

Table S1. Demographic characteristics of the participants used to estimate effectiveness of vaccination schemes including BNT162b2 or Gam-COVID-Vac during the Delta wave.

	No vaccination						2 Gam-COVID-Vac doses (2nd dose given 3 to < 6 months prior to start of the wave)						2 BNT162b2 doses (2nd dose given < 3 months prior to start of the wave)					
	All participants (N=216)		COVID-19-naïve (N=158)		COVID-19-experi- enced (N=58)		All participants (N=2875)		COVID-19-naïve (N=2113)		COVID-19-experi- enced (N=762)		All participants (N=1416)		COVID-19-naïve (N=852)		COVID-19-experi- enced (N=564)	
	Cases	Controls	Cases	Controls	Cases	Controls	Cases	Controls	Cases	Controls	Cases	Controls	Cases	Controls	Cases	Controls	Cases	Controls
Delta waive (August to De- cember 2021) (Total number)	23	193	7	151	16	42	177	2698	70	2043	107	655	33	1383	11	841	22	542
Age (years)																		
<50	22	144	7	113	15	31	149	1897	59	1381	90	516	32	1095	11	655	21	440
50-65	1	40	0	31	1	9	27	763	10	630	17	133	1	287	0	185	1	102
>65	0	9	0	7	0	2	1	38	1	32	0	6	0	1	0	1	0	0
Gender																		
Male	17	127	3	99	14	28	109	1939	44	1482	65	457	23	1095	5	681	18	414
Female	6	66	4	52	2	14	68	759	26	561	42	198	10	288	6	160	4	128
August 2021 (Total number)	6	210	0	158	6	52	36	2772	0	2060	36	712	2	1414	0	852	2	562
Age (years)																		
<50	6	160	0	120	6	40	30	1988	0	1421	30	567	2	1127	0	666	2	461
50-65	0	41	0	31	0	10	6	751	0	611	6	140	0	286	0	185	0	101
>65	0	9	0	7	0	2	0	33	0	28	0	5	0	1	0	1	0	0
Gender																		
Male	6	138	0	102	6	36	18	1977	0	1484	18	493	2	1116	0	686	2	430
Female	0	72	0	56	0	16	18	795	0	576	18	219	0	298	0	166	0	132
September 2021 (Total number)	2	208	0	158	2	50	20	2752	0	2060	20	692	1	1413	0	852	1	561
Age (years)																		
<50	1	159	0	120	1	39	15	1973	0	1421	15	552	1	1124	0	666	1	458
50-65	1	40	0	31	1	9	5	746	0	611	5	135	0	286	0	185	0	101
>65	0	9	0	7	0	2	0	33	0	28	0	5	0	1	0	1	0	0
Gender																		
Male	1	137	0	102	1	35	12	1965	0	1484	12	481	1	1115	0	686	1	429
Female	1	71	0	56	1	15	8	787	0	576	8	211	0	298	0	166	0	132
October 2021 (Total number)	3	205	0	158	3	47	9	2743	0	2060	9	683	4	1409	0	852	4	557

Age (years)																		
<50	3	156	0	120	3	36	7	1966	0	1421	7	545	4	1120	0	666	4	454
50-65	0	40	0	31	0	9	2	744	0	611	2	133	0	286	0	185	0	101
>65	0	9	0	7	0	2	0	33	0	28	0	5	0	1	0	1	0	0
Gender																		
Male	2	135	0	102	2	33	6	1959	0	1484	6	475	3	1112	0	686	3	426
Female	1	70	0	56	1	14	3	784	0	576	3	208	1	297	0	166	1	131
November 2021																		
(Total number)	5	200	0	158	5	42	37	2706	0	2060	37	646	12	1397	0	852	12	545
Age (years)																		
<50	5	151	0	120	5	31	34	1932	0	1421	34	511	11	1109	0	666	11	443
50-65	0	0	0	31	0	9	3	741	0	611	3	130	1	285	0	185	1	100
>65	0	0	0	7	0	2	0	33	0	28	0	5	0	1	0	1	0	0
Gender																		
Male	5	130	0	102	5	28	26	1933	0	1484	26	449	11	1101	0	686	11	415
Female	0	70	0	56	0	14	11	733	0	576	11	157	1	296	0	166	1	130
December 2021																		
(Total number)	7	193	7	151	0	42	73	2633	68	1992	5	641	14	1383	11	841	3	542
Age (years)																		
<50	7	193	7	113	0	31	62	1870	58	1363	4	507	14	1095	11	655	3	440
50-65	0	0	0	31	0	9	10	731	9	602	1	129	0	285	0	185	0	100
>65	0	0	0	7	0	2	1	32	1	27	0	5	0	1	0	1	0	0
Gender																		
Male	3	127	3	99	0	28	45	1888	43	1441	2	447	6	1095	5	681	1	414
Female	4	66	4	52	0	14	28	745	25	551	3	194	8	288	6	160	2	128

Table S2. Demographic characteristics of the participants used to estimate effectiveness of vaccination schemes including BNT162b2 or Gam-COVID-Vac during the Omicron wave.

No vaccination								2 Gam-COVID-Vac doses (2nd dose given > 6 months prior to start of wave)						2 BNT162b2 doses (2nd dose given 3 to < 6 months prior to start of wave)						2xGam-COVID-Vac/1xBNT162b2 doses (3rd dose given < 3 months prior to start of wave)						2xBNT162b2/1xBNT162b2 doses (3rd dose given < 3 months prior to start of wave)					
		All partici- pants (N=203)		COVID-19- naïve (N=146)		COVID-19- experienced (N=57)		All partici- pants (N=2070)		COVID-19- naïve (N=1450)		COVID-19- experienced (N=620)		All partici- pants (N=1360)		COVID-19- naïve (N=819)		COVID-19- experienced (N=541)		All partici- pants (N=765)		COVID-19- naïve (N=561)		COVID-19- experienced (N=204)		All partici- pants (N=71)		COVID-19- naïve (N=28)		COVID-19- experienced (N=43)	
		Case s	Con- trols	Case s	Con- trols	Case s	Con- trols	Case s	Con- trols	Case s	Con- trols	Case s	Con- trols	Case s	Con- trols	Case s	Con- trols	Case s	Con- trols	Case s	Con- trols	Case s	Con- trols	Case s	Con- trols	Case s	Con- trols	Case s	Con- trols	Case s	Con- trols
Omicron wave (Janu- ary-Febru- ary 2022) (Total num- ber)		22	181	19	127	3	54	315	1755	245	1205	70	550	109	1251	77	742	32	509	34	731	32	529	2	202	3	68	2	26	1	42
Age (years)																															
<50		22	132	19	89	3	43	269	1284	208	836	61	448	93	1003	64	578	29	425	26	455	24	306	2	149	2	40	2	16	0	24
50-65		0	40	0	31	0	9	42	454	34	354	8	100	16	245	13	163	3	82	8	263	8	214	0	49	0	28	0	10	0	18
>65		0	9	0	7	0	2	4	17	3	15	1	2	0	3	0	1	0	2	0	13	0	9	0	4	1	0	0	0	1	0
Gender																															
Male		12	121	10	86	2	35	195	1287	152	12	43	418	74	1007	52	616	22	391	16	516	15	375	1	141	1	50	0	18	1	32
Female		10	60	9	41	1	19	120	468	93	1193	27	202	35	244	25	126	10	118	18	215	17	154	1	61	2	18	2	8	0	10

Table S3. Demographic data of participants in immunogenicity subgroup analyses.

	< 3 months after 2xBNT162b2 doses (N=87)	3 to < 6 months after 2xBNT162b2 doses (N=75)	≥ 6 months after 2xBNT162b2 doses (N=68)	< 3 months after 2xBNT162b2/1xBNT162b2 doses (N=60)	3 to <6 months after 2xGam- COVID-Vac (N=135)	< 3 months after 2xGam- COVID-Vac/1xBNT162b2 doses (N=135)
Age (years)						
<50	80 (92.0%)	64 (85.3%)	32 (47.1%)	36 (60%)	67 (49.6%)	67 (49.6%)
50-65	7 (8.0%)	10 (13.3%)	23 (33.8%)	17 (28.3%)	61 (45.2%)	61 (45.2%)
>65	0	1 (1.3%)	13 (19.1%)	7 (11.7%)	7 (5.2%)	7 (5.2%)
Gender						
Male	59 (67.8%)	43 (57.3%)	37 (54.4%)	35 (58.3%)	76 (56.3%)	76 (56.3%)
Female	28 (32.2%)	32 (42.7%)	31 (45.6%)	25 (41.7%)	59 (43.7%)	59 (43.7%)