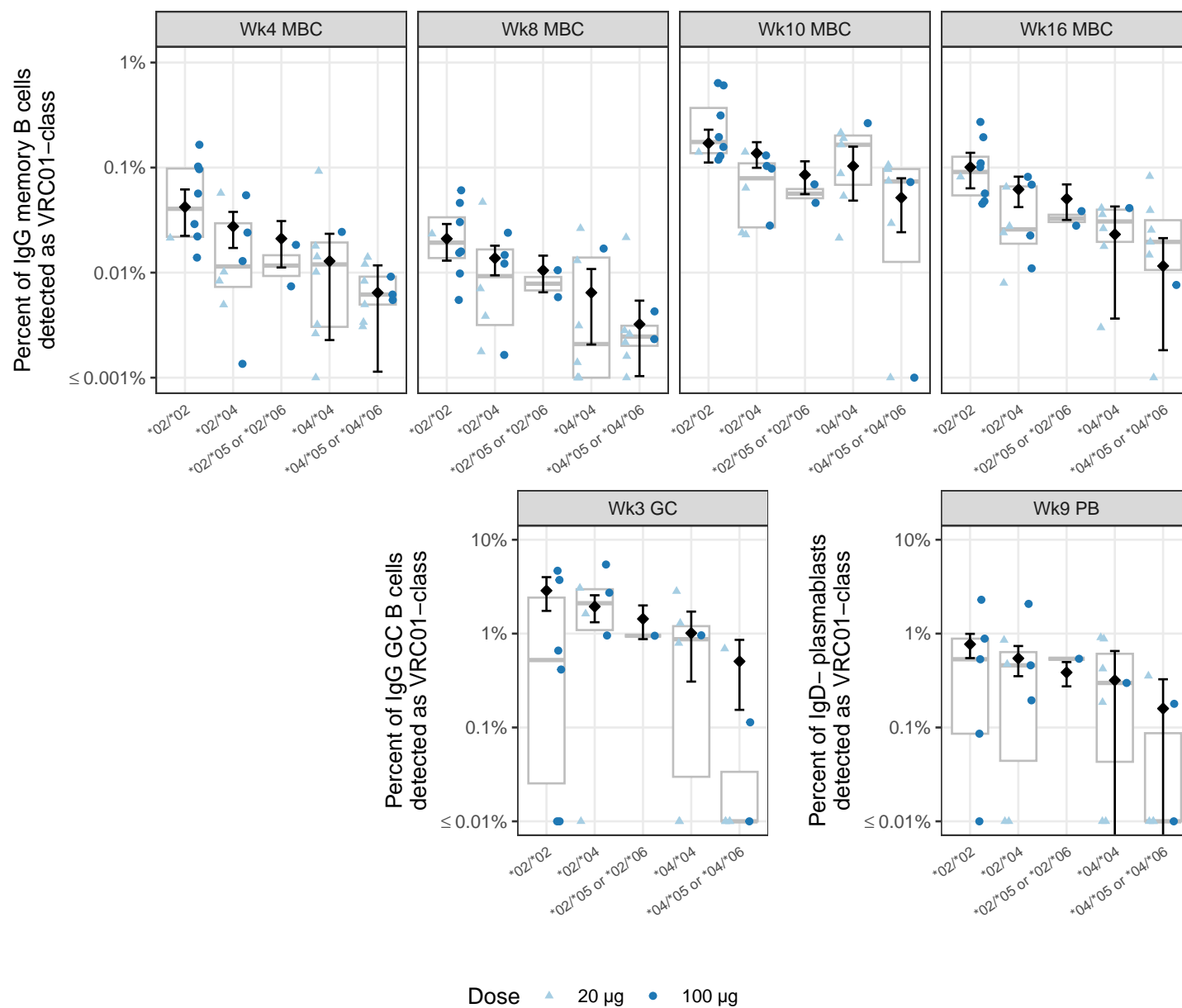
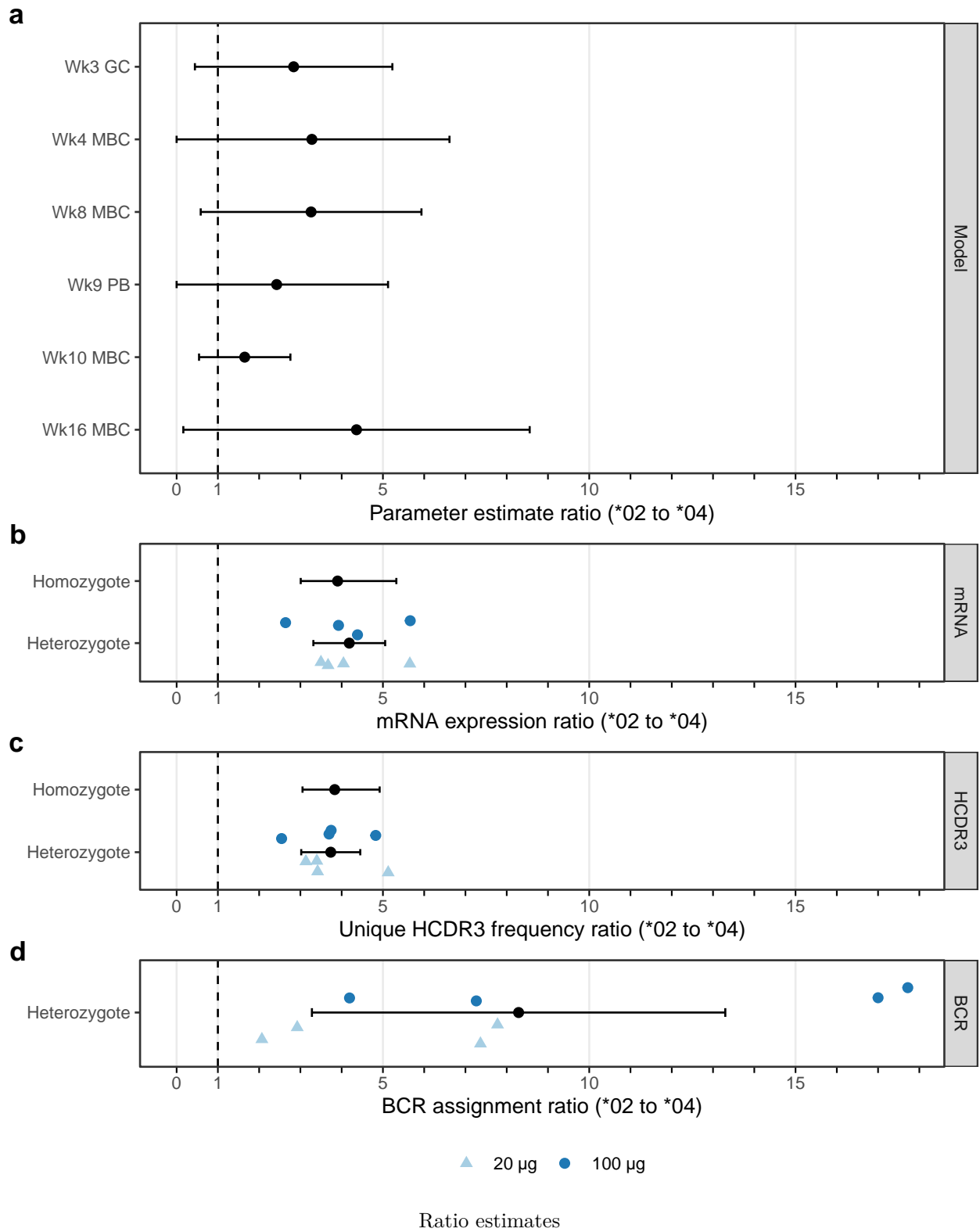
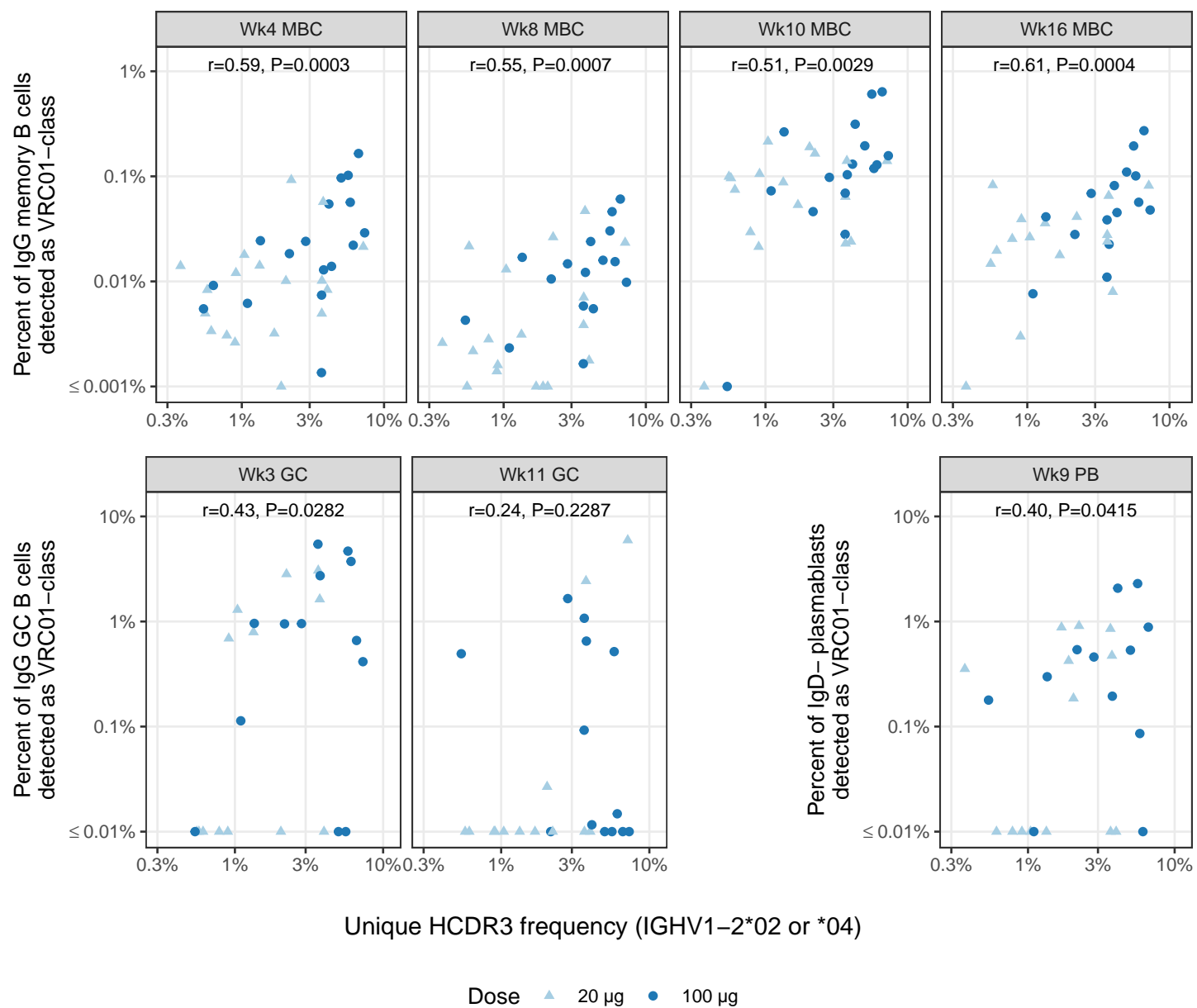


Composite Genotype-mRNA-HCDR3-Usage-Plot

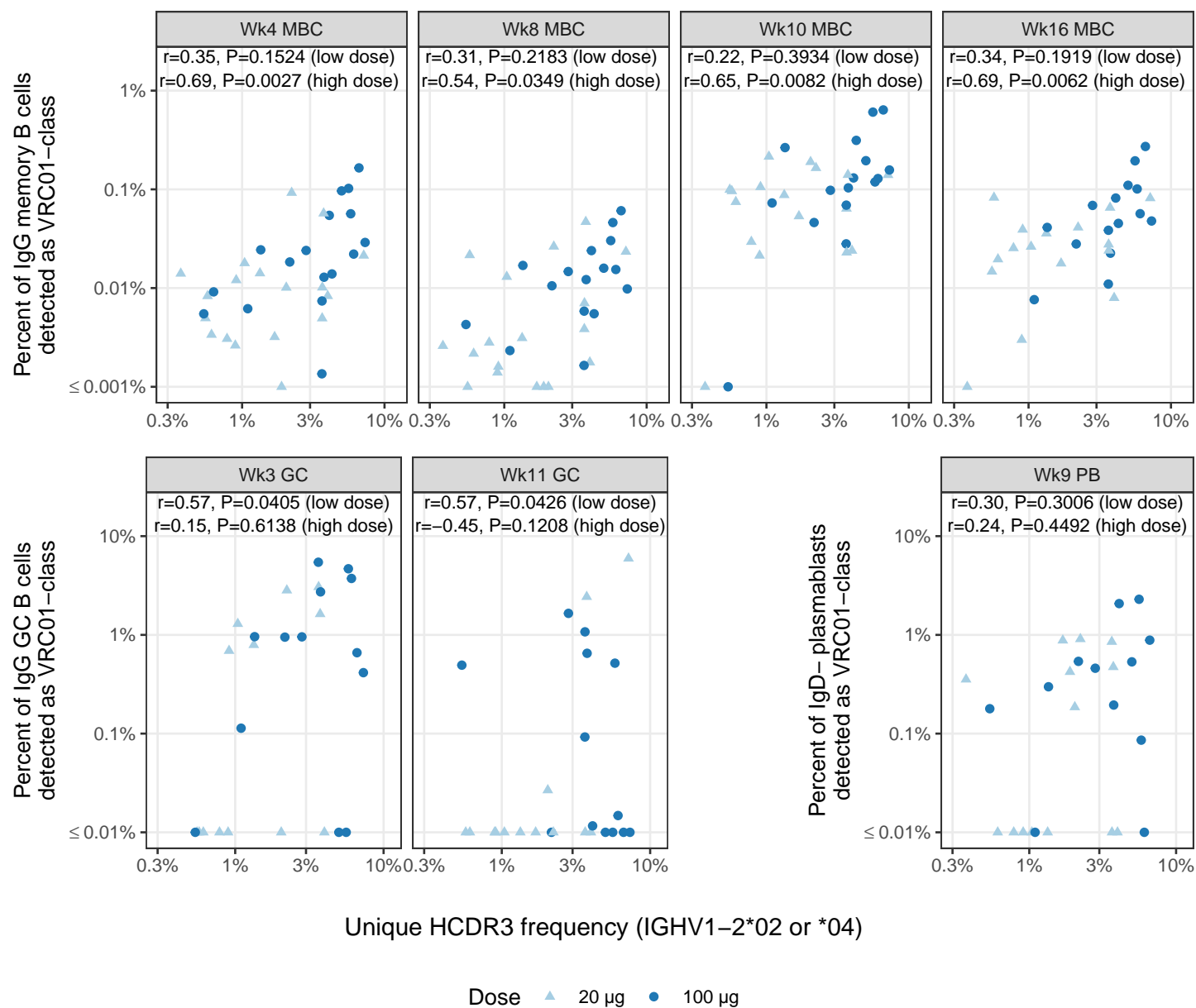


Allele model estimates by genotype.





Naive vs. VRC01 response correlations



Naive vs. VRC01 response correlations

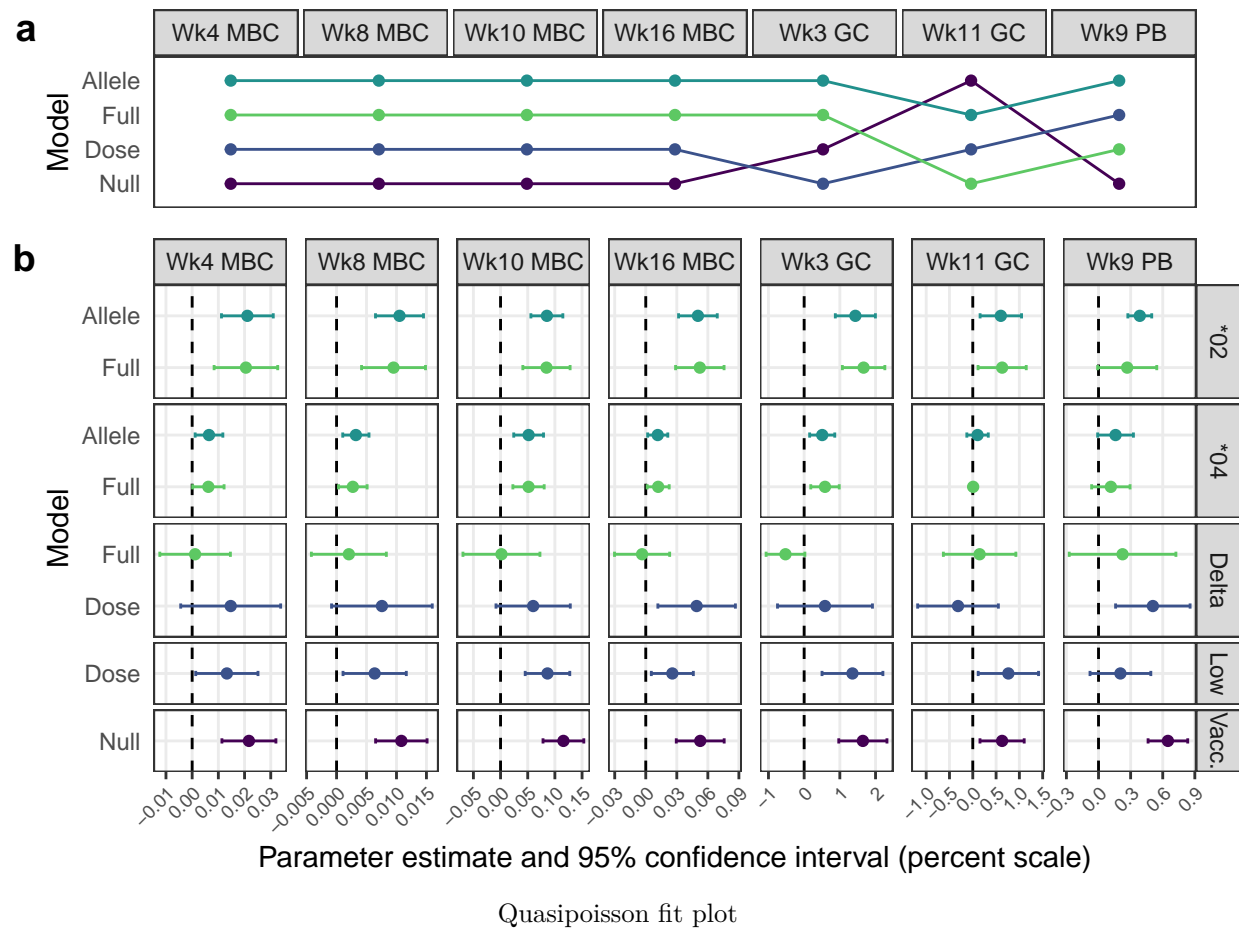


Table S1

Treatment	*02/*02	*02/*04	*02/*05	*02/*06	*04/*04	*04/*05	*04/*06	*05/*06
100 µg	7	4	2	0	1	1	2	1
20 µg	1	4	0	0	7	1	5	0
Placebo	3	5	0	2	2	0	0	0
Total	11	13	2	2	10	2	7	1

Table S2

	Allele	n	Mean	95% CI	Min	Max
*02	Homozygote	11	3.15%	2.72% to 3.57%	2.28%	4.52%
	Heterozygote	17	3.34%	2.87% to 3.82%	1.98%	6.29%
*04	Homozygote	10	0.86%	0.67% to 1.06%	0.41%	1.22%
	Heterozygote	22	0.72%	0.63% to 0.81%	0.25%	1.12%
*05	Heterozygote	5	0.09%	0.03% to 0.14%	0.03%	0.14%
*06	Heterozygote	10	2.43%	1.87% to 2.99%	1.78%	4.18%

Table S3

Allele	Difference	95% CI	P-value
*02	-0.19%	-0.80% to 0.41%	0.51
*04	0.14%	-0.07% to 0.35%	0.17

Table S4

					P Value	
		Comparison	Sample Sizes	Median (Range)	Unadjusted	FDR Adjusted
20 µg						
Wk4 MBC	*02/*04 vs. *04/*04		4 vs. 6	0.0092 [0.0049, 0.0572] vs. 0.0121 [0.0026, 0.0924]	1.0000	1.0000
	*02/*04 vs. *04/*05 or *04/*06		4 vs. 6	0.0092 [0.0049, 0.0572] vs. 0.0066 [0.0031, 0.0140]	0.4762	0.8081
	*04/*04 vs. *04/*05 or *04/*06		6 vs. 6	0.0121 [0.0026, 0.0924] vs. 0.0066 [0.0031, 0.0140]	0.4848	0.8081
Wk8 MBC	*02/*04 vs. *04/*04		4 vs. 4	0.0054 [0.0018, 0.0469] vs. 0.0081 [0.0014, 0.0264]	0.8857	0.9797
	*02/*04 vs. *04/*05 or *04/*06		4 vs. 6	0.0054 [0.0018, 0.0469] vs. 0.0024 [0.0007, 0.0216]	0.2571	0.8000
	*04/*04 vs. *04/*05 or *04/*06		4 vs. 6	0.0081 [0.0014, 0.0264] vs. 0.0024 [0.0007, 0.0216]	0.3524	0.8000
Wk10 MBC	*02/*04 vs. *04/*04		4 vs. 6	0.0440 [0.0230, 0.1404] vs. 0.1263 [0.0214, 0.2148]	0.3524	0.8000
	*02/*04 vs. *04/*05 or *04/*06		4 vs. 6	0.0440 [0.0230, 0.1404] vs. 0.0854 [0.0005, 0.1057]	0.7619	0.9797
	*04/*04 vs. *04/*05 or *04/*06		6 vs. 6	0.1263 [0.0214, 0.2148] vs. 0.0854 [0.0005, 0.1057]	0.3939	0.8000
Wk16 MBC	*02/*04 vs. *04/*04		4 vs. 5	0.0259 [0.0080, 0.0653] vs. 0.0263 [0.0030, 0.0412]	0.9048	0.9797
	*02/*04 vs. *04/*05 or *04/*06		4 vs. 6	0.0259 [0.0080, 0.0653] vs. 0.0225 [0.0001, 0.0826]	0.9143	0.9797
	*04/*04 vs. *04/*05 or *04/*06		5 vs. 6	0.0263 [0.0030, 0.0412] vs. 0.0225 [0.0001, 0.0826]	0.9307	0.9797
Wk3 GC	*02/*04 vs. *04/*04		2 vs. 3	2.3429 [1.6281, 3.0577] vs. 1.2946 [0.7917, 2.8275]	—	—
Wk9 PB	*02/*04 vs. *04/*04		2 vs. 4	0.6629 [0.4731, 0.8527] vs. 0.6510 [0.1856, 0.9081]	—	—
100 µg						
Wk4 MBC	*02/*02 vs. *02/*04		7 vs. 4	0.0566 [0.0139, 0.1649] vs. 0.0185 [0.0014, 0.0545]	0.1091	0.7273
	*02/*02 vs. *02/*05 or *02/*06		7 vs. 2	0.0566 [0.0139, 0.1649] vs. 0.0129 [0.0074, 0.0184]	—	—
	*02/*02 vs. *04/*05 or *04/*06		7 vs. 3	0.0566 [0.0139, 0.1649] vs. 0.0062 [0.0055, 0.0092]	***0.0167***	0.2424
	*02/*04 vs. *02/*05 or *02/*06		4 vs. 2	0.0185 [0.0014, 0.0545] vs. 0.0129 [0.0074, 0.0184]	—	—
	*02/*04 vs. *04/*05 or *04/*06		4 vs. 3	0.0185 [0.0014, 0.0545] vs. 0.0062 [0.0055, 0.0092]	0.4000	0.8000
	*02/*05 or *02/*06 vs. *04/*05 or *04/*06		2 vs. 3	0.0129 [0.0074, 0.0184] vs. 0.0062 [0.0055, 0.0092]	—	—
Wk8 MBC	*02/*02 vs. *02/*04		7 vs. 4	0.0159 [0.0055, 0.0608] vs. 0.0134 [0.0016, 0.0240]	0.3152	0.8000
	*02/*02 vs. *02/*05 or *02/*06		7 vs. 2	0.0159 [0.0055, 0.0608] vs. 0.0082 [0.0058, 0.0105]	—	—
	*02/*02 vs. *04/*05 or *04/*06		7 vs. 2	0.0159 [0.0055, 0.0608] vs. 0.0033 [0.0023, 0.0043]	—	—
	*02/*04 vs. *02/*05 or *02/*06		4 vs. 2	0.0134 [0.0016, 0.0240] vs. 0.0082 [0.0058, 0.0105]	—	—
	*02/*04 vs. *04/*05 or *04/*06		4 vs. 2	0.0134 [0.0016, 0.0240] vs. 0.0033 [0.0023, 0.0043]	—	—
	*02/*05 or *02/*06 vs. *04/*05 or *04/*06		2 vs. 2	0.0082 [0.0058, 0.0105] vs. 0.0033 [0.0023, 0.0043]	—	—
Wk10 MBC	*02/*02 vs. *02/*04		7 vs. 4	0.1951 [0.1188, 0.6376] vs. 0.1007 [0.0281, 0.1305]	***0.0242***	0.2424
	*02/*02 vs. *02/*05 or *02/*06		7 vs. 2	0.1951 [0.1188, 0.6376] vs. 0.0577 [0.0461, 0.0692]	—	—
	*02/*04 vs. *02/*05 or *02/*06		4 vs. 2	0.1007 [0.0281, 0.1305] vs. 0.0577 [0.0461, 0.0692]	—	—
Wk16 MBC	*02/*02 vs. *02/*04		7 vs. 4	0.1010 [0.0452, 0.2718] vs. 0.0457 [0.0110, 0.0817]	0.1636	0.8000
	*02/*02 vs. *02/*05 or *02/*06		7 vs. 2	0.1010 [0.0452, 0.2718] vs. 0.0332 [0.0280, 0.0385]	—	—
	*02/*04 vs. *02/*05 or *02/*06		4 vs. 2	0.0457 [0.0110, 0.0817] vs. 0.0332 [0.0280, 0.0385]	—	—
Wk3 GC	*02/*02 vs. *02/*04		4 vs. 3	2.1944 [0.4144, 4.6746] vs. 2.7265 [0.9546, 5.4440]	0.6286	0.9670
Wk11 GC	*02/*02 vs. *02/*04		2 vs. 4	0.2658 [0.0148, 0.5167] vs. 0.3717 [0.0116, 1.6519]	—	—
Wk9 PB	*02/*02 vs. *02/*04		4 vs. 3	0.7086 [0.0858, 2.2943] vs. 0.4593 [0.1946, 2.0745]	0.8571	0.9797

Table S5

		Comparison	Sample Sizes	Median (Range)	P Value	
					Unadjusted	FDR Adjusted
02/*04						
	Wk4 MBC	20 µg vs. 100 µg	4 vs. 4	0.0092 [0.0049, 0.0572] vs. 0.0185 [0.0014, 0.0545]	0.8857	0.9048
	Wk8 MBC	20 µg vs. 100 µg	4 vs. 4	0.0054 [0.0018, 0.0469] vs. 0.0134 [0.0016, 0.0240]	0.8857	0.9048
	Wk10 MBC	20 µg vs. 100 µg	4 vs. 4	0.0440 [0.0230, 0.1404] vs. 0.1007 [0.0281, 0.1305]	0.4857	0.9048
	Wk16 MBC	20 µg vs. 100 µg	4 vs. 4	0.0259 [0.0080, 0.0653] vs. 0.0457 [0.0110, 0.0817]	0.6857	0.9048
	Wk3 GC	20 µg vs. 100 µg	2 vs. 3	2.3429 [1.6281, 3.0577] vs. 2.7265 [0.9546, 5.4440]	—	—
	Wk9 PB	20 µg vs. 100 µg	2 vs. 3	0.6629 [0.4731, 0.8527] vs. 0.4593 [0.1946, 2.0745]	—	—
04/*05 or *04/*06						
	Wk4 MBC	20 µg vs. 100 µg	6 vs. 3	0.0066 [0.0031, 0.0140] vs. 0.0062 [0.0055, 0.0092]	0.9048	0.9048
	Wk8 MBC	20 µg vs. 100 µg	6 vs. 2	0.0024 [0.0007, 0.0216] vs. 0.0033 [0.0023, 0.0043]	—	—

Table S6

Model	n	K	LL	Dispersion	QAICc
Wk4 MBC					
Allele	35	3	-954.5112	67.96823	33.63438
Full	35	4	-953.5981	71.07256	36.16783
Dose	35	3	-1241.2651	102.81975	41.70371
Null	35	2	-1353.1930	110.50062	42.45420
Wk8 MBC					
Allele	34	3	-467.4507	27.70813	37.91914
Full	34	4	-461.2600	30.04265	40.08632
Dose	34	3	-615.3809	47.22338	47.76716
Null	34	2	-684.2942	44.60637	49.94195
Wk10 MBC					
Allele	33	3	-3913.2854	275.82562	34.31452
Full	33	4	-3913.0473	284.73788	36.91383
Dose	33	3	-4507.3975	325.05221	38.48756
Null	33	2	-4997.3051	397.41236	39.50109
Wk16 MBC					
Allele	31	3	-1192.3772	95.31918	31.38919
Full	31	4	-1189.6335	97.33573	33.98238
Dose	31	3	-1638.2275	127.00529	40.55027
Null	31	2	-2049.7041	178.03677	46.54474
Wk3 GC					
Allele	26	3	-7480.1546	486.41216	37.62126
Full	26	4	-7182.3606	490.01431	39.21966
Null	26	2	-11266.3607	803.67639	50.50554
Dose	26	3	-10976.7429	779.39438	51.89263
Wk11 GC					
Null	26	2	-8550.4050	1001.94407	26.62847
Allele	26	3	-7690.3863	705.77005	26.97410
Dose	26	3	-8333.1437	881.98514	28.63592
Full	26	4	-7474.9931	773.55665	29.23106
Wk9 PB					
Allele	26	3	-628.4218	45.03017	34.45853
Dose	26	3	-655.0902	46.71709	35.61993
Full	26	4	-613.5097	45.92447	36.62296
Null	26	2	-759.2088	49.71729	37.58511

Table S7

Parameter	Allele	Full	Dose	Null
Wk4 MBC				
*02	0.021 (0.011, 0.031)	0.021 (0.008, 0.033)		
*04	0.006 (0.001, 0.012)	0.006 (0.000, 0.012)		
Low			0.013 (0.001, 0.025)	
Delta		0.001 (-0.012, 0.015)	0.015 (-0.004, 0.034)	
Vacc.				0.022 (0.011, 0.032)
Wk8 MBC				
*02	0.011 (0.006, 0.015)	0.010 (0.004, 0.015)		
*04	0.003 (0.001, 0.005)	0.003 (0.000, 0.005)		
Low			0.006 (0.001, 0.012)	
Delta		0.002 (-0.004, 0.008)	0.008 (-0.001, 0.016)	
Vacc.				0.011 (0.007, 0.015)
Wk10 MBC				
*02	0.085 (0.056, 0.115)	0.085 (0.041, 0.128)		
*04	0.052 (0.024, 0.079)	0.052 (0.023, 0.080)		
Low			0.086 (0.045, 0.127)	
Delta		0.002 (-0.069, 0.073)	0.060 (-0.008, 0.128)	
Vacc.				0.116 (0.078, 0.153)
Wk16 MBC				
*02	0.050 (0.032, 0.069)	0.052 (0.029, 0.076)		
*04	0.012 (0.002, 0.021)	0.012 (0.001, 0.023)		
Low			0.026 (0.005, 0.046)	
Delta		-0.004 (-0.030, 0.023)	0.049 (0.012, 0.087)	
Vacc.				0.053 (0.030, 0.076)
Wk3 GC				
*02	1.435 (0.874, 1.996)	1.665 (1.070, 2.261)		
*04	0.506 (0.154, 0.858)	0.584 (0.185, 0.983)		
Low			1.353 (0.500, 2.206)	
Delta		-0.523 (-1.067, 0.020)	0.584 (-0.747, 1.914)	
Vacc.				1.645 (0.970, 2.320)
Wk11 GC				
*02	0.602 (0.157, 1.047)	0.630 (0.113, 1.147)		
*04	0.103 (-0.127, 0.333)	0.008 (-0.071, 0.087)		
Low			0.764 (0.116, 1.411)	
Delta		0.147 (-0.631, 0.925)	-0.317 (-1.183, 0.550)	
Vacc.				0.629 (0.154, 1.104)
Wk9 PB				
*02	0.386 (0.274, 0.497)	0.268 (-0.009, 0.544)		
*04	0.159 (-0.008, 0.326)	0.115 (-0.064, 0.295)		
Low			0.205 (-0.080, 0.489)	
Delta		0.225 (-0.274, 0.723)	0.508 (0.160, 0.856)	
Vacc.				0.648 (0.463, 0.834)

Table S8

Genotype	Percent (95% CI)
Wk4 MBC	
*02/*02	0.042 (0.022, 0.062)
*02/*04	0.028 (0.017, 0.038)
*02/*05 or *02/*06	0.021 (0.011, 0.031)
*04/*04	0.013 (0.002, 0.023)
*04/*05 or *04/*06	0.006 (0.001, 0.012)
Wk8 MBC	
*02/*02	0.021 (0.013, 0.029)
*02/*04	0.014 (0.009, 0.018)
*02/*05 or *02/*06	0.011 (0.006, 0.015)
*04/*04	0.006 (0.002, 0.011)
*04/*05 or *04/*06	0.003 (0.001, 0.005)
Wk10 MBC	
*02/*02	0.171 (0.112, 0.229)
*02/*04	0.137 (0.100, 0.174)
*02/*05 or *02/*06	0.085 (0.056, 0.115)
*04/*04	0.103 (0.048, 0.158)
*04/*05 or *04/*06	0.052 (0.024, 0.079)
Wk16 MBC	
*02/*02	0.101 (0.063, 0.138)
*02/*04	0.062 (0.042, 0.082)
*02/*05 or *02/*06	0.050 (0.032, 0.069)
*04/*04	0.023 (0.004, 0.043)
*04/*05 or *04/*06	0.012 (0.002, 0.021)
Wk3 GC	
*02/*02	2.870 (1.747, 3.993)
*02/*04	1.941 (1.321, 2.561)
*02/*05 or *02/*06	1.435 (0.874, 1.996)
*04/*04	1.012 (0.308, 1.716)
*04/*05 or *04/*06	0.506 (0.154, 0.858)
Wk9 PB	
*02/*02	0.771 (0.548, 0.994)
*02/*04	0.545 (0.352, 0.738)
*02/*05 or *02/*06	0.386 (0.274, 0.497)
*04/*04	0.318 (-0.016, 0.652)
*04/*05 or *04/*06	0.159 (-0.008, 0.326)

Table S9

Visit	Ratio (95% CI)
Wk3 GC	2.836 (0.443, 5.229)
Wk4 MBC	3.278 (0.000, 6.613)
Wk8 MBC	3.259 (0.584, 5.934)
Wk9 PB	2.425 (0.000, 5.124)
Wk10 MBC	1.650 (0.544, 2.757)
Wk16 MBC	4.360 (0.163, 8.557)

Table S10

Visit	Difference (95% CI)	P Value
Wk3 GC	0.929 (0.226, 1.632)	***0.0095***
Wk4 MBC	0.015 (0.003, 0.027)	***0.0169***
Wk8 MBC	0.007 (0.002, 0.012)	***0.0030***
Wk9 PB	0.227 (0.018, 0.435)	***0.0333***
Wk10 MBC	0.034 (-0.009, 0.076)	0.1239
Wk16 MBC	0.039 (0.017, 0.061)	***0.0006***

Table S11

Frequency	Group	Ratio	95% CI	P-value
mRNA	Homozygote	3.9	3.0 to 5.3	<0.0001
mRNA	Heterozygote	4.2	3.3 to 5.1	0.0001
Unique HCDR3	Homozygote	3.8	3.1 to 4.9	<0.0001
Unique HCDR3	Heterozygote	3.7	3.0 to 4.5	<0.0001

Table S12

dose	ID	*02	*04	Ratio
20µg	046	40.5	5.5	7.364
20µg	077	38.0	13.0	2.923
20µg	100	140.0	18.0	7.778
20µg	187	31.0	15.0	2.067
100µg	062	88.0	21.0	4.190
100µg	064	138.0	19.0	7.263
100µg	112	68.0	4.0	17.000
100µg	193	221.5	12.5	17.720
Median				7.313

Table S13

dose	ID	*02	*04	Ratio
Wk4 MBC				
20µg	046	6.0	1.0	6.000
20µg	077	5.5	1.5	3.667
20µg	100	30.0	4.0	7.500
20µg	187	2.0	5.0	0.400
100µg	062	1.0	2.0	0.500
100µg	064	27.0	5.0	5.400
100µg	112	8.0	2.0	4.000
100µg	193	37.0	3.0	12.333
Median				4.700
Wk8 MBC				
20µg	046	1.0	0.0	Inf
20µg	077	7.5	0.5	15.000
20µg	100	24.0	2.0	12.000
20µg	187	2.0	2.0	1.000
100µg	062	3.0	0.0	Inf
100µg	064	22.0	1.0	22.000
100µg	112	17.0	1.0	17.000
100µg	193	15.0	2.0	7.500
Median				16.000
Wk10 MBC				
20µg	046	27.0	4.0	6.750
20µg	077	1.0	2.0	0.500
20µg	100	16.0	7.0	2.286
20µg	187	18.0	3.0	6.000
100µg	062	11.0	7.0	1.571
100µg	064	18.0	4.0	4.500
100µg	112	11.0	0.0	Inf
100µg	193	34.5	2.5	13.800
Median				5.250
Wk16 MBC				
20µg	046	6.5	0.5	13.000
20µg	077	4.0	1.0	4.000
20µg	100	28.0	5.0	5.600
20µg	187	9.0	5.0	1.800
100µg	062	8.0	5.0	1.600
100µg	064	34.0	2.0	17.000
100µg	112	8.0	0.0	Inf
100µg	193	23.0	3.0	7.667
Median				6.633

Table S13 (*continued*)

dose	ID	*02	*04	Ratio
Wk3 GC				
20µg	046			
20µg	077	19.0	8.0	2.375
20µg	100	32.0	0.0	Inf
20µg	187			
100µg	062	49.0	7.0	7.000
100µg	064			
100µg	112	2.0	0.0	Inf
100µg	193	31.0	0.0	Inf
Median				Inf
Wk11 GC				
20µg	046			
20µg	077			
20µg	100	8.0	0.0	Inf
20µg	187			
100µg	062	16.0	0.0	Inf
100µg	064	1.0	0.0	Inf
100µg	112	22.0	0.0	Inf
100µg	193	51.0	0.0	Inf
Median				Inf
Wk9 PB				
20µg	046			
20µg	077	1.0	0.0	Inf
20µg	100	2.0	0.0	Inf
20µg	187			
100µg	062			
100µg	064	36.0	7.0	5.143
100µg	112	0.0	1.0	0.000
100µg	193	30.0	2.0	15.000
Median				15.000