Supplementary Appendix

This appendix has been provided by the authors to give readers additional information about their work.

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SUPPLEMENTARY APPENDIX

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SARS-CoV-2 Testing Information

Testing for SARS-CoV-2 virus was conducted using the Cepheid Xpert Xpress SARS-CoV-2 PCR test.

Testing for SARS-CoV-2 antibodies was conducting using the Roche Elecsys® Anti-SARS-CoV-2 antibody test.

Figure/Table Number	Figure/Table Title	Population(s)/Sample Size	Explanation
Figure 1	Disposition of participants (CONSORT)	All enrolled population N=37,706 "main safety subset"	All randomized ≥16 years of age, N=43,548 • [minus 99 non-vaccinated, 1 no ICD] Vaccinated N=43,448 Main safety subset (N=37,706) needed to have been enrolled by October 9, 2020 for EUA application
Figure 2	Local and Systemic Reactions Reported within 7 Days after Receipt of 30 µg BNT162b2 or Placebo by Age Group	Reactogenicity subset of ≥16 years old N=8,183	Per protocol
Figure 3	Efficacy of BNT162b2 against COVID-19 Occurrence after Dose 1	N=43,355 (modified intention-to-treat)	All randomized >=12 years of age N= 43,651 • [minus 99 non-vaccinated, 1 no ICD] Vaccinated (dose 1 efficacy) N=43,551 • [minus 196 HIV+] All efficacy N=43,355
Table 1	Demographics	N=37,706 main safety subset	As above
Table 2	Vaccine Efficacy against COVID-19 from 7 Days after Dose 2 [Primary Endpoints]	1st primary efficacy endpoint: Includes those **without** evidence of prior infection (N=36,523) 2nd primary efficacy endpoint: Includes those **with and without** evidence of prior infection (N=40,137)	Evaluable population: • received 2 vaccinations as randomized • no major protocol deviations Excludes HIV+
Table 3	Vaccine Efficacy Overall and by Subgroup in Participants without Evidence of Infection Prior to 7 Days After Dose 2	N=36,523 (same as 1st primary endpoint)	
Table S2	Baseline Comorbidities	N=37,706 main safety subset	
Table S3	Participants Reporting at Least 1 Adverse Event From Dose 1 (All Enrolled Participants)	N=43,252	Vaccinated N=43,448 minus 196 HIV+
Table S4	Vaccine Efficacy from 7 Days After Dose 2 by Underlying Comorbidities among Participants without Evidence of Infection Prior to 7 Days after Dose 2	N=36,523 (same as 1st primary endpoint)	
Table S5	Vaccine Efficacy of Severe COVID-19 Occurrence after Dose 1 (Modified Intention-to-Treat)	N=43,355 (modified intention-to-treat)	See comments to Figure 3

Table S1 | Explanation of the Changes in Denominator Numbers in Various Analyses.

Charlson Comorbidity Index Category	BNT162b2 (30 µg) (N[a]=18860) n[b] (%)	Placebo (N[a]=18846) n[b] (%)	Total (N[a]=37706) n[b] (%)
Participants with any Charlson comorbidity	3934 (20.9)	3809 (20.2)	7743 (20.5)
AIDS/HIV	59 (0.3)	62 (0.3)	121 (0.3)
Any malignancy	733 (3.9)	662 (3.5)	1395 (3.7)
Cerebrovascular disease	195 (1.0)	166 (0.9)	361 (1.0)
Chronic pulmonary disease	1478 (7.8)	1453 (7.7)	2931 (7.8)
Congestive heart failure	88 (0.5)	83 (0.4)	171 (0.5)
Dementia	7 (0.0)	11 (0.1)	18 (0.0)
Diabetes with chronic complication	99 (0.5)	113 (0.6)	212 (0.6)
Diabetes without chronic complication	1473 (7.8)	1478 (7.8)	2951 (7.8)
Hemiplegia or paraplegia	13 (0.1)	21 (0.1)	34 (0.1)
Leukemia	12 (0.1)	10 (0.1)	22 (0.1)
Lymphoma	22 (0.1)	32 (0.2)	54 (0.1)
Metastatic solid tumor	4 (0.0)	3 (0.0)	7 (0.0)
Mild liver disease	125 (0.7)	89 (0.5)	214 (0.6)
Moderate or severe liver disease	1 (0.0)	2 (0.0)	3 (0.0)
Myocardial infarction	194 (1.0)	188 (1.0)	382 (1.0)
Peptic ulcer disease	52 (0.3)	71 (0.4)	123 (0.3)
Peripheral vascular disease	124 (0.7)	117 (0.6)	241 (0.6)
Renal disease	123 (0.7)	133 (0.7)	256 (0.7)
Rheumatic disease	62 (0.3)	56 (0.3)	118 (0.3)

Table S2 | Baseline Comorbidities. Baseline comorbid conditions are classified according to the Charlson Comorbidity Index (Charlson M, TP Szatrowski, J Peterson, J. Gold. Validation of a combined comorbidity index. J Clin Epidemiol 1994; 47:1245-51.). a. N = number of participants in the specified group. This value is the denominator for the percentage calculations. b. n = Number of participants with the specified characteristic. Participants with multiple occurrences within each category are counted only once. For 'Participants with any Charlson comorbidity', n = number of participants reporting at least 1 occurrence of any Charlson comorbidity.

	BNT162b2 (30 µg) (N[a]=21621)	Placebo (N[a]=21631)
Adverse Event	**n[b] (%)**	**n[b] (%)**
Any event	5770 (26.7)	2638 (12.2)
Related[c]	4484 (20.7)	1095 (5.1)
Severe	240 (1.1)	139 (0.6)
Life-threatening	21 (0.1)	24 (0.1)
Any serious adverse event	126 (0.6)	111 (0.5)
Related[c]	4 (0.0)	0
Severe	71 (0.3)	68 (0.3)
Life-threatening	21 (0.1)	23 (0.1)
Any adverse event leading to withdrawal	37 (0.2)	30 (0.1)
Related[c]	16 (0.1)	9 (0.0)
Severe	13 (0.1)	9 (0.0)
Life-threatening	3 (0.0)	6 (0.0)
Death	2 (0.0)	4 (0.0)

Table S3 | Participants Reporting at Least 1 Adverse Event from Dose 1 (All Enrolled Participants). The 'all enrolled' population included all participants who received at least 1 dose of vaccine irrespective of follow-up time**.** a. N = number of participants in the specified group. This value is the denominator for the percentage calculations. b. n = Number of participants reporting at least 1 occurrence of the specified event category. For 'any event', n = the number of participants reporting at least 1 occurrence of any event. c. Assessed by the investigator as related to investigational product.

Efficacy Endpoint Subgroup	BNT162b2 (30 µg) (N[a]=18198) n1[b]	BNT162b2 (30 µg) (N[a]=18198) Surveillance Time[c] (n2[d])	Placebo (N[a]=18325) n1[b]	Placebo (N[a]=18325) Surveillance Time[c] (n2[d])	VE (%)	(95% CI[e])
Overall	8	2.214 (17411)	162	2.222 (17511)	95.0	(90.0, 97.9)
At risk[f]						
Yes	4	1.025 (8030)	86	1.025 (8029)	95.3	(87.7, 98.8)
No	4	1.189 (9381)	76	1.197 (9482)	94.7	(85.9, 98.6)
Age group (years) and at risk						
16–64 and not at risk	4	0.962 (7671)	69	0.964 (7701)	94.2	(84.4, 98.5)
16–64 and at risk	3	0.744 (5878)	74	0.746 (5917)	95.9	(87.6, 99.2)
≥65 and not at risk	0	0.227 (1701)	7	0.233 (1771)	100.0	(29.0, 100.0)
≥65 and at risk	1	0.281 (2147)	12	0.279 (2109)	91.7	(44.2, 99.8)
Obese[g]						
Yes	3	0.763 (6000)	67	0.782 (6103)	95.4	(86.0, 99.1)
No	5	1.451 (11406)	95	1.439 (11404)	94.8	(87.4, 98.3)
Age group (years) and obese						
16–64 and not obese	4	1.107 (8811)	83	1.101 (8825)	95.2	(87.3, 98.7)
16–64 and obese	3	0.598 (4734)	60	0.609 (4789)	94.9	(84.4, 99.0)
≥65 and not obese	1	0.343 (2582)	12	0.338 (2567)	91.8	(44.5, 99.8)
≥65 and obese	0	0.165 (1265)	7	0.173 (1313)	100.0	(27.1, 100.0)

Table S4 | Vaccine Efficacy from 7 Days after Dose 2 by Underlying Comorbidities among Participants without Evidence of Infection Prior to 7 Days after Dose 2. Time period for COVID-19 case accrual is from 7 days after Dose 2 to the end of the surveillance period. a. N = number of participants in the specified group. b. n1 = Number of participants meeting the endpoint definition. c. Total surveillance time in 1000 person-years for the given endpoint across all participants within each group at risk for the endpoint. Time period for COVID-19 case accrual is from 7 days after Dose 2 to the end of the surveillance period. d. n2 = Number of participants at risk for the endpoint. e. Confidence interval (CI) for VE is derived based on the Clopper and Pearson method adjusted for surveillance time. f. At risk is defined as having at least one of the Charlson Comorbidity Index categories or obesity (body mass index [BMI] ≥30 kg/m^2). g. Obese is defined as BMI ≥30 kg/m^2.

Efficacy Endpoint Subgroup	BNT162b2 (30 µg) (N[a]=21669) n1[b]	BNT162b2 (30 µg) (N[a]=21669) Surveillance Time[c] (n2[d])	Placebo (N[a]=21686) n1[b]	Placebo (N[a]=21686) Surveillance Time[c] (n2[d])	VE (%)	(95% CI[e])
Severe COVID-19 occurrence after Dose 1	1	4.021 (21314)	9	4.006 (21259)	88.9	(20.1, 99.7)
After Dose 1 to before Dose 2	0		4		100.0	(-51.5, 100.0)
Dose 2 to 7 days after Dose 2	0		1		100.0	(-3800.0, 100.0)
≥7 Days after Dose 2	1		4		75.0	(-152.6, 99.5)

Table S5 | Vaccine Efficacy of Severe COVID-19 Occurrence after Dose 1 (Modified Intention-to-Treat). a. N = number of participants in the specified group. b. n1 = Number of participants meeting the endpoint definition. c. Total surveillance time in 1000 person-years for the given endpoint across all subjects within each group at risk for the endpoint. Time period for COVID-19 case accrual is from Dose 1 to the end of the surveillance period.
d. n2 = Number of participants at risk for the endpoint. e. Confidence interval (CI) for VE is derived based on the Clopper and Pearson method (adjusted for surveillance time for overall row).