

Table S23: IgG+ B cells that are GT8++ (regardless of KO binding status) response rate testing between vaccine and placebo recipients by time point. Testing was done using Barnard's test (two-sided,  $\alpha = 0.05$ ) and p values less than 0.05 are highlighted.

	Sample Type	Response Rates (95% Wilson CI)	P Value
<b>Placebo vs. 20µg</b>			
Wk3 (V05)	FNA/IgG GC B cells	0/6 = 0.0% (0.0%, 39.0%) vs. 11/15 = 73.3% (48.0%, 89.1%)	0.0026
Wk4 (V06)	PBMCs/IgG memory B cells	0/12 = 0.0% (0.0%, 24.2%) vs. 18/18 = 100.0% (82.4%, 100.0%)	<0.0001
Wk8 (V07)	PBMCs/IgG memory B cells	0/12 = 0.0% (0.0%, 24.2%) vs. 18/18 = 100.0% (82.4%, 100.0%)	<0.0001
Wk9 (V07A)	Fresh PBMCs/IgD- PBs	0/12 = 0.0% (0.0%, 24.2%) vs. 17/17 = 100.0% (81.6%, 100.0%)	<0.0001
Wk10 (V08)	PBMCs/IgG memory B cells	0/12 = 0.0% (0.0%, 24.2%) vs. 17/17 = 100.0% (81.6%, 100.0%)	<0.0001
Wk11 (V09)	FNA/IgG GC B cells	0/5 = 0.0% (0.0%, 43.4%) vs. 12/14 = 85.7% (60.1%, 96.0%)	0.0006
Wk16 (V10)	PBMCs/IgG memory B cells	0/12 = 0.0% (0.0%, 24.2%) vs. 18/18 = 100.0% (82.4%, 100.0%)	<0.0001
<b>Placebo vs. 100µg</b>			
Wk3 (V05)	FNA/IgG GC B cells	0/6 = 0.0% (0.0%, 39.0%) vs. 13/16 = 81.2% (57.0%, 93.4%)	0.0007
Wk4 (V06)	PBMCs/IgG memory B cells	0/12 = 0.0% (0.0%, 24.2%) vs. 18/18 = 100.0% (82.4%, 100.0%)	<0.0001
Wk8 (V07)	PBMCs/IgG memory B cells	0/12 = 0.0% (0.0%, 24.2%) vs. 17/17 = 100.0% (81.6%, 100.0%)	<0.0001
Wk9 (V07A)	Fresh PBMCs/IgD- PBs	0/12 = 0.0% (0.0%, 24.2%) vs. 17/17 = 100.0% (81.6%, 100.0%)	<0.0001
Wk10 (V08)	PBMCs/IgG memory B cells	0/12 = 0.0% (0.0%, 24.2%) vs. 17/17 = 100.0% (81.6%, 100.0%)	<0.0001
Wk11 (V09)	FNA/IgG GC B cells	0/5 = 0.0% (0.0%, 43.4%) vs. 10/14 = 71.4% (45.4%, 88.3%)	0.0059
Wk16 (V10)	PBMCs/IgG memory B cells	0/12 = 0.0% (0.0%, 24.2%) vs. 16/16 = 100.0% (80.6%, 100.0%)	<0.0001
<b>20µg vs. 100µg</b>			
Wk3 (V05)	FNA/IgG GC B cells	11/15 = 73.3% (48.0%, 89.1%) vs. 13/16 = 81.2% (57.0%, 93.4%)	0.7092
Wk4 (V06)	PBMCs/IgG memory B cells	18/18 = 100.0% (82.4%, 100.0%) vs. 18/18 = 100.0% (82.4%, 100.0%)	1.0000
Wk8 (V07)	PBMCs/IgG memory B cells	18/18 = 100.0% (82.4%, 100.0%) vs. 17/17 = 100.0% (81.6%, 100.0%)	1.0000
Wk9 (V07A)	Fresh PBMCs/IgD- PBs	17/17 = 100.0% (81.6%, 100.0%) vs. 17/17 = 100.0% (81.6%, 100.0%)	1.0000
Wk10 (V08)	PBMCs/IgG memory B cells	17/17 = 100.0% (81.6%, 100.0%) vs. 17/17 = 100.0% (81.6%, 100.0%)	1.0000
Wk11 (V09)	FNA/IgG GC B cells	12/14 = 85.7% (60.1%, 96.0%) vs. 10/14 = 71.4% (45.4%, 88.3%)	0.5260
Wk16 (V10)	PBMCs/IgG memory B cells	18/18 = 100.0% (82.4%, 100.0%) vs. 16/16 = 100.0% (80.6%, 100.0%)	1.0000