Supplementary Information

Supplementary table 1

Synopsis of 27 *in vitro* studies investigating the efficacy of pre-Alpha CCP against Omicron

Reference	Assay type (live virus =1 Pseudovirus=2)	Time mean or median (min-max)	(pre-Alpha CCP) WA-1 GMT_{50}	(pre-Alpha CCP) BA.1 GMT_{50}	(pre-Alpha CCP) fold drop vs. BA.1	(pre-Alpha CCP) number in study	(pre-Alpha CCP) BA.1 neutralizing number	(pre-Alpha CCP) BA.1 neutralizing percent
Zeng[1]	2	(1-2) mo	1712	14	122	9	1	11
Liu[2]	2	(9-120) days	4344	135	32	10	2	20
Schmidt[3]	2	1.2 mo	2616	68	38	20	19	95
Schmidt[3]	2	12 mo	2037	136	15	20	17	85
Schmidt[3]	2	6 mo	1678	34	49	20	13	65
Arien[4]	1	1 mo	1086	50	22	10	1	10
Lusvarghi[5]	2	30 (14-51) days	715	25	29	16	2	13
Hoffman[6]	2	< 2 mo	614	8	77	17	8	47
Zou[7]	1	1 mo	601	38	16	64	41	64
Planas[8]	2	6 mo	569	28	20	16	6	38
Planas[8]	2	12 mo	580	29	20	23	8	35
Zhang[9]	2	(1-3) mo	556	66	8	28	28	100
Gruell[10]	2	1.5 mo	494	6	82	30	3	10
Gruell[10]	2	12 mo	93	8	12	30	9	30
Dejnirattisai[11]	1	42 med days	475	28	17	32	32	100
Sheward[12]	2	1 mo	350	40	9	34	25	74

Tada[13]	2	(32-57)	233	9	26	10	4	40
Aggerwal[14]	1	1+ mo	215	10	22	20	0	0
Zhao[15]	2	18 (11-51) days	193	11	17	16	1	6
Bowen[16]	2	(28-78) days	162	10	16	28	13	46
Zou[7]	1	6 mo	142	32	4	36	30	83
Carreno[17]	1	58 (23-87) days	67	6	11	15	4	27
Syed[18]	2	<1 mo	80	20	4	8	6	75
Bekliz[19]	1	(3-137) days	37	1	45	34	5	15
Haveri[20]	1	1 mo	32	2	16	13	0	0
LI[21]	1	<1 mo	28	2	14	108	22	22
Kurahashi[22]	1	(1-3) mo	19	2	13	40	15	38
GM (GMT_{50})			1712	15	20			
Total (AVG%)						707	315	(45%)

33

Supplementary table 2

Synopsis of 5 *in vitro* studies investigating the efficacy of Alpha CCP against Omicron

Reference	Assay type (live virus =1 Pseudovirus=2)	Time mean or median (min-max)	(Alpha CCP) WA-1 GMT_{50}	(Alpha CCP) BA.1 GMT_{50}	(Alpha CCP) fold reduction vs. BA.1	(Alpha CCP) number	(Alpha CCP) BA.1 neutralizing number	(Alpha CCP) BA.1 neutralizing percent
Lusvarghi[5]	2	30 (14-51) days	4978	30	166	4	1	25
Dejnirattisai[11]	1	19 med days	1313	39	34	18	18	100
Rossler[23]	1		256	4	63	10	0	0
Haveri[20]	1	1 mo	32	2	16	20	0	0
Bekliz[19]	1	3-137 days	46	1	57	12	2	17
GM (GMT_{50})			301	6	50			
Total (AVG%)						64	21	(33%)

Supplementary table 3

Synopsis of 5 *in vitro* studies investigating the efficacy of Beta CCP against Omicron.

reference	Assay type (live virus =1 Pseudovirus=2)	time mean or median (min-max)	(beta CCP) WA-1 GMT_{50}	(beta CCP) BA.1 GMT_{50}	(beta CCP) fold reduction vs. BA.1	(beta CCP) number	(beta CCP) BA.1 neutralizing number	(beta CCP) BA.1 neutralizing percent
Lusvarghi[5]	2	30 (14-51) days	439	191	2	2	2	100
Dejnirattisai[11]	1	61 med days	327	28	12	14	14	100
Rossler[23]	1		128	4	32	8	1	13
Haveri[20]	1	1 mo	16	2	8	5	0	0
Bekliz[19]	1	3-137 days	21	1	23	8	2	25
GM (GMT_{50})			140	8	11			
Total (AVG%)						37	19	(51%)

Supplementary table 4

Synopsis of 7 *in vitro* studies investigating the efficacy of Delta CCP against Omicron.

Reference	Assay type (live virus =1 Pseudovirus=2)	Time mean or median (min-max)	(Delta CCP) WA-1 GMT_{50}	(Delta CCP) BA.1 GMT_{50}	(Delta CCP) fold drop vs. BA.1	(Delta CCP) number	(Delta CCP) BA.1 neutralizing number	(Delta CCP) BA.1 neutralizing percent
Zeng[1]	2	(1-2) mo	11200	3476	3	19	10	53
Lechmere[24]	2	(13-22) days	668	164	4	14	12	86
Lusvarghi[5]	2	30 (14-51) days	1211	18	66	15	12	80
Aggerwal[14]	1		770	37	21	10	9	90
Rossler[23]	1		192	8	25	7	1	14
Bekliz[19]	1	3-137 days	73	3	24	10	6	60
Dejnirattisai[11]	1	38 med dayas	47	27	2	19	19	100
GM (GMT_{50})			167	10	17			
Total (AVG%)						94	69	(73%)

Supplementary table 5

Synopsis of 22 *in vitro* studies investigating the efficacy of plasma from uninfected recipients of 2 BNT162b2 doses against Omicron.

reference	Assay type (live virus =1 Pseudo virus=2)	time mean or median (min-max)	(2 dose BNT162 b2 plasma) WA-1 GMT_{50}	(2 dose BNT162 b2 plasma) BA.1 GMT_{50}	(2 dose BNT162 b2 plasma) fold reduction vs. BA.1	(2 dose BNT162 b2 plasma) number	(2 dose BNT162b 2 plasma) BA.1 neutralizing number	(2 dose BNT162b 2 plasma) BA.1 neutralizing percent
Schmidt[3]	2	1 mo	7627	92	83	18	15	83
Liu[2]	2	(16-213) days	4669	222	21	13	6	46
Zeng[1]	2	(21-28) days	2769	121	23	48	13	27
Schmidt[3]	2	5 mo	2435	126	19	18	15	83
Dejnirattisai[11]	1	1 mo	1993	19	105	20	20	100
Chatterjee[25]	2	4 mo	1544	935	2	25	25	100
Syed[18]	2	1-1.5 mo	1280	80	16	21	14	67
Tada[13]	2	90 days	859	25	34	9	7	78
Bowen[16]	2	9-20 days	764	28	27	10	9	90
Chatterjee[25]	2	1 mo	641	105	6	19	10	53
Hoffman[6]	2	<3 mo	604	10	60	11	1	9
Lusvarghi[5]	2	30 (28-34) days	562	22	26	39	3	8
Gruell[10]	2	1 mo	546	8	68	30	10	33
Rossler[23]	1	1 mo	512	24	21	20	9	45
Edara[26]	1	(14-28) days	384	20	19	13	2	15

Muik[27]	1	1 mo	368	6	61	25	8	32
Cele[28]	1	(10-48) days	263	12	22	8	5	83
Bekliz[19]	1	1 mo	338	4	86	16	11	69
Planas[8]	2	161 (138-176) days	329	30	11	16	1	6
Carreno[17]	1	18 (14-21) days	274	11	25	10	7	70
Gruell[10]	2	5 mo	139	9	15	30	11	37
Wilheim[29]	1	6 mo	6	1	6	15	0	0
GM (GMT_{50})			628	27	24			
Total (AVG%)						432	202	(47%)

47

Supplementary table 6

Synopsis of 9 *in vitro* studies investigating the efficacy of plasma from uninfected recipients of 2 mRNA-1273 doses against Omicron.

Reference	Assay type (live virus =1 Pseudovirus=2)	Time mean or median (min-max)	(2 dose mRNA-1273 plasma) WA-1 GMT_{50}	(2 dose mRNA-1273 plasma) BA.1 GMT_{50}	(2 dose mRNA-1273 plasma) fold drop vs. BA.1	(2 dose mRNA-1273 plasma) number	(2 dose mRNA-1273 plasma) BA.1 neutralizing number	(2 dose mRNA-1273 plasma) BA.1 neutralizing percent
Doria-Rose[30]	2	1 mo	3016	62	49	30	22	73
Syed[18]	2	1-1.5 mo	2560	320	8	10	8	80
Doria-Rose[30]	2	1 mo	2269	27	84	30	22	73
Bowen[16]	2	6-15 days	1155	26	44	11	9	82
Tada[13]	2	80 days	999	38	26	8	5	63
Edara[26]	1	1 mo	745	15	50	11	4	36
Carreno[17]	1	26 (14-36) days	581	14	42	10	10	100
Rossler[23]	1	5 mo	384	8	48	10	1	10
Wilheim[29]	1	6 mo	10	1	20	14	0	0
GM (GMT_{50})			644	21	31			
Total (AVG%)						134	81	(60%)

Supplementary table 7

Synopsis of 17 *in vitro* studies investigating the efficacy of plasma from infected and vaccinated (2 BNT162b2 doses) subjects (Vax-CCP) against Omicron.

Reference	Assay type (live virus =1 Pseudovirus=2)	Time mean or median (min-max)	(post-COVID-19/full vacc plasma) WA-1 GMT_{50}	(post-COVID-19/full vacc plasma) BA.1 GMT_{50}	(post-COVID-19/full vacc plasma) fold drop vs. BA.1	(post-COVID-19/full vacc plasma) number	(post-COVID-19/full vacc plasma) BA.1 neutralizing number	(post-COVID-19/full vacc plasma) BA.1 neutralizing percent
Schmidt[3]	2	1 mo	388872	8106	48	17	17	100
Planas[8]	2	32 (21-48) days	78162	1475	53	22	22	100
Tada[13]	2	1 mo	14868	921	16	7	7	100
Cele[28]	1	(18-63)	6763	305	22	13	13	100
Kawoaka[31]	1	1 mo	10002	2029	5	13	13	100
Kawoaka[31]	1	3 mo	2251	399	6	13	13	100
Gruell[10]	2	1.5 mo	7997	1599	5	30	30	100
Arien[4]	1		4822	236	20	10	10	100
Carreno[17]	1	26 (15-39) days	2000	146	14	10	10	100
Dejnirattisai[11]	1	1 mo	1899	215	9	17	17	100
LI[21]	1	< 1 mo	1598	80	20	20	20	100
Bekliz[19]	1	1 mo	1190	65	18	6	6	100
Haveri[20]	1	1 mo	1024	32	32	33	33	100
Rossler[23]	1		1024	256	4	5	5	100
Edara[26]	1	6 mo	625	31	20	24	15	63

Kurahashi[22]	1	1 mo	21	2	14	19	7	37
Wilheim[29]	1	(.07-7.6) mo	100	10	10	20	5	25
GM (GMT_{50})			2753	192	14			
Total (AVG%)						279	243	(87%)

55

Supplementary table 8

Synopsis of 17 *in vitro* studies investigating the efficacy of plasma from uninfected subjects vaccinated with 3 BNT162b2 doses against Omicron.

Reference	Assay type (live virus =1 Pseudovirus=2)	Time mean or median (min-max)	(3 dose BNT162b2 plasma) WA-1 GMT_{50}	(3 dose BNT162b2 plasma) BA.1 GMT_{50}	(3 dose BNT162b2 plasma) fold drop vs. BA.1	(3 dose BNT162b2 plasma) number	(3 dose BNT162b2 plasma) BA.1 neutralizing number	(3 dose BNT162b2 plasma) BA.1 neutralizing percent
Schmidt[3]	2	1 mo	65617	3871	17	18	18	100
Planas[8]	2	33 (8-61) days	12739	722	18	20	20	100
Zeng[1]	2	(21-28) days	10412	3179	3	23	20	87
Dejniratti sai[11]	1	1 mo	9219	649	14	20	20	100
Gruell[10]	2	1 mo	6241	1248	5	30	30	100
Lusvarghi[5]	2	43 (7-93) days	5029	718	7	39	39	100
Tada[13]	2	1 mo	4892	360	14	12	12	100
Liu[2]	2	(14-90) days	4673	715	7	15	15	100
Kawoaka[31]	1	1 mo	2866	485	6	10	10	100
Arien[4]	1		2157	165	13	10	10	100
Hoffman[6]	2	<1 mo	2006	305	7	10	9	90
Edara[26]	1	(]7-28) days	1247	89	14	35	31	89

Carreno[17]	1	19 (14-28) days	710	94	8	10	10	100
Syed[18]	2	1-1.5 mo	960	160	6	8	8	100
Muik[27]	1	1 mo	673	106	6	28	27	96
Haveri[20]	1	(21–42) days	256	16	16	7	7	100
Wilheim[29]	1	3 mo	100	10	10	15	0	0
GM (GMT_{50})		time mean or median (min-max)	2588	290	9			
Total (AVG%)						310	286	(92%)

59

Supplementary table 9

Synopsis of *in vitro* studies investigating the efficacy of plasma from uninfected subjects vaccinated with 3 doses of mRNA-1273, AZD-1222 or Ad26.COV2 against BA.1. Because of diversity of vaccines the geomeans and sums were not computed.

Reference	Vaccine type	WA-1 GMT_{50}	Fold drop vs. BA.1	BA.1 GMT_{50}	Number	BA.1 neutralizing number	BA.1 neutralizing percent
Careno[17]	COVID19 + mRNA-1273	3000	11	272	10	10	100
Edara[26]	COVID19 + mRNA-1273 6 mo	931	25	38	13	9	69
Careno[17]	3 dose mRNA-1273	1000	17	60	10	10	100
Doria-Rose[30]	3 dose mRNA-1273	8457	4	2002	30	30	100
Doria-Rose[30]	3 dose mRNA-1273	4216	6	650	30	30	100
Edara[26]	3 dose mRNA-1273	1395	15	96	17	16	94
Dejnirattisai[32]	AZD1222	390	19	21	41	41	100
Rossler[23]	AZD1222	250	25	10.0	20	0	0
Planas[8]	AZD1222 5 mo	187	18	10	18	2	10
Syed[18]	Ad26.COV2	28	1	20.0	9	2	22
Schmidt[3]	Ad26.COV2 1 mo	588	24	25	19	2	11

Schmidt[3]	Ad26.COV2 6 mo	982	23	43	19	11	58

65

Supplementary table 10

Synopsis of *in vitro* studies investigating the efficacy of plasma from (pre-omicron, BA.1 and BA.4/5 CCP) subjects against Omicron BA.1, BA.2 and BA.4/5.

Reference	Assay type (live virus =1 Pseudovirus =2)	Time mean or median (min-max)	WA-1 nAb GMT_{50}	Omicron BA.1 nAb GMT_{50} (Fold reduction from WA-1)	Omicron BA.2 nAb GMT_{50} (Fold reduction from WA-1)	Omicron BA.14/5 nAb GMT_{50} (Fold reduction from WA-1)	Number in study	BA.1; BA.2; BA.4/5 neutralizing number	BA.1; BA.2; BA.4/5 neutralizing percent
Preomicron									
Wang[33]	1	(7-213) days	5185	845 (6 FR)	939 (6 FR)	596 (9 FR)	22	22; 22;22	100;100; 100
Awasthi[34]	2	>1 mo	130	13 (10 FR)	12 (11 FR)	13 (13 FR)	10	1; 1; 1	10; 10; 10
Qu[35]	2	3 day post hosp.	3554	214 (17 FR)	205	717 (5 FR)	18	12; 14; 17	67; 78; 94
GM (GMT_{50})			1338	133 (10 FR)	132 (10 FR)	177 (8 FR)			
Total (AVG%)							50	35; 37;40	(70;74; 80)
BA.1									
Khan[36]	1	23 (19-27iqr)	Not done	275	Not done	36	24	24; nd; 18	100;nd; 75
Zou[7]	1	25 (13-62) days	16	445 (0.04 FR)	107 (0.15 FR	Not done	20	20; 19; nd	100;95; nd

Qu[35]	2	1-8 days post hosp.	317	399 (0.8 FR)	304 (1.04 FR)	189 (2 FR)	30	22; 21; 23	73;70;77
GM (GMT_{50})			71	366 (0.16 FR)	180 (0.4 FR)	82 (1 FR)	74		
Total (AVG%)								66;40;41	89;80;93
BA.4/5									
Richardson[37]	2	< 9 days into hosp.	904	557 (2 FR)	884 (1 FR)	1047 (1 FR)	13	13;13;13	100;100; 100

69

Supplementary table 11

Synopsis of *in vitro* studies investigating the efficacy of plasma from (post-COVID-19-BA.1/full vacc plasma) subjects (Vax-CCP) against Omicron BA.1, BA.2 and BA.4/5.

reference	Assay type (live virus =1 Pseudovirus= 2)	time mean or median (min-max)	WA-1 nAb GMT_{50}	Omicron BA.1 nAb GMT_{50} (Fold reduction from WA-1)	Omicron BA.2 nAb GMT_{50} (Fold reduction from WA-1)	Omicron BA.14/5 nAb GMT_{50} (Fold reduction from WA-1)	Number in study	BA.1; BA.2; BA.4/5 neutralizing number	BA.1; BA.2; BA.4/5 neutralizing percent
Muik[38] (BA.1)	1	43 (25-55)	780	656 (1 FR)	800 (1 FR)	156 (5 FR)	14	14;14;13	100;100;93
Muik[38] (BA.2)	1	39 (30-99)	531	347 (2 FR)	545 (1 FR)	209 (3 FR)	13	13;13;13	100;100; 100
Khan[36]	1		2038	507 (4 FR)		158 (13 FR)	15	15;nd;15	100;nd; 100
Wang [33] (BA.1)	1	(14-135) days	9500	2406 (4 FR)	2052 (5 FR)	473 (20 FR)	13	13;13;13	100;100; 100
Wang[33] (BA.2)	1	(14-36) days	9527	3054 (3 FR)	3679 (3 FR)	1627 (6 FR)	12	12;12;12	100;100; 100
Planas[39]	1	80 med days	10000	7000 (1 FR)	9000 (1 FR)	1000 (10 R)	11	11;11;11	100;100; 100
Awasthi[34]	2	>1 mo	1120	733 (2 FR)	380 (3 FR)	76 (15 FR)	6	6;6;6	100;100; 100
Yu[40]	2	14 med days	4046	3249 (1 FR)	2448 (2 FR)		8	7;7;nd	88;88;nd
Richardson[37]	2	< 9 days into hosp.	5484	4244 (1 FR)	3779 (1 FR)	1984 (3 FR)	9	9;9;9	100;100; 100

Tuekprakhon [41]	2	45 med days	5861	3563 (2 FR)	2119 (3 FR)	1064 (6 FR)	14	14;14;14	100;100; 100
Hachman[42]	2	29 (2-113) days	1105 0	1740 (6 FR)	1910 (6 FR)	590 (19 (FR)	27	27;27;27	100;100; 100
GM (GMT_{50})			3578	1713 (2 FR)	1830 (2 FR)	454 (8 FR)			
Total (AVG%)							142	141;126; 133	99;99;99

73

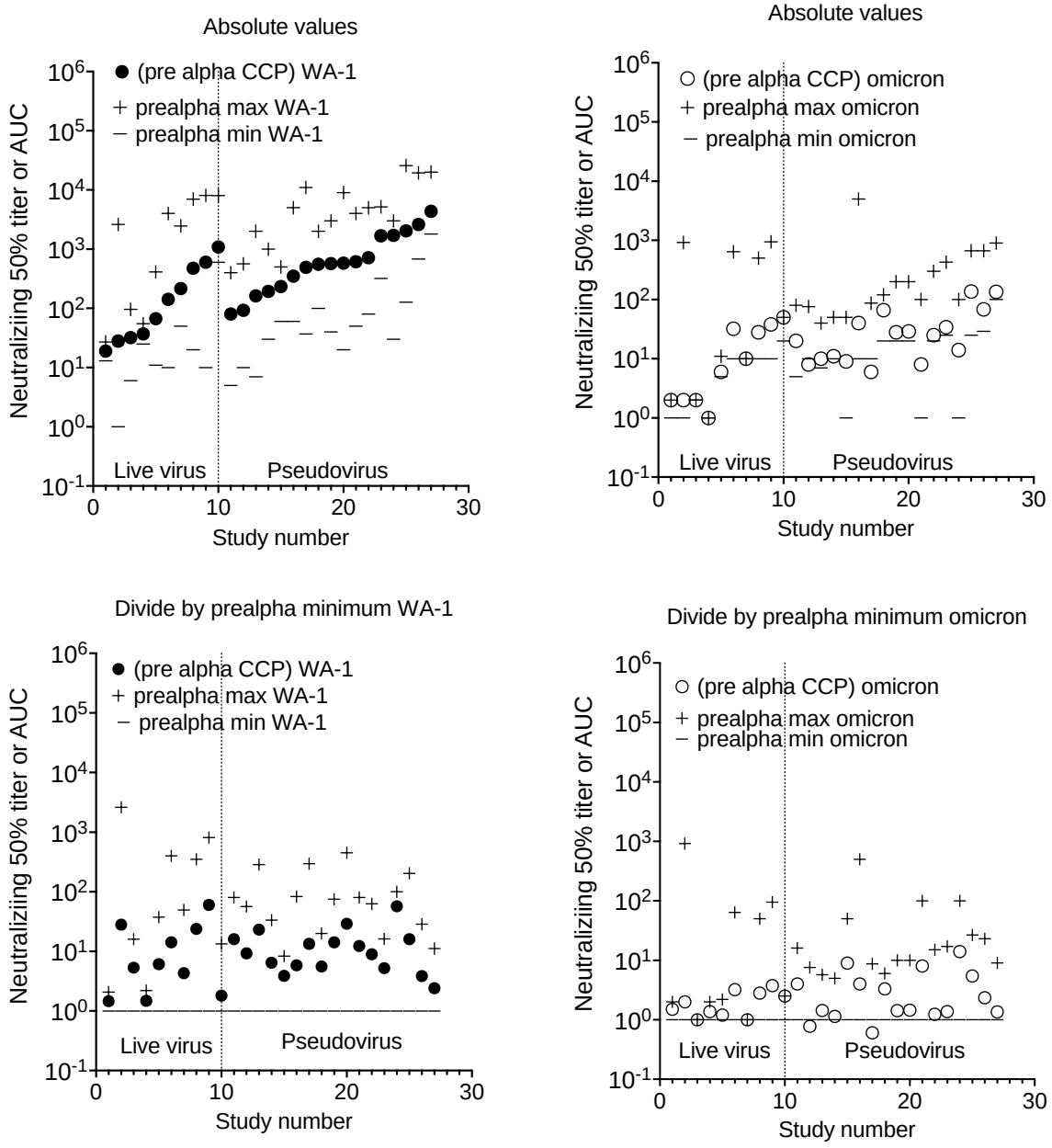
Supplementary table 12

Synopsis of *in vitro* studies investigating the efficacy of plasma from (3 dose BNT162b2 plasma) subjects against Omicron BA.1, BA.2 and BA.4/5.

reference	Assay type (live virus =1 Pseudovirus= 2)	time mean or median (min-max)	WA-1 nAb GMT_{50}	Omicron BA.1 nAb GMT_{50} (Fold reduction from WA-1)	Omicron BA.2 nAb GMT_{50} (Fold reduction from WA-1)	Omicron BA.14/5 nAb GMT_{50} (Fold reduction from WA-1)	Number in study	BA.1; BA.2; BA.4/5 neutralizing number	BA.1; BA.2; BA.4/5 neutralizing percent
Planas[39]	1	132 med days	2000	140 (14 FR)	100 (20 FR)	50 (40 FR)	22	19;20;19	86;91;86
Muik[38]	1	28 (26-30)	549	90 (6 FR)	93 (6 FR)	37 (15 FR)	18	17;18; 17	94;100;94
Khan[36]	1		4123	208 (20 FR)	Not done	211 (20 FR)	18	18;nd;;18	100;nd; 100
Wang[33]	1	(14-90) days	6657	130 (5 FR)0	1461 (5 FR)	347 (19 FR)	16	16;16;14	100;100; 88
Qu[35]	2	(21-28) days	2633	976 (3 FR)	933 (3 FR)	647 (4 FR)	15	14;14;15	93;93; 100
Tuekprakhon[41]	2	28 days	4122	1116 (4 FR)	1113 (4 FR)	360 (11 FR)	19	19;19;19	100;100; 100
Hachman[42]	2	14 days	5783	900 (6 FR)	829 (7 FR)	275 (21 FR)	27	27;27;27	100;100; 100
Yu[40]	2	14 days	6539	1066 (6 FR)	776 (8 FR)	Not done	24	24;24	100;100; nd
GM (GMT_{50})			3247	494 (7 FR)	511 (6 FR)	189 (16 FR)	1		
Total (AVG%)							159	154;138;129	97;98;96

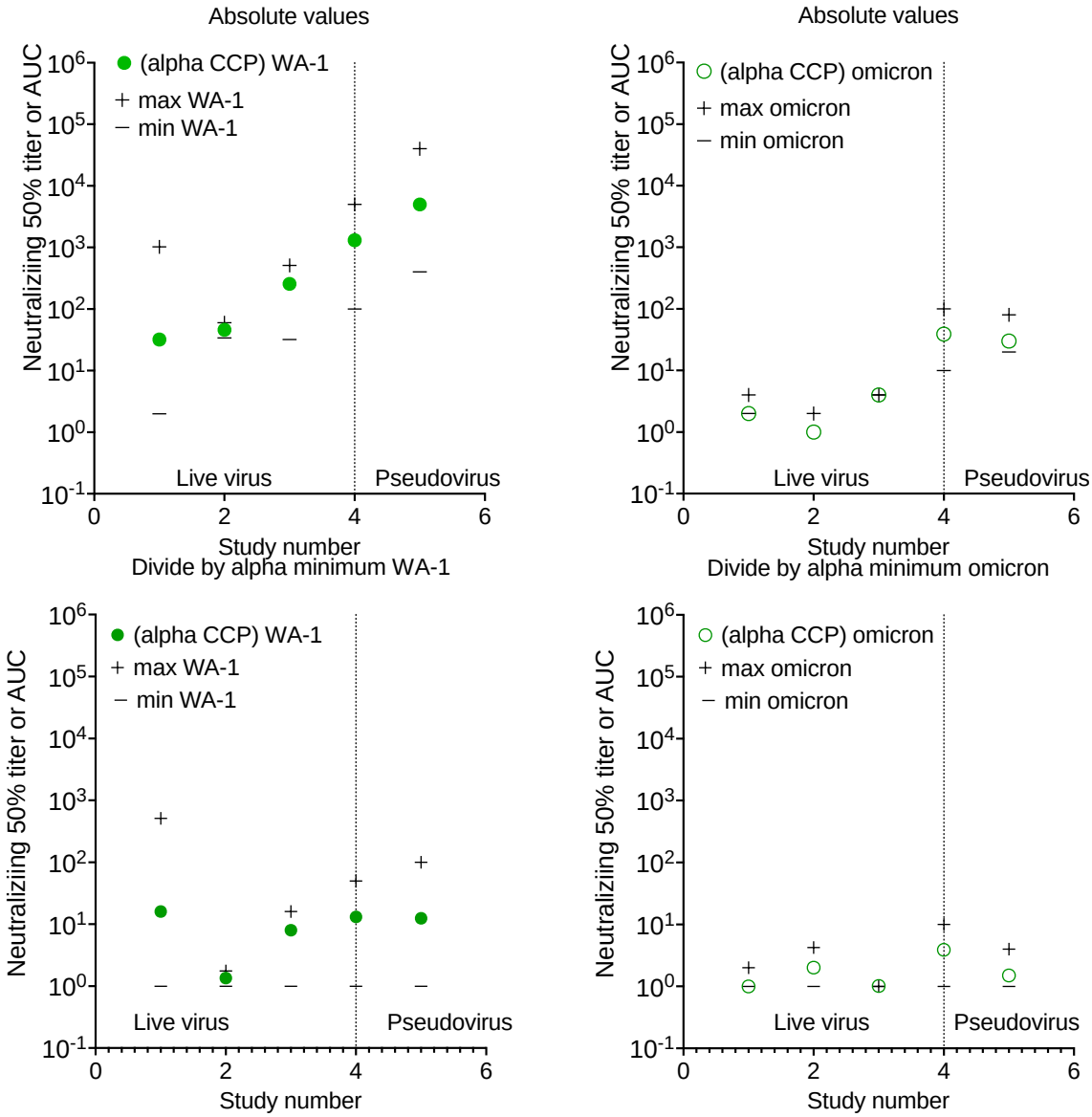
Supplementary Figure 1

Alternative graphing of Supplementary table 1 and Figure 2A. 27 *in vitro* studies investigating the efficacy of pre-Alpha CCP against Omicron with GMT_{50} from each study with minimum and maximum dilution titer also shown. The absolute values are graphed in the upper panels for WA-1 on left and omicron on right. In the lower panels all numbers divided by the minimum value for each study to normalize for WA-1 on left and Omicron on right. The GMT_{50} approximates 10 with this computational division. Live virus assays are on the left and pseudoviral assays on the right. Individual studies did not report GMT_{50} standard deviation.



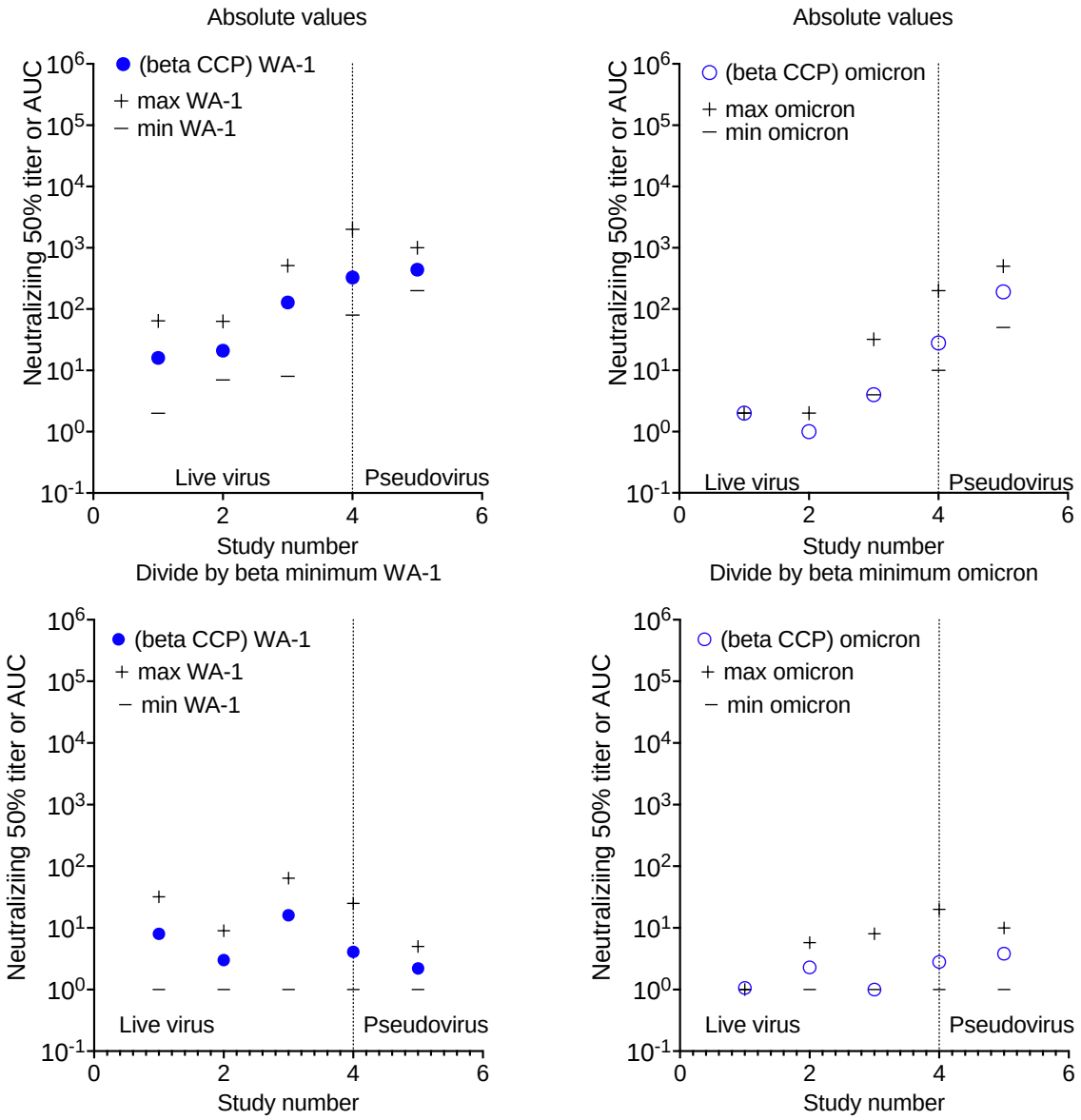
Supplementary Figure 2

Alternative graphing of Supplementary table 2 and Figure 2A. 5 *in vitro* studies investigating the efficacy of Alpha CCP against Omicron with GMT_{50} from each study with minimum and maximum dilution titer also shown. The absolute values are graphed in the upper panels for WA-1 on left and omicron on right. In the lower panels all numbers divided by the minimum value for each study to normalize for WA-1 on left and Omicron on right. The GMT_{50} approximates 10 with this computational division. Live virus assays are on the left and pseudoviral assays on the right. Individual studies did not report GMT_{50} standard deviation.



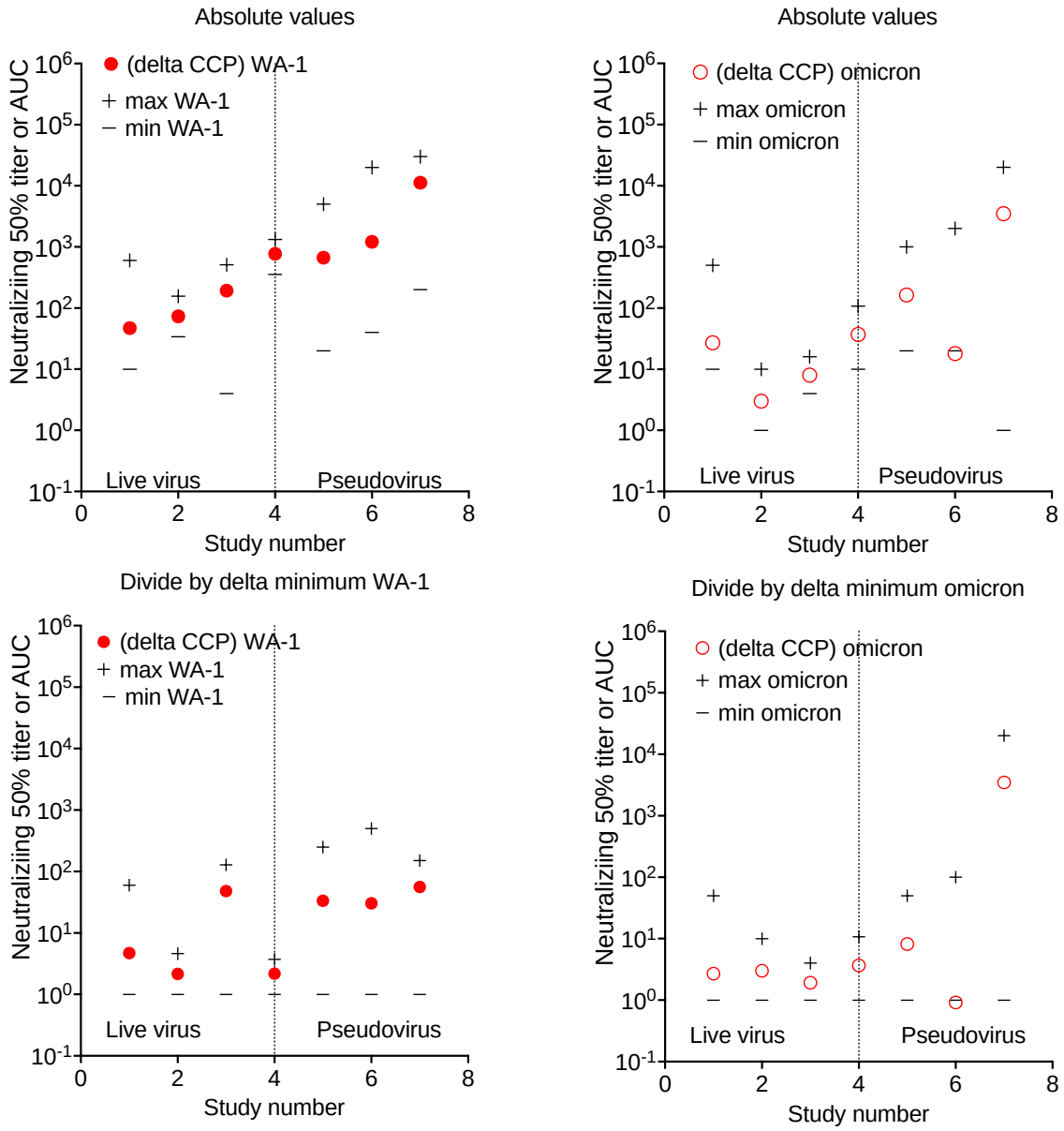
Supplementary Figure 3

Alternative graphing of Supplementary table 3 and Figure 2A. 5 *in vitro* studies investigating the efficacy of Beta CCP against Omicron with GMT_{50} from each study with minimum and maximum dilution titer also shown. The absolute values are graphed in the upper panels for WA-1 on left and omicron on right. In the lower panels all numbers divided by the minimum value for each study to normalize for WA-1 on left and Omicron on right. The GMT_{50} approximates 10 with this computational division. Live virus assays are on the left and pseudoviral assays on the right. Individual studies did not report GMT_{50} standard deviation.



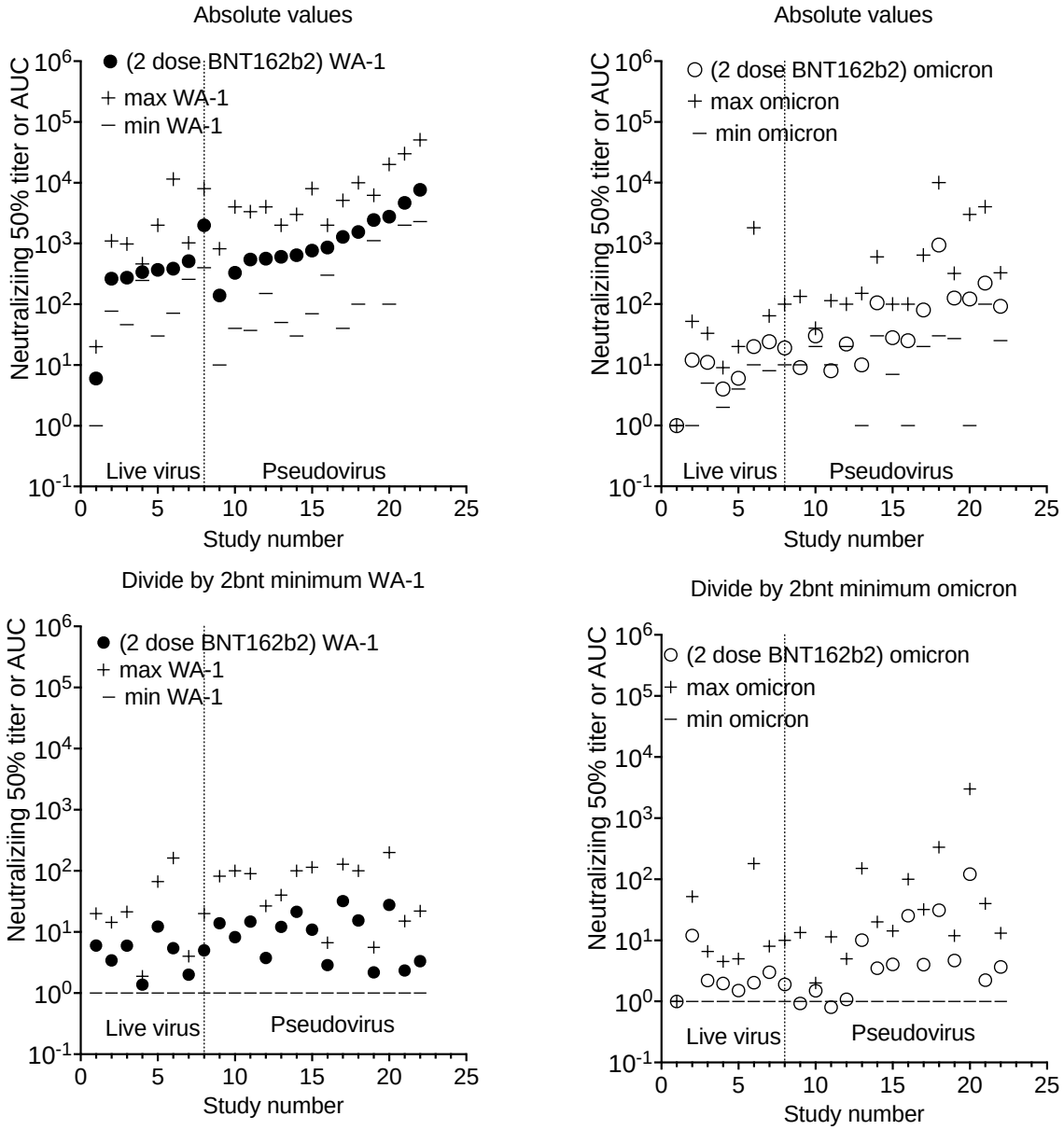
Supplementary Figure 4

Alternative graphing of Supplementary table 4 and Figure 2A. 7 *in vitro* studies investigating the efficacy of Delta CCP against Omicron with GMT_{50} from each study with minimum and maximum dilution titer also shown. The absolute values are graphed in the upper panels for WA-1 on left and omicron on right. In the lower panels all numbers divided by the minimum value for each study to normalize for WA-1 on left and Omicron on right. The GMT_{50} approximates 10 with this computational division. Live virus assays are on the left and pseudoviral assays on the right. Individual studies did not report GMT_{50} standard deviation.



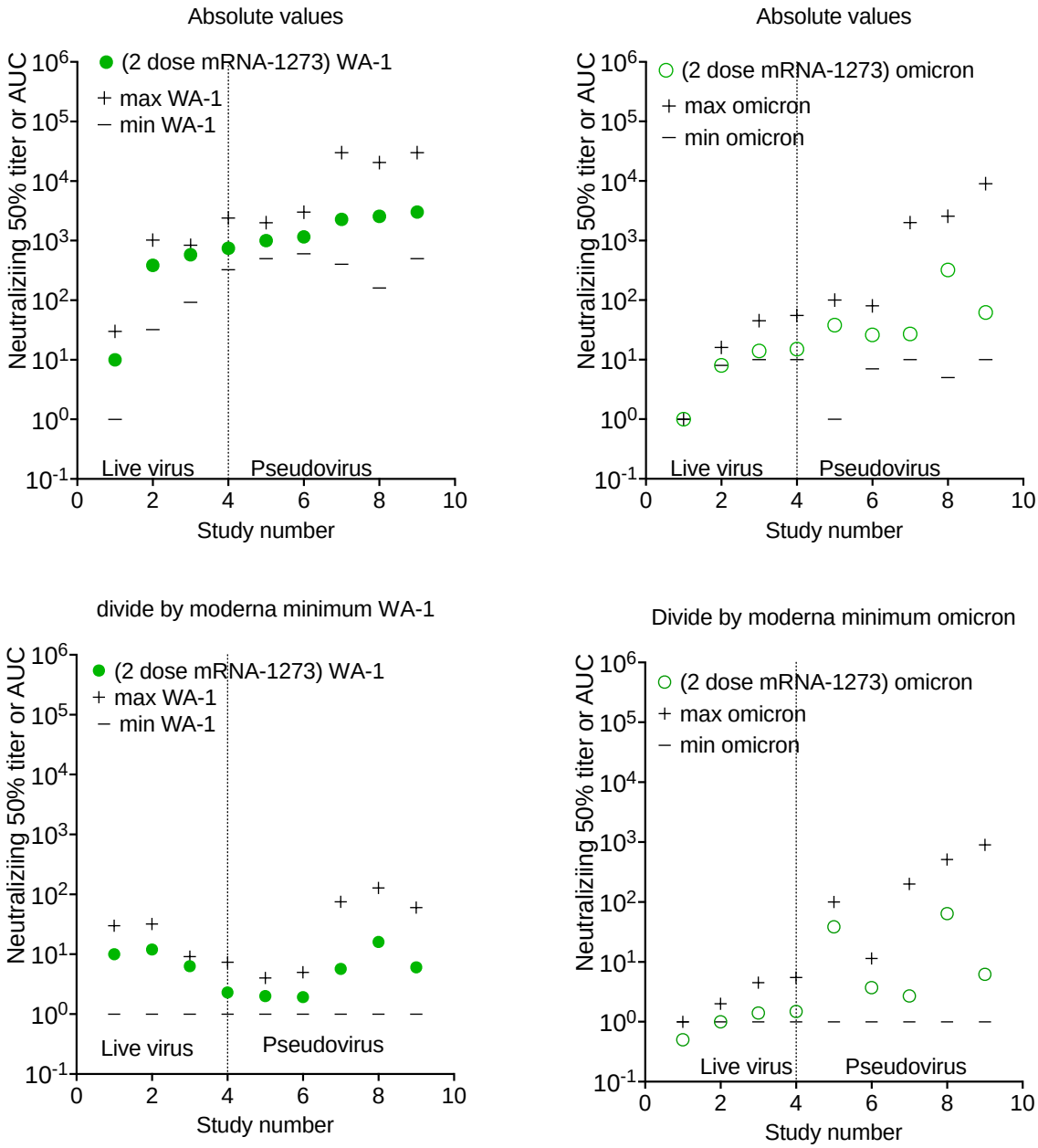
Supplementary Figure 5

Alternative graphing of Supplementary table 5 and Figure 2B. 22 *in vitro* studies investigating the efficacy of plasma from uninfected recipients of 2 BNT162b2 doses against Omicron with GMT_{50} from each study with minimum and maximum dilution titer also shown. The absolute values are graphed in the upper panels for WA-1 on left and omicron on right. In the lower panels all numbers divided by the minimum value for each study to normalize for WA-1 on left and omicron on right. The GMT_{50} approximates 10 with this computational division. Live virus assays are on the left and pseudoviral assays on the right. Individual studies did not report GMT_{50} standard deviation.



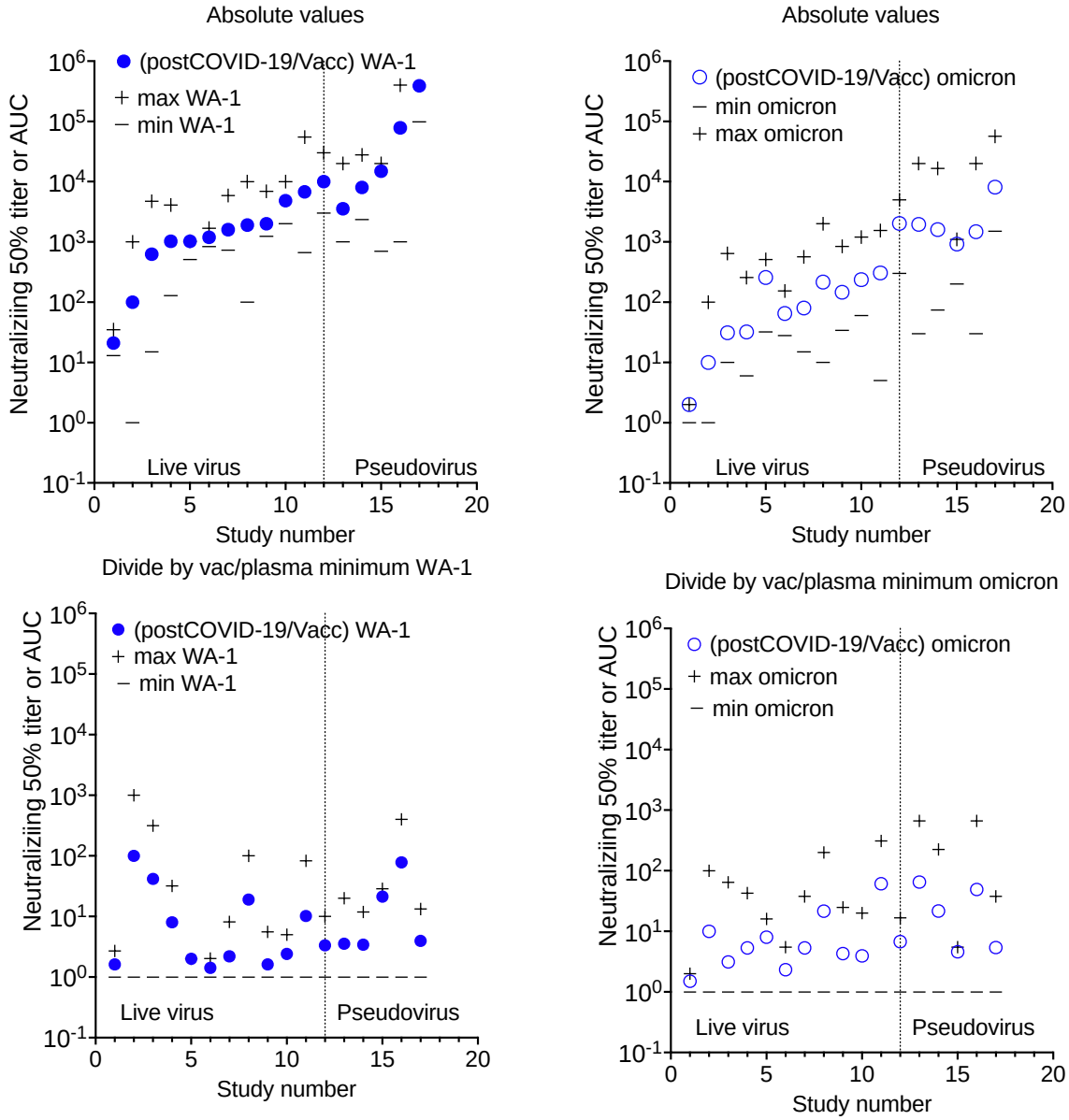
Supplementary Figure 6

Alternative graphing of Supplementary table 6 and Figure 2B. 9 *in vitro* studies investigating the efficacy of plasma from uninfected recipients of 2 mRNA-1273 doses against Omicron with GMT_{50} from each study with minimum and maximum dilution titer also shown. The absolute values are graphed in the upper panels for WA-1 on left and omicron on right. In the lower panels all numbers divided by the minimum value for each study to normalize for WA-1 on left and omicron on right. The GMT_{50} approximates 10 with this computational division. Live virus assays are on the left and pseudoviral assays on the right. Individual studies did not report GMT_{50} standard deviation.



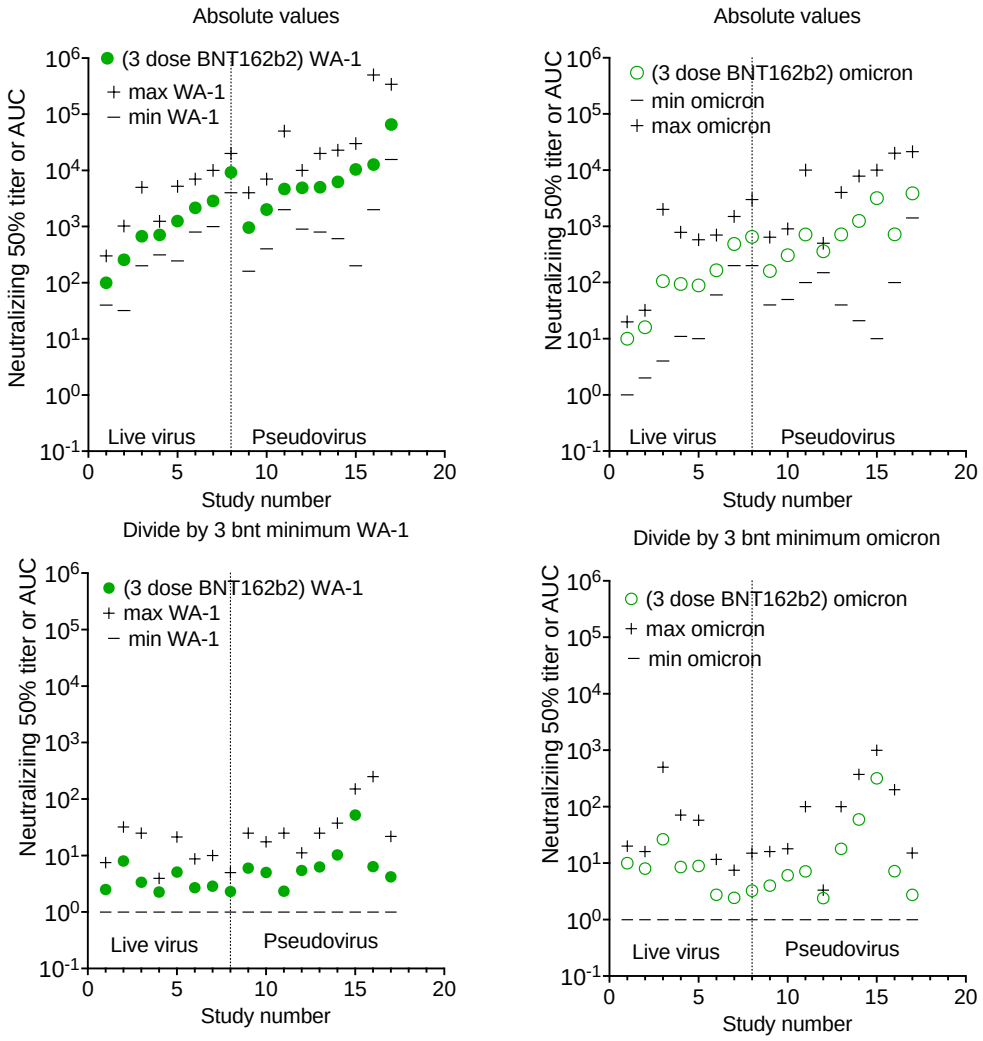
Supplementary Figure 7

Alternative graphing of Supplementary table 7 and Figure 2B. 17 *in vitro* studies investigating the efficacy of plasma from infected and vaccinated (2 BNT162b2 doses) subjects (Vax-CCP) against Omicron with GMT_{50} from each study with minimum and maximum dilution titer also shown. The absolute values are graphed in the upper panels for WA-1 on left and omicron on right. In the lower panels all numbers divided by the minimum value for each study to normalize for WA-1 on left and Omicron on right. The GMT_{50} approximates 10 with this computational division. Live virus assays are on the left and pseudoviral assays on the right. Individual studies did not report GMT_{50} standard deviation.



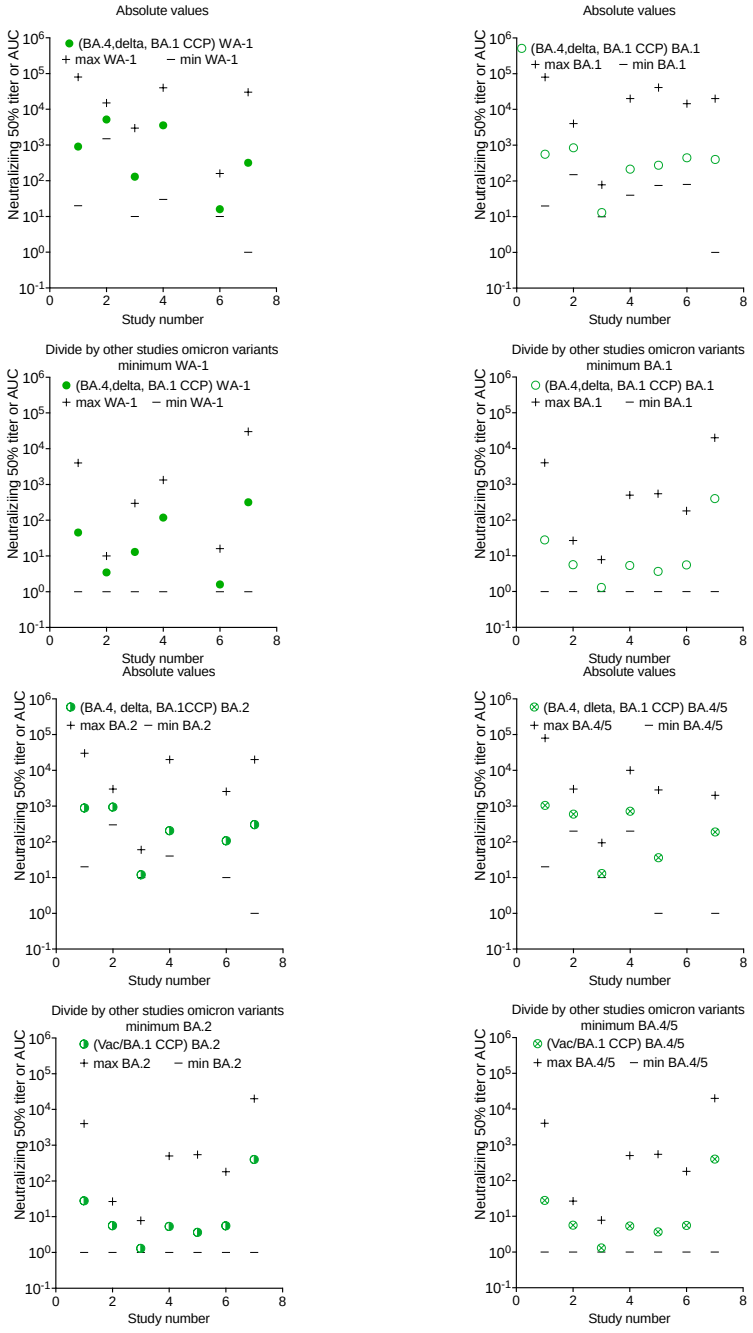
Supplementary Figure 8

Alternative graphing of Supplementary table 8 and Figure 2B. 17 *in vitro* studies investigating the efficacy of plasma from uninfected subjects vaccinated with 3 BNT162b2 doses against Omicron with GMT_{50} from each study with minimum and maximum dilution titer also shown. The absolute values are graphed in the upper panels for WA-1 on left and omicron on right. In the lower panels all numbers divided by the minimum value for each study to normalize for WA-1 on left and Omicron on right. The GMT_{50} approximates 10 with this computational division. Live virus assays are on the left and pseudoviral assays on the right. Individual studies did not report GMT_{50} standard deviation.



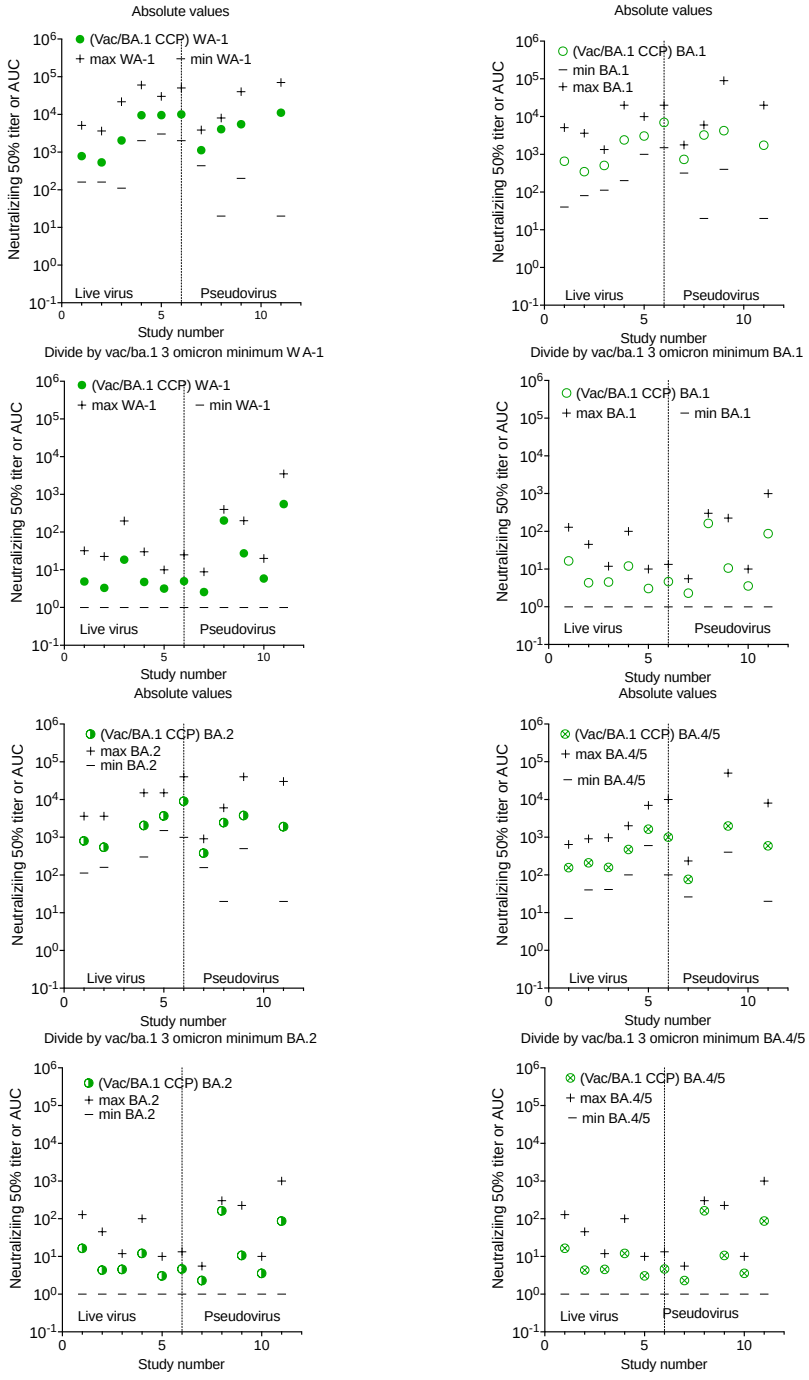
Supplementary Figure 9

Alternative graphing of Supplementary table 10 and Figure 5. 7 *in vitro* studies investigating the efficacy of plasma from (pre-omicron, BA.1 and BA.4/5 CCP) subjects (Vax-CCP) against Omicron BA.1, BA.2 and BA.4/5 with GMT_{50} from each study with minimum and maximum dilution titer also shown. The absolute values are graphed in the upper panels for WA-1 on left and omicron on right. In the lower panels all numbers divided by the minimum value for each study to normalize for WA-1 on left and Omicron on right. The GMT_{50} approximates 10 with this computational division. Live virus assays are on the left and pseudoviral assays on the right. Individual studies did not report GMT_{50} standard deviation.



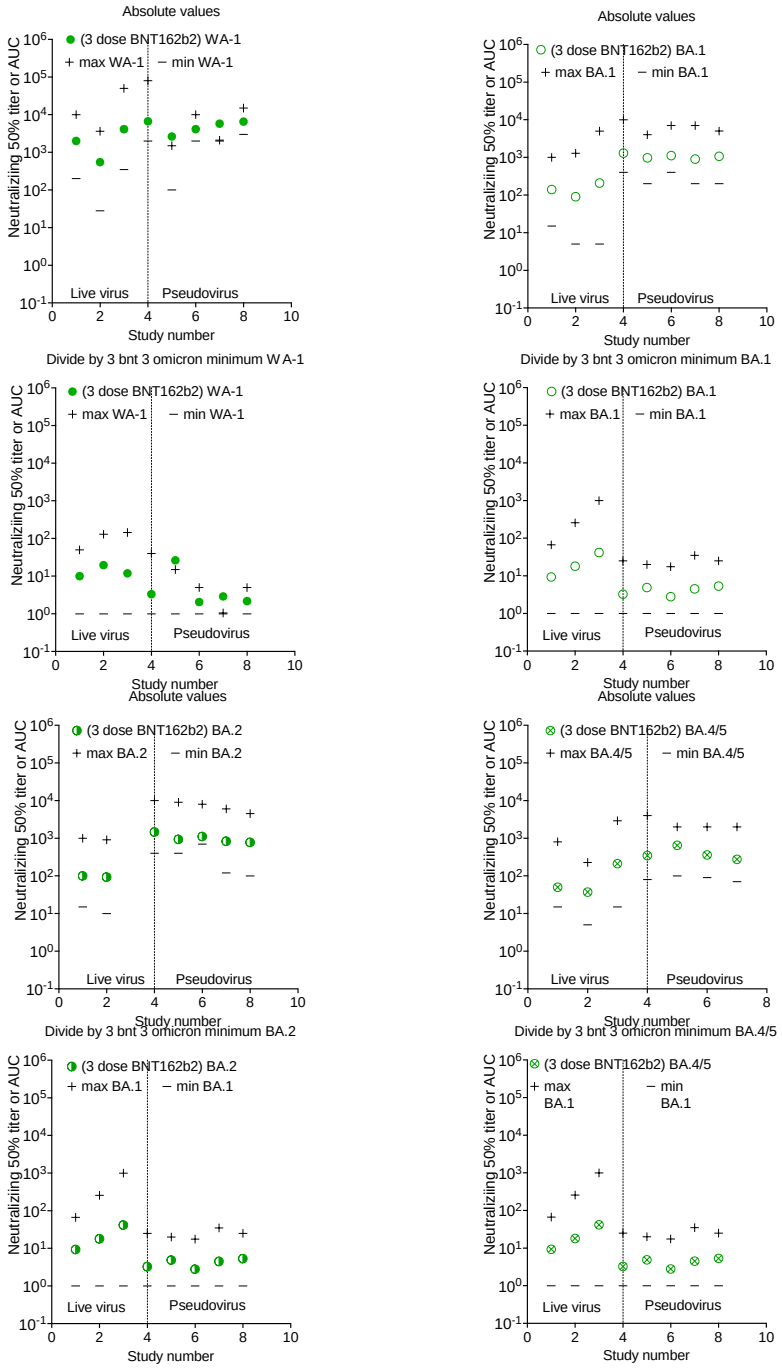
Supplementary Figure 10

Alternative graphing of Supplement table 11 and Figure 5. 9 *in vitro* studies investigating the efficacy of plasma from (post-COVID-19-BA.1/full vacc plasma) subjects (Vax-CCP) against Omicron BA.1, BA.2 and BA.4/5 with GMT_{50} from each study with minimum and maximum dilution titer also shown. The absolute values are graphed in the upper panels for WA-1 on left and omicron on right. In the lower panels all numbers divided by the minimum value for each study to normalize for WA-1 on left and Omicron on right. The GMT_{50} approximates 10 with this computational division. Live virus assays are on the left and pseudoviral assays on the right. Individual studies did not report GMT_{50} standard deviation.



Supplementary Figure 11

Alternative graphing of Supplementary table 12 and Figure 5. 8 *in vitro* studies investigating the efficacy of plasma from (3 dose BNT162b2 plasma) subjects (Vax-CCP) against Omicron BA.1, BA.2 and BA.4/5 with GMT_{50} from each study with minimum and maximum dilution titer also shown. The absolute values are graphed in the upper panels for WA-1 on left and omicron on right. In the lower panels all numbers divided by the minimum value for each study to normalize for WA-1 on left and Omicron on right. The GMT_{50} approximates 10 with this computational division. Live virus assays are on the left and pseudoviral assays on the right. Individual studies did not report GMT_{50} standard deviation.



References

1. Zeng C*, et al.* Neutralization and Stability of SARS-CoV-2 Omicron Variant. *bioRxiv*, (2021).

2. Liu L*, et al.* Striking antibody evasion manifested by the Omicron variant of SARS-CoV-2. *Nature* **602**, 676-681 (2022).

3. Schmidt F*, et al.* Plasma Neutralization of the SARS-CoV-2 Omicron Variant. *N Engl J Med* **386**, 599-601 (2022).

4. Arien KK*, et al.* Three doses of BNT162b2 vaccine confer neutralising antibody capacity against the SARS-CoV-2 Omicron variant. *NPJ Vaccines* **7**, 35 (2022).

5. Lusvarghi S*, et al.* SARS-CoV-2 BA.1 variant is neutralized by vaccine booster-elicited serum, but evades most convalescent serum and therapeutic antibodies. *Sci Transl Med*, eabn8543 (2022).

6. Hoffmann M*, et al.* The Omicron variant is highly resistant against antibody-mediated neutralization: Implications for control of the COVID-19 pandemic. *Cell* **185**, 447-456 e411 (2022).

7. Zou J*, et al.* Neutralization against Omicron SARS-CoV-2 from previous non-Omicron infection. *Nat Commun* **13**, 852 (2022).

8. Planas D*, et al.* Considerable escape of SARS-CoV-2 Omicron to antibody neutralization. *Nature* **602**, 671-675 (2022).

9. Zhang L*, et al.* The significant immune escape of pseudotyped SARS-CoV-2 variant Omicron. *Emerg Microbes Infect* **11**, 1-5 (2022).

10. Gruell H*, et al.* mRNA booster immunization elicits potent neutralizing serum activity against the SARS-CoV-2 Omicron variant. *Nat Med* **28**, 477-480 (2022).

11. Dejnirattisai W*, et al.* SARS-CoV-2 Omicron-B.1.1.529 leads to widespread escape from neutralizing antibody responses. *Cell* **185**, 467-484 e415 (2022).

12. Sheward DJ*, et al.* Variable loss of antibody potency against SARS-CoV-2 B.1.1.529 (Omicron). *bioRxiv*, 2021.2012.2019.473354 (2021).

13. Tada T*, et al.* Increased resistance of SARS-CoV-2 Omicron variant to neutralization by vaccine-elicited and therapeutic antibodies. *EBioMedicine* **78**, 103944 (2022).

14. Aggarwal A*, et al.* SARS-CoV-2 Omicron: evasion of potent humoral responses and resistance to clinical immunotherapeutics relative to viral variants of concern. *medRxiv*, 2021.2012.2014.21267772 (2021).

15. Zhao X*, et al.* Effects of a Prolonged Booster Interval on Neutralization of Omicron Variant. *N Engl J Med* **386**, 894-896 (2022).

16. Bowen JE*, et al.* Omicron BA.1 and BA.2 neutralizing activity elicited by a comprehensive panel of human vaccines. *bioRxiv*, (2022).

17. Carreno JM*, et al.* Activity of convalescent and vaccine serum against SARS-CoV-2 Omicron. *Nature* **602**, 682-688 (2022).

18. Syed AM*, et al.* Omicron mutations enhance infectivity and reduce antibody neutralization of SARS-CoV-2 virus-like particles. *medRxiv*, (2022).

19. Bekliz M*, et al.* Neutralization of ancestral SARS-CoV-2 and variants Alpha, Beta, Gamma, Delta, Zeta and Omicron by mRNA vaccination and infection-derived immunity through homologous and heterologous variants. 2021.2012.2028.21268491 (2021).

20. Haveri A*, et al.* Neutralizing antibodies to SARS-CoV-2 Omicron variant after third mRNA vaccination in health care workers and elderly subjects. *Eur J Immunol*, (2022).

21. Li M*, et al.* Convalescent plasma with a high level of virus-specific antibody effectively neutralizes SARS-CoV-2 variants of concern. *Blood advances*, 2022.2003.2001.22271662 (2022).

22. Kurahashi Y*, et al.* Cross-neutralizing activity against Omicron could be obtained in SARS-CoV-2 convalescent patients who received two doses of mRNA vaccination. *medRxiv*, 2022.2002.2024.22271262 (2022).

23. Rossler A, Riepler L, Bante D, von Laer D, Kimpel J. SARS-CoV-2 Omicron Variant Neutralization in Serum from Vaccinated and Convalescent Persons. *N Engl J Med* **386**, 698-700 (2022).

24. Lechmere T*, et al.* Broad Neutralization of SARS-CoV-2 Variants, Including Omicron, following Breakthrough Infection with Delta in COVID-19-Vaccinated Individuals. *mBio* **13**, e0379821 (2022).

25. Chatterjee D*, et al.* SARS-CoV-2 Omicron Spike recognition by plasma from individuals receiving BNT162b2 mRNA vaccination with a 16-week interval between doses. *Cell Rep* **38**, 110429 (2022).

26. Edara VV*, et al.* mRNA-1273 and BNT162b2 mRNA vaccines have reduced neutralizing activity against the SARS-CoV-2 omicron variant. *Cell Rep Med* **3**, 100529 (2022).

27. Muik A*, et al.* Neutralization of SARS-CoV-2 Omicron by BNT162b2 mRNA vaccine-elicited human sera. *Science* **375**, 678-680 (2022).

28. Cele S*, et al.* Omicron extensively but incompletely escapes Pfizer BNT162b2 neutralization. *Nature* **602**, 654-656 (2022).

29. Wilhelm A*, et al.* Reduced Neutralization of SARS-CoV-2 Omicron Variant by Vaccine Sera and Monoclonal Antibodies. *medRxiv*, 2021.2012.2007.21267432 (2021).

30. Doria-Rose NA*, et al.* Booster of mRNA-1273 Strengthens SARS-CoV-2 Omicron Neutralization. *medRxiv*, 2021.2012.2015.21267805 (2021).

31. Kawaoka Y*, et al.* Characterization and antiviral susceptibility of SARS-CoV-2 Omicron/BA.2. *Res Sq*, (2022).

32. Dejnirattisai W*, et al.* Reduced neutralisation of SARS-COV-2 Omicron-B.1.1.529 variant by post-immunisation serum. *Lancet* **399**, 234-236 (2022).

33. Wang Q*, et al.* Antibody evasion by SARS-CoV-2 Omicron subvariants BA.2.12.1, BA.4 and BA.5. *Nature*, (2022).

34. Awasthi M, Golding H, Khurana S. SARS-CoV-2 hyperimmune intravenous human immunoglobulins neutralizes Omicron subvariants BA.1, BA.2, BA.2.12.1, BA.3 and BA.4/BA.5 for treatment of COVID-19. *Clinical Infectious Diseases*, (2022).

35. Qu P*, et al.* Neutralization of the SARS-CoV-2 Omicron BA.4/5 and BA.2.12.1 Subvariants. *N Engl J Med* **386**, 2526-2528 (2022).

36. Khan K*, et al.* Omicron BA.4/BA.5 escape neutralizing immunity elicited by BA.1 infection. *Nat Commun* **13**, 4686 (2022).

37. Richardson SI*, et al.* SARS-CoV-2 BA.4 infection triggers more cross-reactive neutralizing antibodies than BA.1. 2022.2007.2014.500039 (2022).

38. Muik A*, et al.* Omicron BA.2 breakthrough infection enhances cross-neutralization of BA.2.12.1 and BA.4/BA.5. 2022.2008.2002.502461 (2022).

39. Planas D*, et al.* Duration of BA.5 neutralization in sera and nasal swabs from SARS-CoV-2 vaccinated individuals, with or without Omicron breakthrough infection. 2022.2007.2022.22277885 (2022).

40. Yu J*, et al.* Comparable Neutralization of the SARS-CoV-2 Omicron BA.1 and BA.2 Variants. 2022.2002.2006.22270533 (2022).

41. Tuekprakhon A*, et al.* Antibody escape of SARS-CoV-2 Omicron BA.4 and BA.5 from vaccine and BA.1 serum. *Cell* **185**, 2422-2433.e2413 (2022).

42. Hachmann NP*, et al.* Neutralization Escape by the SARS-CoV-2 Omicron Variants BA.2.12.1 and BA.4/BA.5. *N Engl J Med* **387**, 86-88 (2022).