

SUPPORTING INFORMATION

COVID-19 vaccines based on viral nanoparticles displaying a conserved B-cell epitope show potent immunogenicity and a long-lasting antibody response

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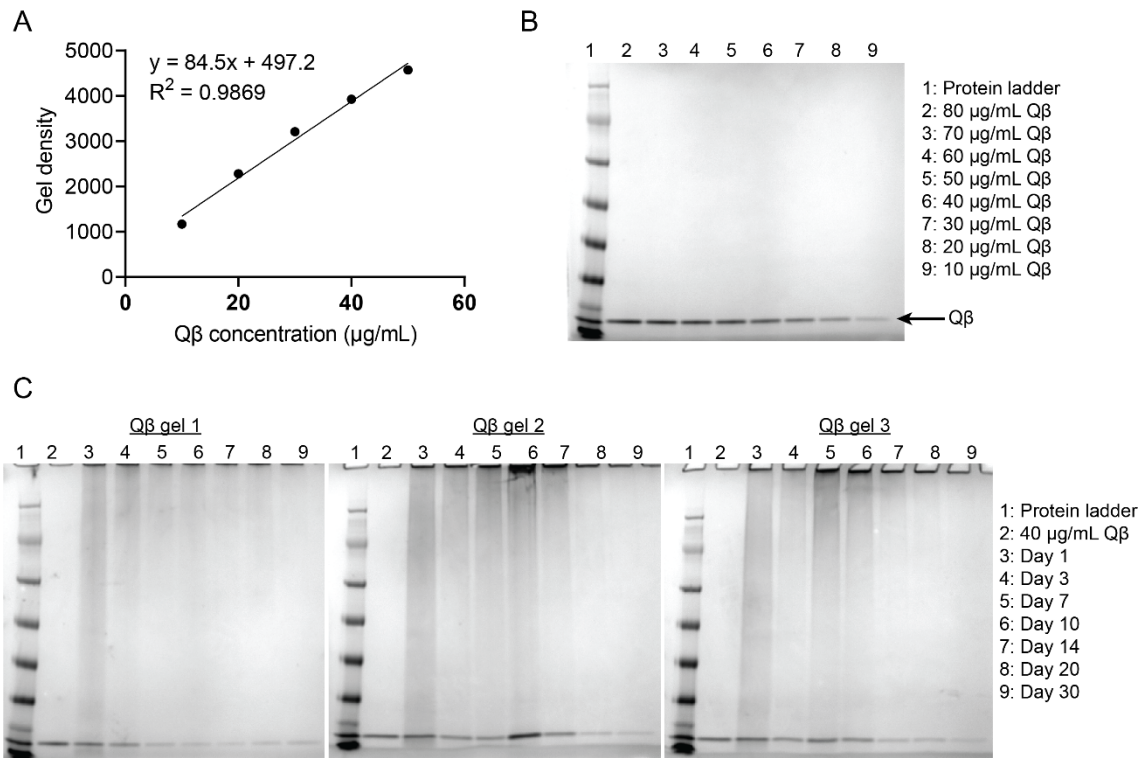


Figure S1. *In vitro* release of Q β particles from implants. (A) Q β standard curve based on (B) SDS-PAGE and densitometric analysis with different Q β loads. (C) SDS-PAGE analysis of Q β particles released from three implants at different time points.

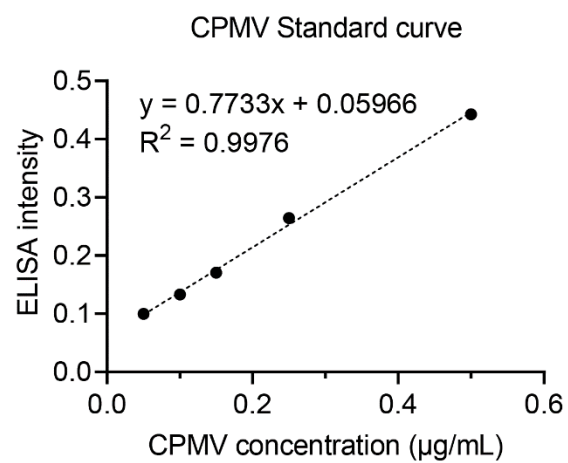


Figure S2. CPMV standard curve based on the analysis of different concentrations of CPMV by ELISA.

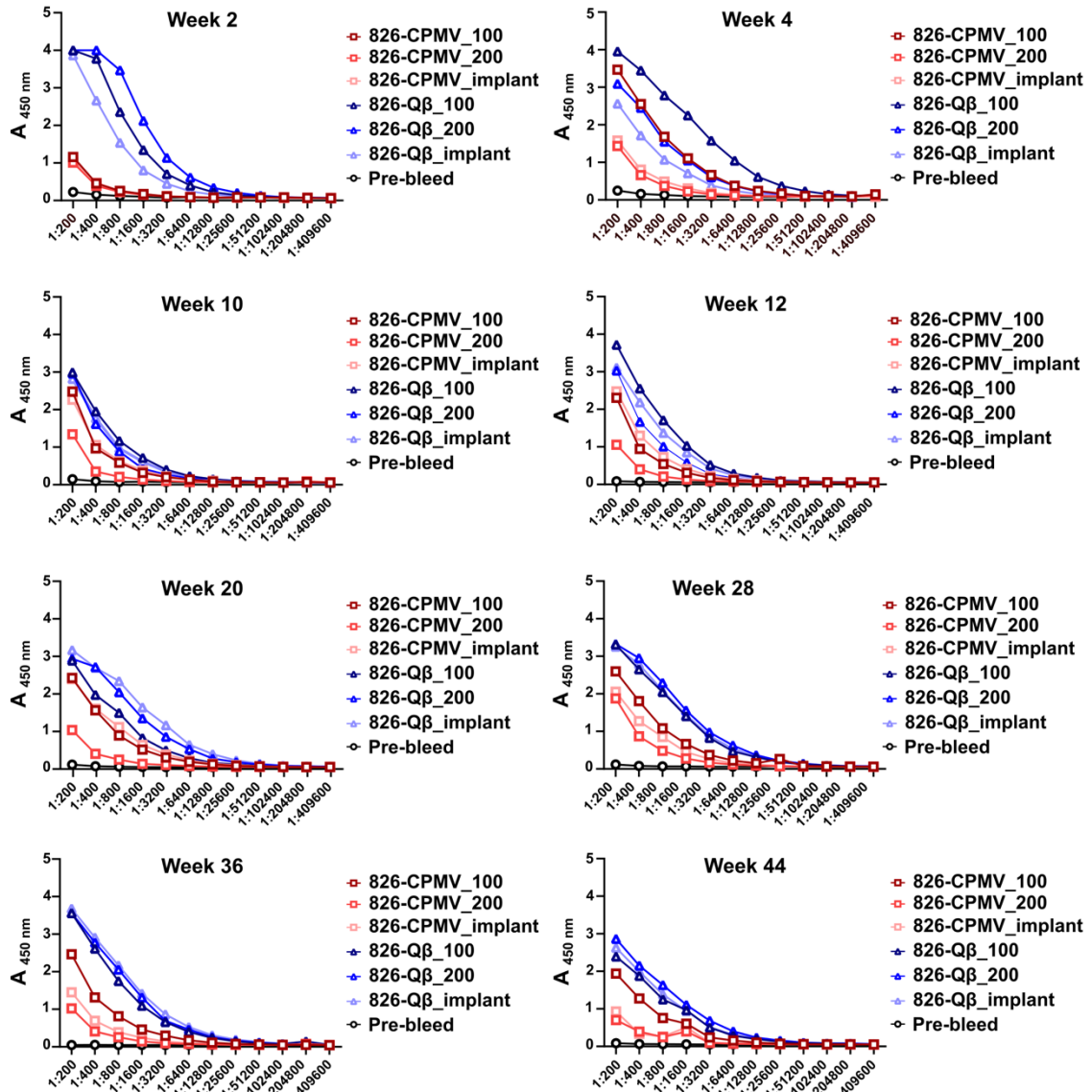


Figure S3. Immunogenicity of CPMV/Q β vaccine candidates. Mice received (1) two doses of 100 μ g particles (826-CPMV_100 or 826-Q β _100), (2) one dose of 200 μ g particles (826-CPMV_200 or 826-Q β _200) or (3) the slow-release implant (826-CPMV_implant or 826-Q β _implant). Antibody titers against the 826 epitope were evaluated at different time points post-immunization.

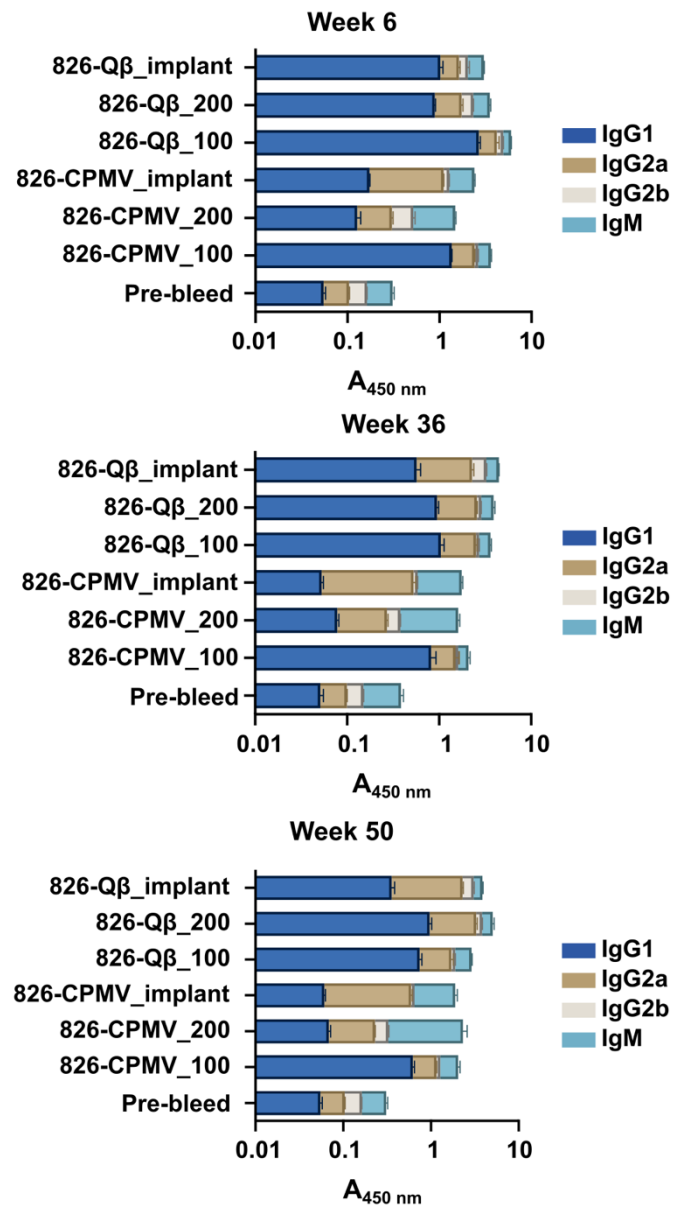


Figure S4. Isotype profile (IgG and IgM) and IgG subclass profile (IgG1, IgG2a and IgG2b) of sera isolated from mice immunized with different vaccine candidate formulations, determined at weeks 6, 36 and 50.

Table S1. Two-way ANOVA for Figure 3 using pairwise multiple comparison followed by Tukey's multiple comparison test was used to compare between groups. Asterisks indicate significant differences between groups (* $p < 0.05$; ** $p < 0.01$, **** $p < 0.0001$).

Tukey's multiple comparisons test - Week 6 titers , Statistically significant difference and P value							
	826-CPMV_100	826-CPMV_200	826-CPMV_implant	826-Q β _100	826-Q β _200	826-Q β _implant	Pre-bleed
826-CPMV_100	N/A	*; $P = 0.04$	ns; $P = 0.9566$	ns; $P = 0.9051$	ns; $P = 0.8482$	ns; $P = 0.6856$	**; $P = 0.0094$
826-CPMV_200		N/A	ns; $P = 0.3391$	**; $P = 0.0011$	ns; $P = 0.5378$	ns; $P = 0.7258$	ns; $P = 0.9987$
826-CPMV_implant			N/A	ns; $P = 0.3401$	ns; $P = >0.9999$	ns; $P = 0.9961$	ns; $P = 0.1269$
826-Q β _100				N/A	ns; $P = 0.1887$	ns; $P = 0.1$	***; $P = 0.0002$
826-Q β _200					N/A	ns; $P = >0.9999$	ns; $P = 0.2452$
826-Q β _implant						N/A	ns; $P = 0.4011$
Pre-bleed							N/A
Tukey's multiple comparisons test - Week 16 titers , Statistically significant difference and P value							
	826-CPMV_100	826-CPMV_200	826-CPMV_implant	826-Q β _100	826-Q β _200	826-Q β _implant	Pre-bleed
826-CPMV_100	N/A	ns; $P = 0.8979$	ns; $P = 0.9991$	ns; $P = 0.1999$	ns; $P = 0.7828$	ns; $P = 0.2622$	ns; $P = 0.426$
826-CPMV_200		N/A	ns; $P = 0.6484$	**; $P = 0.0098$	ns; $P = 0.1381$	*; $P = 0.0149$	ns; $P = 0.9827$
826-CPMV_implant			N/A	ns; $P = 0.445$	ns; $P = 0.9605$	ns; $P = 0.537$	ns; $P = 0.1881$
826-Q β _100				N/A	ns; $P = 0.9509$	ns; $P = >0.9999$	***; $P = 0.0007$
826-Q β _200					N/A	ns; $P = 0.9767$	*; $P = 0.0172$
826-Q β _implant						N/A	**; $P = 0.0011$
Pre-bleed							N/A
Tukey's multiple comparisons test - Week 50 titers , Statistically significant difference and P value							
	826-CPMV_100	826-CPMV_200	826-CPMV_implant	826-Q β _100	826-Q β _200	826-Q β _implant	Pre-bleed
826-CPMV_100	N/A	ns; $P = 0.6716$	ns; $P = 0.7138$	ns; $P = 0.9955$	ns; $P = 0.2769$	ns; $P = 0.4847$	ns; $P = 0.2377$
826-CPMV_200		N/A	ns; $P = >0.9999$	ns; $P = 0.2848$	**; $P = 0.0043$	*; $P = 0.0131$	ns; $P = 0.9902$
826-CPMV_implant			N/A	ns; $P = 0.3198$	**; $P = 0.0054$	*; $P = 0.016$	ns; $P = 0.9844$
826-Q β _100				N/A	ns; $P = 0.6616$	ns; $P = 0.8613$	ns; $P = 0.0587$
826-Q β _200					N/A	ns; $P = 0.9998$	***; $P = 0.0004$
826-Q β _implant						N/A	**; $P = 0.0013$
Pre-bleed							N/A

Table S2. Two-way ANOVA for Figure 4A using pairwise multiple comparison followed by Tukey's multiple comparison test was used to compare between groups. Asterisks indicate significant differences between groups (*p < 0.05; **p < 0.01, **** p < 0.0001).

Tukey's multiple comparisons test - Week 2 , Statistically significant difference and P value							
	826-CPMV_100	826-CPMV_200	826-CPMV_implant	826-Qβ_100	826-Qβ_200	826-Qβ_implant	mRNA-RBD
826-CPMV_100	N/A	ns; P = 0.1792	ns; P = 0.6815	*; P = 0.038	ns; P = 0.106	ns; P = 0.8219	**; P = 0.0073
826-CPMV_200		N/A	ns; P = 0.914	***; P = 0.0002	***; P = 0.0005	*; P = 0.0156	***; P = 0.0003
826-CPMV_implant			N/A	***; P = 0.0015	***; P = 0.0047	ns; P = 0.1196	**; P = 0.0022
826-Qβ_100				N/A	ns; P = 0.995	ns; P = 0.3481	ns; P = 0.2321
826-Qβ_200					N/A	ns; P = 0.6431	ns; P = 0.0733
826-Qβ_implant						N/A	*; P = 0.0214
mRNA-RBD							N/A
Tukey's multiple comparisons test - Week 6 , Statistically significant difference and P value							
	826-CPMV_100	826-CPMV_200	826-CPMV_implant	826-Qβ_100	826-Qβ_200	826-Qβ_implant	mRNA-RBD
826-CPMV_100	N/A	ns; P = 0.1792	ns; P = 0.6815	*; P = 0.038	ns; P = 0.106	ns; P = 0.8219	**; P = 0.0073
826-CPMV_200		N/A	ns; P = 0.914	***; P = 0.0002	***; P = 0.0005	*; P = 0.0156	***; P = 0.0003
826-CPMV_implant			N/A	***; P = 0.0015	***; P = 0.0047	ns; P = 0.1196	**; P = 0.0022
826-Qβ_100				N/A	ns; P = 0.995	ns; P = 0.3481	ns; P = 0.2321
826-Qβ_200					N/A	ns; P = 0.6431	ns; P = 0.0733
826-Qβ_implant						N/A	*; P = 0.0214
mRNA-RBD							N/A
Tukey's multiple comparisons test - Week 20 , Statistically significant difference and P value							
	826-CPMV_100	826-CPMV_200	826-CPMV_implant	826-Qβ_100	826-Qβ_200	826-Qβ_implant	mRNA-RBD
826-CPMV_100	N/A	ns; P = 0.1792	ns; P = 0.6815	*; P = 0.038	ns; P = 0.106	ns; P = 0.8219	**; P = 0.0073
826-CPMV_200		N/A	ns; P = 0.914	***; P = 0.0002	***; P = 0.0005	*; P = 0.0156	***; P = 0.0003
826-CPMV_implant			N/A	***; P = 0.0015	***; P = 0.0047	ns; P = 0.1196	**; P = 0.0022
826-Qβ_100				N/A	ns; P = 0.995	ns; P = 0.3481	ns; P = 0.2321
826-Qβ_200					N/A	ns; P = 0.6431	ns; P = 0.0733
826-Qβ_implant						N/A	*; P = 0.0214
mRNA-RBD							N/A
Tukey's multiple comparisons test - Week 28 , Statistically significant difference and P value							
	826-CPMV_100	826-CPMV_200	826-CPMV_implant	826-Qβ_100	826-Qβ_200	826-Qβ_implant	mRNA-RBD
826-CPMV_100	N/A	ns; P = 0.1792	ns; P = 0.6815	*; P = 0.038	ns; P = 0.106	ns; P = 0.8219	**; P = 0.0073
826-CPMV_200		N/A	ns; P = 0.914	***; P = 0.0002	***; P = 0.0005	*; P = 0.0156	***; P = 0.0003
826-CPMV_implant			N/A	***; P = 0.0015	***; P = 0.0047	ns; P = 0.1196	**; P = 0.0022
826-Qβ_100				N/A	ns; P = 0.995	ns; P = 0.3481	ns; P = 0.2321
826-Qβ_200					N/A	ns; P = 0.6431	ns; P = 0.0733
826-Qβ_implant						N/A	*; P = 0.0214
mRNA-RBD							N/A
Tukey's multiple comparisons test - Week 50 , Statistically significant difference and P value							
	826-CPMV_100	826-CPMV_200	826-CPMV_implant	826-Qβ_100	826-Qβ_200	826-Qβ_implant	mRNA-RBD
826-CPMV_100	N/A	ns; P = 0.1792	ns; P = 0.6815	*; P = 0.038	ns; P = 0.106	ns; P = 0.8219	**; P = 0.0073
826-CPMV_200		N/A	ns; P = 0.914	***; P = 0.0002	***; P = 0.0005	*; P = 0.0156	***; P = 0.0003
826-CPMV_implant			N/A	***; P = 0.0015	***; P = 0.0047	ns; P = 0.1196	**; P = 0.0022
826-Qβ_100				N/A	ns; P = 0.995	ns; P = 0.3481	ns; P = 0.2321
826-Qβ_200					N/A	ns; P = 0.6431	ns; P = 0.0733
826-Qβ_implant						N/A	*; P = 0.0214
mRNA-RBD							N/A

Table S3. Two-way ANOVA for Figure 4B using pairwise multiple comparison followed by Tukey's multiple comparison test was used to compare between groups. Asterisks indicate significant differences between groups (*p < 0.05; **p < 0.01, **** p < 0.0001).

Tukey's multiple comparisons test - Week 6 , Statistically significant difference and P value						
	826-CPMV_100	826-CPMV_200	826-CPMV implant	826-Qβ_100	826-Qβ_200	826-Qβ implant
826-CPMV_100	N/A	ns; P = 0.5484	****; P = <0.0001	ns; P = 0.9995	ns; P = 0.851	ns; P = 0.201
826-CPMV_200		N/A	****; P = <0.0001	ns; P = 0.7294	ns; P = 0.9928	ns; P = 0.973
826-CPMV implant			N/A	****; P = <0.0001	****; P = <0.0001	***; P = 0.0002
826-Qβ_100				N/A	ns; P = 0.9542	ns; P = 0.3203
826-Qβ_200					N/A	ns; P = 0.7836
826-Qβ implant						N/A
Tukey's multiple comparisons test - Week 20 , Statistically significant difference and P value						
	826-CPMV_100	826-CPMV_200	826-CPMV implant	826-Qβ_100	826-Qβ_200	826-Qβ implant
826-CPMV_100	N/A	ns; P = 0.5484	****; P = <0.0001	ns; P = 0.9995	ns; P = 0.851	ns; P = 0.201
826-CPMV_200		N/A	****; P = <0.0001	ns; P = 0.7294	ns; P = 0.9928	ns; P = 0.973
826-CPMV implant			N/A	****; P = <0.0001	****; P = <0.0001	***; P = 0.0002
826-Qβ_100				N/A	ns; P = 0.9542	ns; P = 0.3203
826-Qβ_200					N/A	ns; P = 0.7836
826-Qβ implant						N/A
Tukey's multiple comparisons test - Week 36 , Statistically significant difference and P value						
	826-CPMV_100	826-CPMV_200	826-CPMV implant	826-Qβ_100	826-Qβ_200	826-Qβ implant
826-CPMV_100	N/A	ns; P = 0.5484	****; P = <0.0001	ns; P = 0.9995	ns; P = 0.851	ns; P = 0.201
826-CPMV_200		N/A	****; P = <0.0001	ns; P = 0.7294	ns; P = 0.9928	ns; P = 0.973
826-CPMV implant			N/A	****; P = <0.0001	****; P = <0.0001	***; P = 0.0002
826-Qβ_100				N/A	ns; P = 0.9542	ns; P = 0.3203
826-Qβ_200					N/A	ns; P = 0.7836
826-Qβ implant						N/A
Tukey's multiple comparisons test - Week 50 , Statistically significant difference and P value						
	826-CPMV_100	826-CPMV_200	826-CPMV implant	826-Qβ_100	826-Qβ_200	826-Qβ implant
826-CPMV_100	N/A	ns; P = 0.5484	****; P = <0.0001	ns; P = 0.9995	ns; P = 0.851	ns; P = 0.201
826-CPMV_200		N/A	****; P = <0.0001	ns; P = 0.7294	ns; P = 0.9928	ns; P = 0.973
826-CPMV implant			N/A	****; P = <0.0001	****; P = <0.0001	***; P = 0.0002
826-Qβ_100				N/A	ns; P = 0.9542	ns; P = 0.3203
826-Qβ_200					N/A	ns; P = 0.7836
826-Qβ implant						N/A

Table S4. One-way analysis of variance (ANOVA) for Figure 5A followed by Tukey's multiple comparison test was used to compare between groups. Asterisks in indicate significant differences between groups (*p < 0.05; **p < 0.01, **** p < 0.0001).

IgG binding to SARS-CoV-2 S protein							
Tukey's multiple comparisons test (one-way ANOVA) - Week 16, Statistically significant difference and P value							
	826-CPMV 100	826-CPMV 200	826-CPMV implant	826-Qβ 100	826-Qβ 200	826-Qβ implant	Pre-bleed
826-CPMV 100	N/A	** P = 0.0064	ns P = 0.0516	**** P = <0.0001	**** P = <0.0001	* P = 0.0108	**** P = <0.0001
826-CPMV 200		N/A	ns P = 0.9993	**** P = <0.0001	**** P = <0.0001	ns P = >0.9999	**** P = <0.0001
826-CPMV implant			N/A	**** P = <0.0001	**** P = <0.0001	ns P = >0.9999	**** P = <0.0001
826-Qβ 100				N/A	ns P = >0.9999	**** P = <0.0001	**** P = <0.0001
826-Qβ 200					N/A	**** P = <0.0001	**** P = <0.0001
826-Qβ implant						N/A	**** P = <0.0001
Pre-bleed							N/A
Tukey's multiple comparisons test (one-way ANOVA) - Week 50, Statistically significant difference and P value							
	826-CPMV 100	826-CPMV 200	826-CPMV implant	826-Qβ 100	826-Qβ 200	826-Qβ implant	Pre-bleed
826-CPMV 100	N/A	ns P = >0.9999	ns P = 0.088	ns P = 0.7015	**** P = <0.0001	ns P = 0.9551	**** P = <0.0001
826-CPMV 200		N/A	ns P = 0.0986	ns P = 0.6676	**** P = <0.0001	ns P = 0.9423	**** P = <0.0001
826-CPMV implant			N/A	*** P = 0.0007	**** P = <0.0001	** P = 0.003	*** P = 0.0007
826-Qβ 100				N/A	**** P = <0.0001	ns P = >0.9999	**** P = <0.0001
826-Qβ 200					N/A	**** P = <0.0001	**** P = <0.0001
826-Qβ implant						N/A	ns P = 0.0793
Pre-bleed							N/A
Tukey's multiple comparisons test (one-way ANOVA) - Comparison between Weeks 16 and 50, Statistically significant difference and P value							
	826-CPMV 100 W50	826-CPMV 200 W50	826-CPMV implant W50	826-Qβ 100 W50	826-Qβ 200 W50	826-Qβ implant W50	
826-CPMV 100 W6	**** P = <0.0001	**** P = <0.0001	**** P = <0.0001	**** P = <0.0001	** P = 0.01	**** P = <0.0001	
826-CPMV 200 W6	*** P = 0.0006	*** P = 0.0006	**** P = <0.0001	ns P = 0.0842	**** P = <0.0001	* P = 0.0228	
826-CPMV implant W6	**** P = <0.0001	**** P = <0.0001	**** P = <0.0001	* P = 0.0112	**** P = <0.0001	** P = 0.0026	
826-Qβ 100 W6	**** P = <0.0001	**** P = <0.0001	**** P = <0.0001	**** P = <0.0001	** P = 0.0093	**** P = <0.0001	
826-Qβ 200 W6	**** P = <0.0001	**** P = <0.0001	**** P = <0.0001	**** P = <0.0001	** P = 0.0053	**** P = <0.0001	
826-Qβ implant W6	*** P = 0.0004	*** P = 0.0003	**** P = <0.0001	ns P = 0.0534	**** P = <0.0001	* P = 0.0138	
IgG binding to Omicron (B.1.1.529) S protein							
Tukey's multiple comparisons test (one-way ANOVA) - Week 16, Statistically significant difference and P value							
	826-CPMV 100	826-CPMV 200	826-CPMV implant	826-Qβ 100	826-Qβ 200	826-Qβ implant	Pre-bleed
826-CPMV 100	N/A	ns P = 0.6533	ns P = 0.1338	*** P = 0.0003	**** P = <0.0001	ns P = 0.0777	**** P = <0.0001
826-CPMV 200		N/A	ns P = 0.9966	* P = 0.0453	**** P = <0.0001	ns P = 0.9778	**** P = <0.0001
826-CPMV implant			N/A	ns P = 0.3418	**** P = <0.0001	ns P = >0.9999	**** P = <0.0001
826-Qβ 100				N/A	**** P = <0.0001	ns P = 0.4959	**** P = <0.0001
826-Qβ 200					N/A	**** P = <0.0001	**** P = <0.0001
826-Qβ implant						N/A	**** P = <0.0001
Pre-bleed							N/A
Tukey's multiple comparisons test (one-way ANOVA) - Week 50, Statistically significant difference and P value							
	826-CPMV 100	826-CPMV 200	826-CPMV implant	826-Qβ 100	826-Qβ 200	826-Qβ implant	Pre-bleed
826-CPMV 100	N/A	ns P = 0.8737	ns P = 0.6072	ns P = 0.9988	**** P = <0.0001	ns P = 0.8883	**** P = <0.0001
826-CPMV 200		N/A	* P = 0.0276	ns P = 0.3355	**** P = <0.0001	ns P = >0.9999	**** P = <0.0001
826-CPMV implant			N/A	ns P = 0.9846	**** P = <0.0001	* P = 0.03	** P = 0.0053
826-Qβ 100				N/A	**** P = <0.0001	ns P = 0.3547	*** P = 0.0002
826-Qβ 200					N/A	**** P = <0.0001	**** P = <0.0001
826-Qβ implant						N/A	**** P = <0.0001
Pre-bleed							N/A
Tukey's multiple comparisons test (one-way ANOVA) - Comparison between Weeks 16 and 50, Statistically significant difference and P value							
	826-CPMV 100 W50	826-CPMV 200 W50	826-CPMV implant W50	826-Qβ 100 W50	826-Qβ 200 W50	826-Qβ implant W50	
826-CPMV 100 W6	**** P = <0.0001	*** P = 0.0002	**** P = <0.0001	**** P = <0.0001	ns P = 0.7276	*** P = 0.0002	
826-CPMV 200 W6	*** P = 0.0006	* P = 0.0395	**** P = <0.0001	**** P = <0.0001	* P = 0.0168	* P = 0.0364	
826-CPMV implant W6	** P = 0.0083	ns P = 0.311	**** P = <0.0001	**** P = 0.0008	** P = 0.0013	ns P = 0.2934	
826-Qβ 100 W6	ns P = 0.8471	ns P = >0.9999	* P = 0.024	ns P = 0.3051	**** P = <0.0001	** P = 0.0016	
826-Qβ 200 W6	**** P = <0.0001	**** P = <0.0001	**** P = <0.0001	**** P = <0.0001	*** P = 0.0003	*** P = 0.0006	
826-Qβ implant W6	* P = 0.0159	ns P = 0.4587	**** P = <0.0001	ns P = >0.9999	**** P = <0.0001	ns P = 0.4369	

Table S5. Two-way ANOVA for Figure 5B using pairwise multiple comparison followed by Tukey's multiple comparison test was used to compare between groups. Asterisks indicate significant differences between groups (*p < 0.05; **p < 0.01, **** p < 0.0001).

Avidity index of SARS-CoV-2 S protein IgG							
Tukey's multiple comparisons test - Week 6 , Statistically significant difference and P value							
	826-CPMV_100	826-CPMV_200	826-CPMV implant	826-Qβ_100	826-Qβ_200	826-Qβ implant	Pre-bleed
826-CPMV_100	N/A	ns; P = 0.3136	ns; P = 0.336	***; P = 0.0002	***; P = 0.0006	****; P = <0.0001	****; P = <0.0001
826-CPMV_200		N/A	ns; P = >0.9999	**; P = 0.0072	*; P = 0.0243	***; P = 0.0006	****; P = <0.0001
826-CPMV implant			N/A	**; P = 0.0067	*; P = 0.0223	***; P = 0.0005	****; P = <0.0001
826-Qβ_100				N/A	ns; P = 0.9874	ns; P = 0.6478	**; P = 0.0051
826-Qβ_200					N/A	ns; P = 0.2772	**; P = 0.0016
826-Qβ implant						N/A	ns; P = 0.0793
Pre-bleed							N/A
Tukey's multiple comparisons test - Week 16 , Statistically significant difference and P value							
	826-CPMV_100	826-CPMV_200	826-CPMV implant	826-Qβ_100	826-Qβ_200	826-Qβ implant	Pre-bleed
826-CPMV_100	N/A	ns; P = 0.3136	ns; P = 0.336	***; P = 0.0002	***; P = 0.0006	****; P = <0.0001	****; P = <0.0001
826-CPMV_200		N/A	ns; P = >0.9999	**; P = 0.0072	*; P = 0.0243	***; P = 0.0006	****; P = <0.0001
826-CPMV implant			N/A	**; P = 0.0067	*; P = 0.0223	***; P = 0.0005	****; P = <0.0001
826-Qβ_100				N/A	ns; P = 0.9874	ns; P = 0.6478	**; P = 0.0051
826-Qβ_200					N/A	ns; P = 0.2772	**; P = 0.0016
826-Qβ implant						N/A	ns; P = 0.0793
Pre-bleed							N/A
Tukey's multiple comparisons test - Week 50 , Statistically significant difference and P value							
	826-CPMV_100	826-CPMV_200	826-CPMV implant	826-Qβ_100	826-Qβ_200	826-Qβ implant	Pre-bleed
826-CPMV_100	N/A	ns; P = 0.3136	ns; P = 0.336	***; P = 0.0002	***; P = 0.0006	****; P = <0.0001	****; P = <0.0001
826-CPMV_200		N/A	ns; P = >0.9999	**; P = 0.0072	*; P = 0.0243	***; P = 0.0006	****; P = <0.0001
826-CPMV implant			N/A	**; P = 0.0067	*; P = 0.0223	***; P = 0.0005	****; P = <0.0001
826-Qβ_100				N/A	ns; P = 0.9874	ns; P = 0.6478	**; P = 0.0051
826-Qβ_200					N/A	ns; P = 0.2772	**; P = 0.0016
826-Qβ implant						N/A	ns; P = 0.0793
Pre-bleed							N/A

Avidity index of Omicron (B.1.1.529) S protein IgG							
Tukey's multiple comparisons test - Week 6 , Statistically significant difference and P value							
	826-CPMV_100	826-CPMV_200	826-CPMV implant	826-Qβ_100	826-Qβ_200	826-Qβ implant	Pre-bleed
826-CPMV_100	N/A	ns; P = 0.4255	ns; P = 0.4724	*; P = 0.0197	**; P = 0.0036	*; P = 0.0125	**; P = 0.0033
826-CPMV_200		N/A	ns; P = >0.9999	ns; P = 0.4647	ns; P = 0.107	ns; P = 0.3313	ns; P = 0.098
826-CPMV implant			N/A	ns; P = 0.4183	ns; P = 0.0927	ns; P = 0.2938	ns; P = 0.0848
826-Qβ_100				N/A	ns; P = 0.9341	ns; P = >0.9999	ns; P = 0.918
826-Qβ_200					N/A	ns; P = 0.9843	ns; P = >0.9999
826-Qβ implant						N/A	ns; P = 0.9779
Pre-bleed							N/A
Tukey's multiple comparisons test - Week 16 , Statistically significant difference and P value							
	826-CPMV_100	826-CPMV_200	826-CPMV implant	826-Qβ_100	826-Qβ_200	826-Qβ implant	Pre-bleed
826-CPMV_100	N/A	ns; P = 0.4255	ns; P = 0.4724	*; P = 0.0197	**; P = 0.0036	*; P = 0.0125	**; P = 0.0033
826-CPMV_200		N/A	ns; P = >0.9999	ns; P = 0.4647	ns; P = 0.107	ns; P = 0.3313	ns; P = 0.098
826-CPMV implant			N/A	ns; P = 0.4183	ns; P = 0.0927	ns; P = 0.2938	ns; P = 0.0848
826-Qβ_100				N/A	ns; P = 0.9341	ns; P = >0.9999	ns; P = 0.918
826-Qβ_200					N/A	ns; P = 0.9843	ns; P = >0.9999
826-Qβ implant						N/A	ns; P = 0.9779
Pre-bleed							N/A
Tukey's multiple comparisons test - Week 50 , Statistically significant difference and P value							
	826-CPMV_100	826-CPMV_200	826-CPMV implant	826-Qβ_100	826-Qβ_200	826-Qβ implant	Pre-bleed
826-CPMV_100	N/A	ns; P = 0.4255	ns; P = 0.4724	*; P = 0.0197	**; P = 0.0036	*; P = 0.0125	**; P = 0.0033
826-CPMV_200		N/A	ns; P = >0.9999	ns; P = 0.4647	ns; P = 0.107	ns; P = 0.3313	ns; P = 0.098
826-CPMV implant			N/A	ns; P = 0.4183	ns; P = 0.0927	ns; P = 0.2938	ns; P = 0.0848
826-Qβ_100				N/A	ns; P = 0.9341	ns; P = >0.9999	ns; P = 0.918
826-Qβ_200					N/A	ns; P = 0.9843	ns; P = >0.9999
826-Qβ implant						N/A	ns; P = 0.9779
Pre-bleed							N/A