



Clinical trial results:

A master phase 1/2/3 protocol to investigate the safety, tolerability, and immunogenicity of variant- adapted BNT162b2 RNA-based vaccine candidates(s) in healthy children

Summary

| | |
|--------------------------|----------------|
| EudraCT number | 2024-000001-33 |
| Trial protocol | Outside EU/EEA |
| Global end of trial date | |

Results information

| | |
|--------------------------------|---------------|
| Result version number | v2 |
| This version publication date | 11 July 2024 |
| First version publication date | 06 March 2024 |
| Version creation reason | |

Trial information

Trial identification

| | |
|-----------------------|----------|
| Sponsor protocol code | C4591048 |
|-----------------------|----------|

Additional study identifiers

| | |
|------------------------------------|-------------|
| ISRCTN number | - |
| ClinicalTrials.gov id (NCT number) | NCT05543616 |
| WHO universal trial number (UTN) | - |

Notes:

Sponsors

| | |
|------------------------------|---|
| Sponsor organisation name | BioNTech SE |
| Sponsor organisation address | An der Goldgrube 12, Mainz, Germany, 55131 |
| Public contact | BioNTech SE, BioNTech clinical trials patient information, +49 6131 90840, patients@biontech.de |
| Scientific contact | BioNTech SE, BioNTech clinical trials patient information, +49 6131 90840, patients@biontech.de |

Notes:

Paediatric regulatory details

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|--|---------------------|
| Is trial part of an agreed paediatric investigation plan (PIP) | Yes |
| EMA paediatric investigation plan number(s) | EMA-002861-PIP02-20 |
| Does article 45 of REGULATION (EC) No 1901/2006 apply to this trial? | No |
| Does article 46 of REGULATION (EC) No 1901/2006 apply to this trial? | Yes |

Notes:

Results analysis stage

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|--|-----------------|
| Analysis stage | Interim |
| Date of interim/final analysis | 25 October 2023 |
| Is this the analysis of the primary completion data? | No |

| | |
|------------------------------|----|
| Global end of trial reached? | No |
|------------------------------|----|

Notes:

General information about the trial

Main objective of the trial:

SSB: Safety & tolerability profiles of bivalent BNT162b2 given as 3rd and/or 4th dose in participants ≥ 6 months to < 5 years (6M- < 5 Y). Compare anti-Omicron BA.4/BA.5 immune response between participants (6M- < 5 Y) who received 3 prior doses of BNT162b2 3 μ g & received BNT162b2 as 4th dose in Group 2 & Study C4591007 Phase 2/3 participants who received 3 doses of BNT162b2 3 μ g. SSC: Safety & tolerability profiles of prophylactic bivalent BNT162b2 at each dose level given as 4th dose in participants 6M- < 5 Y. Describe immune responses elicited by prophylactic bivalent BNT162b2 at each dose level given as 4th dose in participants 6M- < 5 Y. SSD: Safety & tolerability profiles of bivalent BNT162b2 given as 3rd or 4th dose in participants 5 to 12 years (5-12y). Compare the anti-Omicron BA.4/BA.5 immune response between participants (5-12y) who received 3 prior doses of BNT162b2 10 μ g & received bivalent BNT162b2 as 4th dose in Group 2 & Study C4591007 Phase 2/3 participants (5-12y) who received 3 doses of BNT162b2 10 μ g.

Protection of trial subjects:

The study was in compliance with the ethical principles derived from the Declaration of Helsinki and in compliance with all International Council for Harmonisation (ICH) Good Clinical Practice (GCP) Guidelines. All the local regulatory requirements pertinent to safety of trials participants were followed.

Background therapy: -

Evidence for comparator: -

| | |
|---|-------------------|
| Actual start date of recruitment | 23 September 2022 |
| Long term follow-up planned | No |
| Independent data monitoring committee (IDMC) involvement? | Yes |

Notes:

Population of trial subjects

Subjects enrolled per country

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|--------------------------------------|---------------------|
| Country: Number of subjects enrolled | United States: 1610 |
| Worldwide total number of subjects | 1610 |
| EEA total number of subjects | 0 |

Notes:

Subjects enrolled per age group

| | |
|---|------|
| In utero | 0 |
| Preterm newborn - gestational age < 37 wk | 0 |
| Newborns (0-27 days) | 0 |
| Infants and toddlers (28 days-23 months) | 145 |
| Children (2-11 years) | 1465 |
| Adolescents (12-17 years) | 0 |

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|----------------------|---|
| Adults (18-64 years) | 0 |
| From 65 to 84 years | 0 |
| 85 years and over | 0 |

Subject disposition

Recruitment

Recruitment details: -

Pre-assignment

Screening details:

SSB:1398 participants enrolled, 1397 were vaccinated. SSC: 100 participants randomised, 98 were vaccinated.SSD: 136 participants enrolled and 134 were vaccinated.Data is reported at study completion date for SSB, SSC and SSD. PCD for SSA and SSE have not been reached;data collection is still ongoing, hence no data are reported for SSA and E.

Period 1

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|------------------------------|-----------------|
| Period 1 title | Baseline Period |
| Is this the baseline period? | Yes |
| Allocation method | Not applicable |
| Blinding used | Not blinded |

Arms

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|------------------------------|-----|
| Are arms mutually exclusive? | Yes |
|------------------------------|-----|

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|------------------|--|
| Arm title | SSB: Group 1a: 2 prior doses of BNT162b2 |
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Arm description:

Participants aged ≥ 6 months to < 2 years who had received two prior doses of BNT162b2 3 microgram (mcg) with the last dose received 60 to 150 days before enrollment in the study were included. Participants received two doses (third and fourth dose) of BNT162b2 3 mcg via intramuscular route in this study. Third dose was administered on Day 1 of this study and fourth dose was administered approximately 2 months after third dose.

| | |
|--|--|
| Arm type | Experimental |
| Investigational medicinal product name | Bivalent BNT162b2 (original/Omicron BA.4/BA.5) |
| Investigational medicinal product code | |
| Other name | |
| Pharmaceutical forms | Injection |
| Routes of administration | Intramuscular use |

Dosage and administration details:

3 micrograms Bivalent BNT162b2 administered intramuscularly.

| | |
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| Arm title | SSB: Group 1b: 2 prior doses of BNT162b2 |
|------------------|--|

Arm description:

Participants aged ≥ 2 to < 5 years who had received two prior doses of BNT162b2 3 mcg with the last dose received 60 to 150 days before enrollment in the study were included. Participants received two doses (third and fourth dose) of BNT162b2 3 mcg via intramuscular route in this study. Third dose was administered on Day 1 of this study and fourth dose was administered approximately 2 months after third dose.

| | |
|--|--|
| Arm type | Experimental |
| Investigational medicinal product name | Bivalent BNT162b2 (original/Omicron BA.4/BA.5) |
| Investigational medicinal product code | |
| Other name | |
| Pharmaceutical forms | Injection |
| Routes of administration | Intramuscular use |

Dosage and administration details:

3 micrograms Bivalent BNT162b2 administered intramuscularly.

| | |
|------------------|--|
| Arm title | SSB: Group 2a: 3 prior doses of BNT162b2 |
|------------------|--|

Arm description:

Participants aged ≥ 6 months to < 2 years who had received three prior doses of BNT162b2 10 mcg with the last dose received 60 to 240 days before enrollment in the study were included. Participants received a single dose (fourth) of BNT162b2 3 mcg via intramuscular route on Day 1 of the study.

| | |
|--|--|
| Arm type | Experimental |
| Investigational medicinal product name | Bivalent BNT162b2 (original/Omicron BA.4/BA.5) |
| Investigational medicinal product code | |
| Other name | |
| Pharmaceutical forms | Injection |
| Routes of administration | Intramuscular use |

Dosage and administration details:

3 micrograms Bivalent BNT162b2 administered intramuscularly.

| | |
|------------------|--|
| Arm title | SSB: Group 2b: 3 prior doses of BNT162b2 |
|------------------|--|

Arm description:

Participants aged ≥ 2 to < 5 years who had received three prior doses of BNT162b2 10 mcg with the last dose received 60 to 240 days before enrollment in the study were included. Participants received a single dose (fourth) of BNT162b2 3 mcg via intramuscular route on Day 1 of the study.

| | |
|--|--|
| Arm type | Experimental |
| Investigational medicinal product name | Bivalent BNT162b2 (original/Omicron BA.4/BA.5) |
| Investigational medicinal product code | |
| Other name | |
| Pharmaceutical forms | Injection |
| Routes of administration | Intramuscular use |

Dosage and administration details:

3 micrograms Bivalent BNT162b2 administered intramuscularly.

| | |
|------------------|--|
| Arm title | SSB: Group 3a: 3 prior doses of BNT162b2 |
|------------------|--|

Arm description:

Participants from C4591007 (NCT04816643) phase 1 trial, aged ≥ 6 months to < 2 years who had received three prior doses of BNT162b2 3 mcg with the last dose received at least 60 days before enrollment in the study were included. Participants received a single dose (fourth) of BNT162b2 3 mcg via intramuscular route on Day 1 of the study.

| | |
|--|--|
| Arm type | Experimental |
| Investigational medicinal product name | Bivalent BNT162b2 (original/Omicron BA.4/BA.5) |
| Investigational medicinal product code | |
| Other name | |
| Pharmaceutical forms | Injection |
| Routes of administration | Intramuscular use |

Dosage and administration details:

3 micrograms Bivalent BNT162b2 administered intramuscularly.

| | |
|------------------|--|
| Arm title | SSB: Group 3b: 3 prior doses of BNT162b2 |
|------------------|--|

Arm description:

Participants from C4591007 (NCT04816643) phase 1 trial, aged ≥ 2 to < 5 years who had received three prior doses of BNT162b2 3 mcg with the last dose received at least 60 days before enrollment in the study were included. Participants received a single dose (fourth) of BNT162b2 3 mcg via intramuscular route on Day 1 of the study.

| | |
|--|--|
| Arm type | Experimental |
| Investigational medicinal product name | Bivalent BNT162b2 (original/Omicron BA.4/BA.5) |
| Investigational medicinal product code | |
| Other name | |
| Pharmaceutical forms | Injection |
| Routes of administration | Intramuscular use |

Dosage and administration details:

3 micrograms Bivalent BNT162b2 administered intramuscularly.

| | |
|------------------|--|
| Arm title | SSC: Group 1a: 3 prior doses of BNT162b2 |
|------------------|--|

Arm description:

Participants aged ≥ 6 months to < 2 years who had received three prior doses of BNT162b2 3 mcg with the last dose received 60 to 240 days before enrollment in the study were included. Participants

received a single (fourth) dose of BNT162b2 6 mcg via intramuscular route on Day 1 of the study.

| | |
|--|--|
| Arm type | Experimental |
| Investigational medicinal product name | Bivalent BNT162b2 (original/Omicron BA.4/BA.5) |
| Investigational medicinal product code | |
| Other name | |
| Pharmaceutical forms | Injection |
| Routes of administration | Intramuscular use |

Dosage and administration details:

6 micrograms Bivalent BNT162b2 administered intramuscularly.

| | |
|------------------|--|
| Arm title | SSC: Group 1b: 3 prior doses of BNT162b2 |
|------------------|--|

Arm description:

Participants aged ≥ 6 months to < 2 years who had received three prior doses of BNT162b2 3 mcg with the last dose received 60 to 240 days before enrollment in the study were included. Participants received a single (fourth) dose of BNT162b2 10 mcg via intramuscular route on Day 1 of the study.

| | |
|--|--|
| Arm type | Experimental |
| Investigational medicinal product name | Bivalent BNT162b2 (original/Omicron BA.4/BA.5) |
| Investigational medicinal product code | |
| Other name | |
| Pharmaceutical forms | Injection |
| Routes of administration | Intramuscular use |

Dosage and administration details:

10 micrograms Bivalent BNT162b2 administered intramuscularly.

| | |
|------------------|--|
| Arm title | SSC: Group 2a: 3 prior doses of BNT162b2 |
|------------------|--|

Arm description:

Participants aged ≥ 2 to < 5 years who had received three prior doses of BNT162b2 3 mcg with the last dose received 60 to 240 days before enrollment in the study were included. Participants received a single (fourth) dose of BNT162b2 6 mcg via intramuscular route on Day 1 of the study.

| | |
|--|--|
| Arm type | Experimental |
| Investigational medicinal product name | Bivalent BNT162b2 (original/Omicron BA.4/BA.5) |
| Investigational medicinal product code | |
| Other name | |
| Pharmaceutical forms | Injection |
| Routes of administration | Intramuscular use |

Dosage and administration details:

6 micrograms Bivalent BNT162b2 administered intramuscularly.

| | |
|------------------|--|
| Arm title | SSC: Group 2b: 3 prior doses of BNT162b2 |
|------------------|--|

Arm description:

Participants aged ≥ 2 to < 5 years who had received three prior doses of BNT162b2 3 mcg with the last dose received 60 to 240 days before enrollment in the study were included. Participants received a single (fourth) dose of BNT162b2 10 mcg via intramuscular route on Day 1 of the study.

| | |
|--|--|
| Arm type | Experimental |
| Investigational medicinal product name | Bivalent BNT162b2 (original/Omicron BA.4/BA.5) |
| Investigational medicinal product code | |
| Other name | |
| Pharmaceutical forms | Injection |
| Routes of administration | Intramuscular use |

Dosage and administration details:

10 micrograms Bivalent BNT162b2 administered intramuscularly.

| | |
|------------------|---|
| Arm title | SSD: Group 1: 2 prior doses of BNT162b2 |
|------------------|---|

Arm description:

Participants aged 5 to 11 years who had received two prior doses of BNT162b2 10 microgram (mcg) 90 to 240 days before enrollment in the study were included. Participants received a single dose of BNT162b2 10 mcg via intramuscular route on Day 1 of the study.

| | |
|--|--|
| Arm type | Experimental |
| Investigational medicinal product name | Bivalent BNT162b2 (original/Omicron BA.4/BA.5) |
| Investigational medicinal product code | |
| Other name | |
| Pharmaceutical forms | Injection |
| Routes of administration | Intramuscular use |

Dosage and administration details:

10 micrograms (original BNT162b2 5 mcg and BNT162b2 Omicron [B.1.1.529 sublineage BA.4/BA.5] 5 mcg) administered intramuscularly.

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| Arm title | SSD: Group 2: 3 prior doses of BNT162b2 |
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Arm description:

Participants aged 5 to 11 years who had received three prior doses of BNT162b2 10 mcg 90 to 240 days before enrollment in the study were included. Participants received a single dose of BNT162b2 10 mcg via intramuscular route on Day 1 of the study.

| | |
|--|--|
| Arm type | Experimental |
| Investigational medicinal product name | Bivalent BNT162b2 (original/Omicron BA.4/BA.5) |
| Investigational medicinal product code | |
| Other name | |
| Pharmaceutical forms | Injection |
| Routes of administration | Intramuscular use |

Dosage and administration details:

10 micrograms (original BNT162b2 5 mcg and BNT162b2 Omicron [B.1.1.529 sublineage BA.4/BA.5] 5 mcg) administered intramuscularly.

| Number of subjects in period 1 | SSB: Group 1a: 2 prior doses of BNT162b2 | SSB: Group 1b: 2 prior doses of BNT162b2 | SSB: Group 2a: 3 prior doses of BNT162b2 |
|---------------------------------------|--|--|--|
| Started | 17 | 13 | 92 |
| Completed | 17 | 13 | 92 |

| Number of subjects in period 1 | SSB: Group 2b: 3 prior doses of BNT162b2 | SSB: Group 3a: 3 prior doses of BNT162b2 | SSB: Group 3b: 3 prior doses of BNT162b2 |
|---------------------------------------|--|--|--|
| Started | 218 | 68 | 989 |
| Completed | 218 | 68 | 989 |

| Number of subjects in period 1 | SSC: Group 1a: 3 prior doses of BNT162b2 | SSC: Group 1b: 3 prior doses of BNT162b2 | SSC: Group 2a: 3 prior doses of BNT162b2 |
|---------------------------------------|--|--|--|
| Started | 17 | 19 | 32 |
| Completed | 17 | 19 | 32 |

| Number of subjects in period 1 | SSC: Group 2b: 3 prior doses of BNT162b2 | SSD: Group 1: 2 prior doses of BNT162b2 | SSD: Group 2: 3 prior doses of BNT162b2 |
|---------------------------------------|--|---|---|
| Started | 30 | 2 | 113 |
| Completed | 30 | 2 | 113 |

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| Period 2 | |
| Period 2 title | Phase 1 |
| Is this the baseline period? | No |
| Allocation method | Randomised - controlled |
| Blinding used | Single blind |
| Roles blinded | Subject |
| Blinding implementation details: Single blinded sponsor open label | |
| Arms | |
| Are arms mutually exclusive? | No |
| Arm title | SSC: Group 1a: 3 prior doses of BNT162b2 |
| Arm description: Participants aged ≥ 6 months to < 2 years who had received three prior doses of BNT162b2 3 mcg with the last dose received 60 to 240 days before enrollment in the study were included. Participants received a single (fourth) dose of BNT162b2 6 mcg via intramuscular route on Day 1 of the study. | |
| Arm type | Experimental |
| Investigational medicinal product name | Bivalent BNT162b2 (original/Omicron BA.4/BA.5) |
| Investigational medicinal product code | |
| Other name | |
| Pharmaceutical forms | Injection |
| Routes of administration | Intramuscular use |
| Dosage and administration details: 6 micrograms BNT162b2 administered intramuscularly. | |
| Arm title | SSC: Group 1b: 3 prior doses of BNT162b2 |
| Arm description: Participants aged ≥ 6 months to < 2 years who had received three prior doses of BNT162b2 3 mcg with the last dose received 60 to 240 days before enrollment in the study were included. Participants received a single (fourth) dose of BNT162b2 10 mcg via intramuscular route on Day 1 of the study. | |
| Arm type | Experimental |
| Investigational medicinal product name | Bivalent BNT162b2 (original/Omicron BA.4/BA.5) |
| Investigational medicinal product code | |
| Other name | |
| Pharmaceutical forms | Injection |
| Routes of administration | Intramuscular use |
| Dosage and administration details: 10 micrograms BNT162b2 administered intramuscularly. | |
| Arm title | SSC: Group 2a: 3 prior doses of BNT162b2 |
| Arm description: Participants aged ≥ 2 to < 5 years who had received three prior doses of BNT162b2 3 mcg with the last dose received 60 to 240 days before enrollment in the study were included. Participants received a single (fourth) dose of BNT162b2 6 mcg via intramuscular route on Day 1 of the study. | |
| Arm type | Experimental |
| Investigational medicinal product name | Bivalent BNT162b2 (original/Omicron BA.4/BA.5) |
| Investigational medicinal product code | |
| Other name | |
| Pharmaceutical forms | Injection |
| Routes of administration | Intramuscular use |

Dosage and administration details:

6 micrograms BNT162b2 administered intramuscularly.

| | |
|--|--|
| Arm title | SSC: Group 2b: 3 prior doses of BNT162b2 |
| Arm description: Participants aged ≥ 2 to < 5 years who had received three prior doses of BNT162b2 3 mcg with the last dose received 60 to 240 days before enrollment in the study were included. Participants received a single (fourth) dose of BNT162b2 10 mcg via intramuscular route on Day 1 of the study. | |
| Arm type | Experimental |
| Investigational medicinal product name | Bivalent BNT162b2 (original/Omicron BA.4/BA.5) |
| Investigational medicinal product code | |
| Other name | |
| Pharmaceutical forms | Injection |
| Routes of administration | Intramuscular use |

Dosage and administration details:

10 micrograms BNT162b2 administered intramuscularly.

| Number of subjects in period 2 | SSC: Group 1a: 3 prior doses of BNT162b2 | SSC: Group 1b: 3 prior doses of BNT162b2 | SSC: Group 2a: 3 prior doses of BNT162b2 |
|---------------------------------------|--|--|--|
| Started | 17 | 19 | 32 |
| Completed | 17 | 18 | 32 |
| Not completed | 0 | 1 | 0 |
| Lost to follow-up | - | 1 | - |

| Number of subjects in period 2 | SSC: Group 2b: 3 prior doses of BNT162b2 |
|---------------------------------------|--|
| Started | 30 |
| Completed | 30 |
| Not completed | 0 |
| Lost to follow-up | - |

Period 3

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|------------------------------|-----------------------------|
| Period 3 title | Phase 3 |
| Is this the baseline period? | No |
| Allocation method | Non-randomised - controlled |
| Blinding used | Not blinded |

Blinding implementation details:

Open Label Period

Arms

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|------------------------------|-----|
| Are arms mutually exclusive? | Yes |
|------------------------------|-----|

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|--|--|
| Arm title | SSB: Group 1a: 2 prior doses of BNT162b2 |
| Arm description: Participants aged ≥ 6 months to < 2 years who had received two prior doses of BNT162b2 3 microgram (mcg) with the last dose received 60 to 150 days before enrollment in the study were included. Participants received two doses (third and fourth dose) of BNT162b2 3 mcg via intramuscular route in this study. Third dose was administered on Day 1 of this study and fourth dose was administered approximately 2 months after third dose. | |
| Arm type | Experimental |
| Investigational medicinal product name | Bivalent BNT162b2 (original/Omicron BA.4/BA.5) |
| Investigational medicinal product code | |
| Other name | |
| Pharmaceutical forms | Injection |
| Routes of administration | Intramuscular use |
| Dosage and administration details: 3 micrograms Bivalent BNT162b2 administered intramuscularly. | |
| Arm title | SSB: Group 1b: 2 prior doses of BNT162b2 |
| Arm description: Participants aged ≥ 2 to < 5 years who had received two prior doses of BNT162b2 3 mcg with the last dose received 60 to 150 days before enrollment in the study were included. Participants received two doses (third and fourth dose) of BNT162b2 3 mcg via intramuscular route in this study. Third dose was administered on Day 1 of this study and fourth dose was administered approximately 2 months after third dose. | |
| Arm type | Experimental |
| Investigational medicinal product name | Bivalent BNT162b2 (original/Omicron BA.4/BA.5) |
| Investigational medicinal product code | |
| Other name | |
| Pharmaceutical forms | Injection |
| Routes of administration | Intramuscular use |
| Dosage and administration details: 3 micrograms Bivalent BNT162b2 administered intramuscularly. | |
| Arm title | SSB: Group 2a: 3 prior doses of BNT162b2 |
| Arm description: Participants aged ≥ 6 months to < 2 years who had received three prior doses of BNT162b2 10 mcg with the last dose received 60 to 240 days before enrollment in the study were included. Participants received a single dose (fourth) of BNT162b2 3 mcg via intramuscular route on Day 1 of the study. | |
| Arm type | Experimental |
| Investigational medicinal product name | Bivalent BNT162b2 (original/Omicron BA.4/BA.5) |
| Investigational medicinal product code | |
| Other name | |
| Pharmaceutical forms | Injection |
| Routes of administration | Intramuscular use |
| Dosage and administration details: 3 micrograms Bivalent BNT162b2 administered intramuscularly. | |
| Arm title | SSB: Group 2b: 3 prior doses of BNT162b2 |
| Arm description: Participants aged ≥ 2 to < 5 years who had received three prior doses of BNT162b2 10 mcg with the last dose received 60 to 240 days before enrollment in the study were included. Participants received a single dose (fourth) of BNT162b2 3 mcg via intramuscular route on Day 1 of the study. | |
| Arm type | Experimental |

| | |
|--|--|
| Investigational medicinal product name | Bivalent BNT162b2 (original/Omicron BA.4/BA.5) |
| Investigational medicinal product code | |
| Other name | |
| Pharmaceutical forms | Injection |
| Routes of administration | Intramuscular use |
| Dosage and administration details: | |
| 3 micrograms Bivalent BNT162b2 administered intramuscularly. | |
| Arm title | SSB: Group 3a: 3 prior doses of BNT162b2 |

Arm description:

Participants from C4591007 (NCT04816643) phase 1 trial, aged ≥ 6 months to < 2 years who had received three prior doses of BNT162b2 3 mcg with the last dose received at least 60 days before enrollment in the study were included. Participants received a single dose (fourth) of BNT162b2 3 mcg via intramuscular route on Day 1 of the study.

| | |
|--|--|
| Arm type | Experimental |
| Investigational medicinal product name | Bivalent BNT162b2 (original/Omicron BA.4/BA.5) |
| Investigational medicinal product code | |
| Other name | |
| Pharmaceutical forms | Injection |
| Routes of administration | Intramuscular use |
| Dosage and administration details: | |
| 3 micrograms Bivalent BNT162b2 administered intramuscularly. | |
| Arm title | SSB: Group 3b: 3 prior doses of BNT162b2 |

Arm description:

Participants from C4591007 (NCT04816643) phase 1 trial, aged ≥ 2 to < 5 years who had received three prior doses of BNT162b2 3 mcg with the last dose received at least 60 days before enrollment in the study were included. Participants received a single dose (fourth) of BNT162b2 3 mcg via intramuscular route on Day 1 of the study.

| | |
|--|--|
| Arm type | Experimental |
| Investigational medicinal product name | Bivalent BNT162b2 (original/Omicron BA.4/BA.5) |
| Investigational medicinal product code | |
| Other name | |
| Pharmaceutical forms | Injection |
| Routes of administration | Intramuscular use |
| Dosage and administration details: | |
| 3 micrograms Bivalent BNT162b2 administered intramuscularly. | |
| Arm title | SSD: Group 1: 2 prior doses of BNT162b2 |

Arm description:

Participants aged 5 to 11 years who had received two prior doses of BNT162b2 10 microgram (mcg) 90 to 240 days before enrollment in the study were included. Participants received a single dose of BNT162b2 10 mcg via intramuscular route on Day 1 of the study.

| | |
|---|--|
| Arm type | Experimental |
| Investigational medicinal product name | Bivalent BNT162b2 (original/Omicron BA.4/BA.5) |
| Investigational medicinal product code | |
| Other name | |
| Pharmaceutical forms | Injection |
| Routes of administration | Intramuscular use |
| Dosage and administration details: | |
| 10 micrograms (original BNT162b2 5 mcg and BNT162b2 Omicron [B.1.1.529 sublineage BA.4/BA.5] 5 mcg) administered intramuscularly. | |
| Arm title | SSD: Group 2: 3 prior doses of BNT162b2 |

Arm description:

Participants aged 5 to 11 years who had received three prior doses of BNT162b2 10 mcg 90 to 240 days before enrollment in the study were included. Participants received a single dose of BNT162b2 10 mcg via intramuscular route on Day 1 of the study.

| | |
|--|--|
| Arm type | Experimental |
| Investigational medicinal product name | Bivalent BNT162b2 (original/Omicron BA.4/BA.5) |
| Investigational medicinal product code | |
| Other name | |
| Pharmaceutical forms | Injection |
| Routes of administration | Intramuscular use |

Dosage and administration details:

10 micrograms (original BNT162b2 5 mcg and BNT162b2 Omicron [B.1.1.529 sublineage BA.4/BA.5] 5 mcg) administered intramuscularly.

| | |
|------------------|--|
| Arm title | SSD Historical cohort:Participants from study C4591007 Phase 1 |
|------------------|--|

Arm description:

Participants from C4591007 (NCT04816643) phase 1 trial, aged 5 to 11 years who had received three prior doses of BNT162b2 10 mcg at least 90 days before enrollment in the study were included. Participants received a single dose of BNT162b2 10 mcg via intramuscular route on Day 1 of the study.

| | |
|--|--|
| Arm type | Active comparator |
| Investigational medicinal product name | Bivalent BNT162b2 (original/Omicron BA.4/BA.5) |
| Investigational medicinal product code | |
| Other name | |
| Pharmaceutical forms | Injection |
| Routes of administration | Intramuscular use |

Dosage and administration details:

10 micrograms (original BNT162b2 5 mcg and BNT162b2 Omicron [B.1.1.529 sublineage BA.4/BA.5] 5 mcg) administered intramuscularly.

| Number of subjects in period 3 | SSB: Group 1a: 2 prior doses of BNT162b2 | SSB: Group 1b: 2 prior doses of BNT162b2 | SSB: Group 2a: 3 prior doses of BNT162b2 |
|---------------------------------------|--|--|--|
| Started | 17 | 13 | 92 |
| Completed | 17 | 11 | 89 |
| Not completed | 0 | 2 | 3 |
| Physician decision | - | - | - |
| Consent withdrawn by subject | - | - | - |
| Withdrawal by parents/guardian | - | 2 | 3 |
| Lost to follow-up | - | - | - |
| Protocol deviation | - | - | - |

| Number of subjects in period 3 | SSB: Group 2b: 3 prior doses of BNT162b2 | SSB: Group 3a: 3 prior doses of BNT162b2 | SSB: Group 3b: 3 prior doses of BNT162b2 |
|---------------------------------------|--|--|--|
| Started | 218 | 68 | 989 |
| Completed | 210 | 67 | 969 |
| Not completed | 8 | 1 | 20 |
| Physician decision | - | - | 1 |
| Consent withdrawn by subject | - | - | - |
| Withdrawal by parents/guardian | 7 | - | 4 |
| Lost to follow-up | - | 1 | 12 |
| Protocol deviation | 1 | - | 3 |

| Number of subjects in period 3 | SSD: Group 1: 2 prior doses of BNT162b2 | SSD: Group 2: 3 prior doses of BNT162b2 | SSD Historical cohort: Participants from study C4591007 Phase 1 |
|--------------------------------|---|---|--|
| | | | |
| Started | 2 | 113 | 19 |
| Completed | 2 | 111 | 19 |
| Not completed | 0 | 2 | 0 |
| Physician decision | - | - | - |
| Consent withdrawn by subject | - | 1 | - |
| Withdrawal by parents/guardian | - | 1 | - |
| Lost to follow-up | - | - | - |
| Protocol deviation | - | - | - |

Baseline characteristics

Reporting groups

| | |
|-----------------------|--|
| Reporting group title | SSB: Group 1a: 2 prior doses of BNT162b2 |
|-----------------------|--|

Reporting group description:

Participants aged ≥ 6 months to < 2 years who had received two prior doses of BNT162b2 3 microgram (mcg) with the last dose received 60 to 150 days before enrollment in the study were included. Participants received two doses (third and fourth dose) of BNT162b2 3 mcg via intramuscular route in this study. Third dose was administered on Day 1 of this study and fourth dose was administered approximately 2 months after third dose.

| | |
|-----------------------|--|
| Reporting group title | SSB: Group 1b: 2 prior doses of BNT162b2 |
|-----------------------|--|

Reporting group description:

Participants aged ≥ 2 to < 5 years who had received two prior doses of BNT162b2 3 mcg with the last dose received 60 to 150 days before enrollment in the study were included. Participants received two doses (third and fourth dose) of BNT162b2 3 mcg via intramuscular route in this study. Third dose was administered on Day 1 of this study and fourth dose was administered approximately 2 months after third dose.

| | |
|-----------------------|--|
| Reporting group title | SSB: Group 2a: 3 prior doses of BNT162b2 |
|-----------------------|--|

Reporting group description:

Participants aged ≥ 6 months to < 2 years who had received three prior doses of BNT162b2 10 mcg with the last dose received 60 to 240 days before enrollment in the study were included. Participants received a single dose (fourth) of BNT162b2 3 mcg via intramuscular route on Day 1 of the study.

| | |
|-----------------------|--|
| Reporting group title | SSB: Group 2b: 3 prior doses of BNT162b2 |
|-----------------------|--|

Reporting group description:

Participants aged ≥ 2 to < 5 years who had received three prior doses of BNT162b2 10 mcg with the last dose received 60 to 240 days before enrollment in the study were included. Participants received a single dose (fourth) of BNT162b2 3 mcg via intramuscular route on Day 1 of the study.

| | |
|-----------------------|--|
| Reporting group title | SSB: Group 3a: 3 prior doses of BNT162b2 |
|-----------------------|--|

Reporting group description:

Participants from C4591007 (NCT04816643) phase 1 trial, aged ≥ 6 months to < 2 years who had received three prior doses of BNT162b2 3 mcg with the last dose received at least 60 days before enrollment in the study were included. Participants received a single dose (fourth) of BNT162b2 3 mcg via intramuscular route on Day 1 of the study.

| | |
|-----------------------|--|
| Reporting group title | SSB: Group 3b: 3 prior doses of BNT162b2 |
|-----------------------|--|

Reporting group description:

Participants from C4591007 (NCT04816643) phase 1 trial, aged ≥ 2 to < 5 years who had received three prior doses of BNT162b2 3 mcg with the last dose received at least 60 days before enrollment in the study were included. Participants received a single dose (fourth) of BNT162b2 3 mcg via intramuscular route on Day 1 of the study.

| | |
|-----------------------|--|
| Reporting group title | SSC: Group 1a: 3 prior doses of BNT162b2 |
|-----------------------|--|

Reporting group description:

Participants aged ≥ 6 months to < 2 years who had received three prior doses of BNT162b2 3 mcg with the last dose received 60 to 240 days before enrollment in the study were included. Participants received a single (fourth) dose of BNT162b2 6 mcg via intramuscular route on Day 1 of the study.

| | |
|-----------------------|--|
| Reporting group title | SSC: Group 1b: 3 prior doses of BNT162b2 |
|-----------------------|--|

Reporting group description:

Participants aged ≥ 6 months to < 2 years who had received three prior doses of BNT162b2 3 mcg with the last dose received 60 to 240 days before enrollment in the study were included. Participants received a single (fourth) dose of BNT162b2 10 mcg via intramuscular route on Day 1 of the study.

| | |
|-----------------------|--|
| Reporting group title | SSC: Group 2a: 3 prior doses of BNT162b2 |
|-----------------------|--|

Reporting group description:

Participants aged ≥ 2 to < 5 years who had received three prior doses of BNT162b2 3 mcg with the last dose received 60 to 240 days before enrollment in the study were included. Participants received a single (fourth) dose of BNT162b2 6 mcg via intramuscular route on Day 1 of the study.

| | |
|-----------------------|--|
| Reporting group title | SSC: Group 2b: 3 prior doses of BNT162b2 |
|-----------------------|--|

Reporting group description:

Participants aged ≥ 2 to < 5 years who had received three prior doses of BNT162b2 3 mcg with the last dose received 60 to 240 days before enrollment in the study were included. Participants received a

single (fourth) dose of BNT162b2 10 mcg via intramuscular route on Day 1 of the study.

| | |
|--|---|
| Reporting group title | SSD: Group 1: 2 prior doses of BNT162b2 |
| Reporting group description: | |
| Participants aged 5 to 11 years who had received two prior doses of BNT162b2 10 microgram (mcg) 90 to 240 days before enrollment in the study were included. Participants received a single dose of BNT162b2 10 mcg via intramuscular route on Day 1 of the study. | |
| Reporting group title | SSD: Group 2: 3 prior doses of BNT162b2 |
| Reporting group description: | |
| Participants aged 5 to 11 years who had received three prior doses of BNT162b2 10 mcg 90 to 240 days before enrollment in the study were included. Participants received a single dose of BNT162b2 10 mcg via intramuscular route on Day 1 of the study. | |

| Reporting group values | SSB: Group 1a: 2 prior doses of BNT162b2 | SSB: Group 1b: 2 prior doses of BNT162b2 | SSB: Group 2a: 3 prior doses of BNT162b2 |
|--|--|--|--|
| Number of subjects | 17 | 13 | 92 |
| Age Categorical | | | |
| Units: Participants | | | |
| In utero | 0 | 0 | 0 |
| Preterm newborn infants (gestational age < 37 wks) | 0 | 0 | 0 |
| Newborns (0-27 days) | 0 | 0 | 0 |
| Infants and toddlers (28 days-23 months) | 17 | 0 | 92 |
| Children (2-11 years) | 0 | 13 | 0 |
| Adolescents (12-17 years) | 0 | 0 | 0 |
| Adults (18-64 years) | 0 | 0 | 0 |
| From 65-84 years | 0 | 0 | 0 |
| 85 years and over | 0 | 0 | 0 |
| Gender Categorical | | | |
| Units: Participants | | | |
| Female | 5 | 7 | 41 |
| Male | 12 | 6 | 51 |
| Race | | | |
| Units: Subjects | | | |
| White | 14 | 7 | 64 |
| Black or African American | 0 | 0 | 2 |
| Asian | 1 | 4 | 11 |
| Multiracial | 1 | 2 | 15 |
| Not reported | 1 | 0 | 0 |
| Native Hawaiian or other Pacific Islander | 0 | 0 | 0 |
| American Indian or Alaska Native | 0 | 0 | 0 |
| Ethnicity | | | |
| Units: Subjects | | | |
| Hispanic/Latino | 3 | 2 | 18 |
| Non-Hispanic/non-Latino | 13 | 11 | 74 |
| Not reported | 1 | 0 | 0 |

| Reporting group values | SSB: Group 2b: 3 prior doses of BNT162b2 | SSB: Group 3a: 3 prior doses of BNT162b2 | SSB: Group 3b: 3 prior doses of BNT162b2 |
|------------------------|--|--|--|
| Number of subjects | 218 | 68 | 989 |

| | | | |
|---|-----|----|-----|
| Age Categorical Units: Participants | | | |
| In utero | 0 | 0 | 0 |
| Preterm newborn infants (gestational age < 37 wks) | 0 | 0 | 0 |
| Newborns (0-27 days) | 0 | 0 | 0 |
| Infants and toddlers (28 days-23 months) | 0 | 68 | 0 |
| Children (2-11 years) | 218 | 0 | 989 |
| Adolescents (12-17 years) | 0 | 0 | 0 |
| Adults (18-64 years) | 0 | 0 | 0 |
| From 65-84 years | 0 | 0 | 0 |
| 85 years and over | 0 | 0 | 0 |
| Gender Categorical Units: Participants | | | |
| Female | 113 | 30 | 512 |
| Male | 105 | 38 | 477 |
| Race Units: Subjects | | | |
| White | 153 | 58 | 775 |
| Black or African American | 7 | 5 | 51 |
| Asian | 18 | 3 | 57 |
| Multiracial | 39 | 2 | 100 |
| Not reported | 1 | 0 | 2 |
| Native Hawaiian or other Pacific Islander | 0 | 0 | 1 |
| American Indian or Alaska Native | 0 | 0 | 3 |
| Ethnicity Units: Subjects | | | |
| Hispanic/Latino | 34 | 12 | 136 |
| Non-Hispanic/non-Latino | 184 | 56 | 852 |
| Not reported | 0 | 0 | 1 |

| Reporting group values | SSC: Group 1a: 3 prior doses of BNT162b2 | SSC: Group 1b: 3 prior doses of BNT162b2 | SSC: Group 2a: 3 prior doses of BNT162b2 |
|---|--|--|--|
| Number of subjects | 17 | 19 | 32 |
| Age Categorical Units: Participants | | | |
| In utero | 0 | 0 | 0 |
| Preterm newborn infants (gestational age < 37 wks) | 0 | 0 | 0 |
| Newborns (0-27 days) | 0 | 0 | 0 |
| Infants and toddlers (28 days-23 months) | 17 | 0 | 32 |
| Children (2-11 years) | 0 | 19 | 0 |
| Adolescents (12-17 years) | 0 | 0 | 0 |
| Adults (18-64 years) | 0 | 0 | 0 |
| From 65-84 years | 0 | 0 | 0 |
| 85 years and over | 0 | 0 | 0 |
| Gender Categorical Units: Participants | | | |
| Female | 8 | 11 | 16 |
| Male | 9 | 8 | 16 |

| | | | |
|---|----|----|----|
| Race | | | |
| Units: Subjects | | | |
| White | 13 | 18 | 25 |
| Black or African American | 0 | 1 | 2 |
| Asian | 2 | 0 | 2 |
| Multiracial | 2 | 0 | 3 |
| Not reported | 0 | 0 | 0 |
| Native Hawaiian or other Pacific Islander | 0 | 0 | 0 |
| American Indian or Alaska Native | 0 | 0 | 0 |
| Ethnicity | | | |
| Units: Subjects | | | |
| Hispanic/Latino | 2 | 2 | 1 |
| Non-Hispanic/non-Latino | 15 | 17 | 31 |
| Not reported | 0 | 0 | 0 |

| Reporting group values | SSC: Group 2b: 3 prior doses of BNT162b2 | SSD: Group 1: 2 prior doses of BNT162b2 | SSD: Group 2: 3 prior doses of BNT162b2 |
|--|--|---|---|
| Number of subjects | 30 | 2 | 113 |
| Age Categorical | | | |
| Units: Participants | | | |
| In utero | 0 | 0 | 0 |
| Preterm newborn infants (gestational age < 37 wks) | 0 | 0 | 0 |
| Newborns (0-27 days) | 0 | 0 | 0 |
| Infants and toddlers (28 days-23 months) | 0 | 0 | 0 |
| Children (2-11 years) | 30 | 2 | 113 |
| Adolescents (12-17 years) | 0 | 0 | 0 |
| Adults (18-64 years) | 0 | 0 | 0 |
| From 65-84 years | 0 | 0 | 0 |
| 85 years and over | 0 | 0 | 0 |
| Gender Categorical | | | |
| Units: Participants | | | |
| Female | 13 | 0 | 56 |
| Male | 17 | 2 | 57 |
| Race | | | |
| Units: Subjects | | | |
| White | 23 | 2 | 66 |
| Black or African American | 1 | 0 | 9 |
| Asian | 3 | 0 | 13 |
| Multiracial | 3 | 0 | 22 |
| Not reported | 0 | 0 | 3 |
| Native Hawaiian or other Pacific Islander | 0 | 0 | 0 |
| American Indian or Alaska Native | 0 | 0 | 0 |
| Ethnicity | | | |
| Units: Subjects | | | |
| Hispanic/Latino | 0 | 0 | 23 |
| Non-Hispanic/non-Latino | 30 | 2 | 90 |
| Not reported | 0 | 0 | 0 |

| | | | |
|---|-------|--|--|
| Reporting group values | Total | | |
| Number of subjects | 1610 | | |
| Age Categorical Units: Participants | | | |
| In utero | 0 | | |
| Preterm newborn infants (gestational age < 37 wks) | 0 | | |
| Newborns (0-27 days) | 0 | | |
| Infants and toddlers (28 days-23 months) | 226 | | |
| Children (2-11 years) | 1384 | | |
| Adolescents (12-17 years) | 0 | | |
| Adults (18-64 years) | 0 | | |
| From 65-84 years | 0 | | |
| 85 years and over | 0 | | |
| Gender Categorical Units: Participants | | | |
| Female | 812 | | |
| Male | 798 | | |
| Race Units: Subjects | | | |
| White | 1218 | | |
| Black or African American | 78 | | |
| Asian | 114 | | |
| Multiracial | 189 | | |
| Not reported | 7 | | |
| Native Hawaiian or other Pacific Islander | 1 | | |
| American Indian or Alaska Native | 3 | | |
| Ethnicity Units: Subjects | | | |
| Hispanic/Latino | 233 | | |
| Non-Hispanic/non-Latino | 1375 | | |
| Not reported | 2 | | |

End points

End points reporting groups

| | |
|--|--|
| Reporting group title | SSB: Group 1a: 2 prior doses of BNT162b2 |
| Reporting group description: Participants aged ≥ 6 months to < 2 years who had received two prior doses of BNT162b2 3 microgram (mcg) with the last dose received 60 to 150 days before enrollment in the study were included. Participants received two doses (third and fourth dose) of BNT162b2 3 mcg via intramuscular route in this study. Third dose was administered on Day 1 of this study and fourth dose was administered approximately 2 months after third dose. | |
| Reporting group title | SSB: Group 1b: 2 prior doses of BNT162b2 |
| Reporting group description: Participants aged ≥ 2 to < 5 years who had received two prior doses of BNT162b2 3 mcg with the last dose received 60 to 150 days before enrollment in the study were included. Participants received two doses (third and fourth dose) of BNT162b2 3 mcg via intramuscular route in this study. Third dose was administered on Day 1 of this study and fourth dose was administered approximately 2 months after third dose. | |
| Reporting group title | SSB: Group 2a: 3 prior doses of BNT162b2 |
| Reporting group description: Participants aged ≥ 6 months to < 2 years who had received three prior doses of BNT162b2 10 mcg with the last dose received 60 to 240 days before enrollment in the study were included. Participants received a single dose (fourth) of BNT162b2 3 mcg via intramuscular route on Day 1 of the study. | |
| Reporting group title | SSB: Group 2b: 3 prior doses of BNT162b2 |
| Reporting group description: Participants aged ≥ 2 to < 5 years who had received three prior doses of BNT162b2 10 mcg with the last dose received 60 to 240 days before enrollment in the study were included. Participants received a single dose (fourth) of BNT162b2 3 mcg via intramuscular route on Day 1 of the study. | |
| Reporting group title | SSB: Group 3a: 3 prior doses of BNT162b2 |
| Reporting group description: Participants from C4591007 (NCT04816643) phase 1 trial, aged ≥ 6 months to < 2 years who had received three prior doses of BNT162b2 3 mcg with the last dose received at least 60 days before enrollment in the study were included. Participants received a single dose (fourth) of BNT162b2 3 mcg via intramuscular route on Day 1 of the study. | |
| Reporting group title | SSB: Group 3b: 3 prior doses of BNT162b2 |
| Reporting group description: Participants from C4591007 (NCT04816643) phase 1 trial, aged ≥ 2 to < 5 years who had received three prior doses of BNT162b2 3 mcg with the last dose received at least 60 days before enrollment in the study were included. Participants received a single dose (fourth) of BNT162b2 3 mcg via intramuscular route on Day 1 of the study. | |
| Reporting group title | SSC: Group 1a: 3 prior doses of BNT162b2 |
| Reporting group description: Participants aged ≥ 6 months to < 2 years who had received three prior doses of BNT162b2 3 mcg with the last dose received 60 to 240 days before enrollment in the study were included. Participants received a single (fourth) dose of BNT162b2 6 mcg via intramuscular route on Day 1 of the study. | |
| Reporting group title | SSC: Group 1b: 3 prior doses of BNT162b2 |
| Reporting group description: Participants aged ≥ 6 months to < 2 years who had received three prior doses of BNT162b2 3 mcg with the last dose received 60 to 240 days before enrollment in the study were included. Participants received a single (fourth) dose of BNT162b2 10 mcg via intramuscular route on Day 1 of the study. | |
| Reporting group title | SSC: Group 2a: 3 prior doses of BNT162b2 |
| Reporting group description: Participants aged ≥ 2 to < 5 years who had received three prior doses of BNT162b2 3 mcg with the last dose received 60 to 240 days before enrollment in the study were included. Participants received a single (fourth) dose of BNT162b2 6 mcg via intramuscular route on Day 1 of the study. | |
| Reporting group title | SSC: Group 2b: 3 prior doses of BNT162b2 |
| Reporting group description: Participants aged ≥ 2 to < 5 years who had received three prior doses of BNT162b2 3 mcg with the last dose received 60 to 240 days before enrollment in the study were included. Participants received a | |

single (fourth) dose of BNT162b2 10 mcg via intramuscular route on Day 1 of the study.

| | |
|-----------------------|---|
| Reporting group title | SSD: Group 1: 2 prior doses of BNT162b2 |
|-----------------------|---|

Reporting group description:

Participants aged 5 to 11 years who had received two prior doses of BNT162b2 10 microgram (mcg) 90 to 240 days before enrollment in the study were included. Participants received a single dose of BNT162b2 10 mcg via intramuscular route on Day 1 of the study.

| | |
|-----------------------|---|
| Reporting group title | SSD: Group 2: 3 prior doses of BNT162b2 |
|-----------------------|---|

Reporting group description:

Participants aged 5 to 11 years who had received three prior doses of BNT162b2 10 mcg 90 to 240 days before enrollment in the study were included. Participants received a single dose of BNT162b2 10 mcg via intramuscular route on Day 1 of the study.

| | |
|-----------------------|--|
| Reporting group title | SSC: Group 1a: 3 prior doses of BNT162b2 |
|-----------------------|--|

Reporting group description:

Participants aged ≥ 6 months to < 2 years who had received three prior doses of BNT162b2 3 mcg with the last dose received 60 to 240 days before enrollment in the study were included. Participants received a single (fourth) dose of BNT162b2 6 mcg via intramuscular route on Day 1 of the study.

| | |
|-----------------------|--|
| Reporting group title | SSC: Group 1b: 3 prior doses of BNT162b2 |
|-----------------------|--|

Reporting group description:

Participants aged ≥ 6 months to < 2 years who had received three prior doses of BNT162b2 3 mcg with the last dose received 60 to 240 days before enrollment in the study were included. Participants received a single (fourth) dose of BNT162b2 10 mcg via intramuscular route on Day 1 of the study.

| | |
|-----------------------|--|
| Reporting group title | SSC: Group 2a: 3 prior doses of BNT162b2 |
|-----------------------|--|

Reporting group description:

Participants aged ≥ 2 to < 5 years who had received three prior doses of BNT162b2 3 mcg with the last dose received 60 to 240 days before enrollment in the study were included. Participants received a single (fourth) dose of BNT162b2 6 mcg via intramuscular route on Day 1 of the study.

| | |
|-----------------------|--|
| Reporting group title | SSC: Group 2b: 3 prior doses of BNT162b2 |
|-----------------------|--|

Reporting group description:

Participants aged ≥ 2 to < 5 years who had received three prior doses of BNT162b2 3 mcg with the last dose received 60 to 240 days before enrollment in the study were included. Participants received a single (fourth) dose of BNT162b2 10 mcg via intramuscular route on Day 1 of the study.

| | |
|-----------------------|--|
| Reporting group title | SSB: Group 1a: 2 prior doses of BNT162b2 |
|-----------------------|--|

Reporting group description:

Participants aged ≥ 6 months to < 2 years who had received two prior doses of BNT162b2 3 microgram (mcg) with the last dose received 60 to 150 days before enrollment in the study were included. Participants received two doses (third and fourth dose) of BNT162b2 3 mcg via intramuscular route in this study. Third dose was administered on Day 1 of this study and fourth dose was administered approximately 2 months after third dose.

| | |
|-----------------------|--|
| Reporting group title | SSB: Group 1b: 2 prior doses of BNT162b2 |
|-----------------------|--|

Reporting group description:

Participants aged ≥ 2 to < 5 years who had received two prior doses of BNT162b2 3 mcg with the last dose received 60 to 150 days before enrollment in the study were included. Participants received two doses (third and fourth dose) of BNT162b2 3 mcg via intramuscular route in this study. Third dose was administered on Day 1 of this study and fourth dose was administered approximately 2 months after third dose.

| | |
|-----------------------|--|
| Reporting group title | SSB: Group 2a: 3 prior doses of BNT162b2 |
|-----------------------|--|

Reporting group description:

Participants aged ≥ 6 months to < 2 years who had received three prior doses of BNT162b2 10 mcg with the last dose received 60 to 240 days before enrollment in the study were included. Participants received a single dose (fourth) of BNT162b2 3 mcg via intramuscular route on Day 1 of the study.

| | |
|-----------------------|--|
| Reporting group title | SSB: Group 2b: 3 prior doses of BNT162b2 |
|-----------------------|--|

Reporting group description:

Participants aged ≥ 2 to < 5 years who had received three prior doses of BNT162b2 10 mcg with the last dose received 60 to 240 days before enrollment in the study were included. Participants received a single dose (fourth) of BNT162b2 3 mcg via intramuscular route on Day 1 of the study.

| | |
|-----------------------|--|
| Reporting group title | SSB: Group 3a: 3 prior doses of BNT162b2 |
|-----------------------|--|

Reporting group description:

Participants from C4591007 (NCT04816643) phase 1 trial, aged ≥ 6 months to < 2 years who had received three prior doses of BNT162b2 3 mcg with the last dose received at least 60 days before

enrollment in the study were included. Participants received a single dose (fourth) of BNT162b2 3 mcg via intramuscular route on Day 1 of the study.

| | |
|-----------------------|--|
| Reporting group title | SSB: Group 3b: 3 prior doses of BNT162b2 |
|-----------------------|--|

Reporting group description:

Participants from C4591007 (NCT04816643) phase 1 trial, aged ≥ 2 to < 5 years who had received three prior doses of BNT162b2 3 mcg with the last dose received at least 60 days before enrollment in the study were included. Participants received a single dose (fourth) of BNT162b2 3 mcg via intramuscular route on Day 1 of the study.

| | |
|-----------------------|---|
| Reporting group title | SSD: Group 1: 2 prior doses of BNT162b2 |
|-----------------------|---|

Reporting group description:

Participants aged 5 to 11 years who had received two prior doses of BNT162b2 10 microgram (mcg) 90 to 240 days before enrollment in the study were included. Participants received a single dose of BNT162b2 10 mcg via intramuscular route on Day 1 of the study.

| | |
|-----------------------|---|
| Reporting group title | SSD: Group 2: 3 prior doses of BNT162b2 |
|-----------------------|---|

Reporting group description:

Participants aged 5 to 11 years who had received three prior doses of BNT162b2 10 mcg 90 to 240 days before enrollment in the study were included. Participants received a single dose of BNT162b2 10 mcg via intramuscular route on Day 1 of the study.

| | |
|-----------------------|---|
| Reporting group title | SSD Historical cohort: Participants from study C4591007 Phase 1 |
|-----------------------|---|

Reporting group description:

Participants from C4591007 (NCT04816643) phase 1 trial, aged 5 to 11 years who had received three prior doses of BNT162b2 10 mcg at least 90 days before enrollment in the study were included. Participants received a single dose of BNT162b2 10 mcg via intramuscular route on Day 1 of the study.

| | |
|----------------------------|---|
| Subject analysis set title | SSD Historical cohort: C4591007 BNT162b2 10 μ g |
|----------------------------|---|

| | |
|---------------------------|--------------|
| Subject analysis set type | Per protocol |
|---------------------------|--------------|

Subject analysis set description:

Participants aged ≥ 5 to < 12 years from study C4591007 (NCT04816643) who received 3 doses of original BNT162b2 10 mcg were included.

| | |
|----------------------------|---|
| Subject analysis set title | SSB Historical cohort: C4591007 BNT162b2 ≥ 6 months to < 2 years |
|----------------------------|---|

| | |
|---------------------------|--------------|
| Subject analysis set type | Per protocol |
|---------------------------|--------------|

Subject analysis set description:

Participants aged ≥ 6 months to < 2 years from study C4591007 (NCT04816643) who received 3 doses of original BNT162b2 3 mcg were included.

| | |
|----------------------------|--|
| Subject analysis set title | SSB Historical cohort: C4591007 BNT162b2 3 mcg |
|----------------------------|--|

| | |
|---------------------------|--------------|
| Subject analysis set type | Per protocol |
|---------------------------|--------------|

Subject analysis set description:

Participants aged ≥ 2 to < 5 years from study C4591007 (NCT04816643) who received 3 doses of original BNT162b2 3 mcg were included.

Primary: SSB: Percentage of Participants With Local Reactions Within 7 Days After Study Vaccination 1 in Participants Aged ≥ 6 months to < 2 Years

| | |
|-----------------|---|
| End point title | SSB: Percentage of Participants With Local Reactions Within 7 Days After Study Vaccination 1 in Participants Aged ≥ 6 months to < 2 Years ^[1] |
|-----------------|---|

End point description:

Local reactions were collected in e-diary or during unscheduled clinical assessments from Day 1 to Day 7 after study vaccination 1. Redness and swelling were measured and recorded in mdu where, 1 mdu = 0.5 cm and were graded as mild (≥ 0.5 to 2.0 cm), moderate (> 2.0 to 7.0 cm), severe (> 7.0 cm) & Grade (G) 4 (necrosis [redness and swelling] or exfoliative dermatitis [redness]). Tenderness at injection site was graded as mild (hurts if gently touched), moderate (hurts if gently touched with crying), severe (causes limitation of limb movement) & G4 ER visit or hospitalisation. G4 were classified by investigator or medically qualified person. Percentage of participants with local reactions within 7 days after study vaccination 1 and associated 2-sided 95% CI based on Clopper and Pearson method. Safety population = all participants receiving at least 1 dose of study intervention. Here, n = participants evaluable for the specified rows.

| | |
|----------------|---------|
| End point type | Primary |
|----------------|---------|

End point timeframe:

Day 1 up to Day 7 after study vaccination 1 (i.e. third dose for Group 1a and fourth dose for Groups 2a and 3a)

Notes:

[1] - No statistical analyses have been specified for this primary end point. It is expected there is at least one statistical analysis for each primary end point.

Justification: No statistical analysis was planned for this endpoint

| End point values | SSB: Group 1a: 2 prior doses of BNT162b2 | SSB: Group 2a: 3 prior doses of BNT162b2 | SSB: Group 3a: 3 prior doses of BNT162b2 | |
|---|--|--|--|--|
| Subject group type | Reporting group | Reporting group | Reporting group | |
| Number of subjects analysed | 17 | 92 | 68 | |
| Units: Percentage of participants | | | | |
| number (confidence interval 95%) | | | | |
| Redness: Any (n=17, 92, 68) | 5.9 (0.1 to 28.7) | 7.6 (3.1 to 15.1) | 5.9 (1.6 to 14.4) | |
| Redness: Mild (n=17, 92, 68) | 5.9 (0.1 to 28.7) | 7.6 (3.1 to 15.1) | 4.4 (0.9 to 12.4) | |
| Redness: Moderate (n=17, 92, 68) | 0 (0.0 to 19.5) | 0 (0.0 to 3.9) | 1.5 (0.0 to 7.9) | |
| Redness: Severe (n=17, 92, 68) | 0 (0.0 to 19.5) | 0 (0.0 to 3.9) | 0 (0.0 to 5.3) | |
| Redness: Grade 4 (n=17, 92, 68) | 0 (0.0 to 19.5) | 0 (0.0 to 3.9) | 0 (0.0 to 5.3) | |
| Swelling: Any (n=17, 92, 68) | 0 (0.0 to 19.5) | 5.4 (1.8 to 12.2) | 1.5 (0.0 to 7.9) | |
| Swelling: Mild (n=17, 92, 68) | 0 (0.0 to 19.5) | 5.4 (1.8 to 12.2) | 1.5 (0.0 to 7.9) | |
| Swelling: Moderate (n=17, 92, 68) | 0 (0.0 to 19.5) | 0 (0.0 to 3.9) | 0 (0.0 to 5.3) | |
| Swelling: Severe (n=17, 92, 68) | 0 (0.0 to 19.5) | 0 (0.0 to 3.9) | 0 (0.0 to 5.3) | |
| Swelling: Grade 4 (n=17, 92, 68) | 0 (0.0 to 19.5) | 0 (0.0 to 3.9) | 0 (0.0 to 5.3) | |
| Tenderness at injection site:Any (n=17,90,64) | 23.5 (6.8 to 49.9) | 12.2 (6.3 to 20.8) | 12.5 (5.6 to 23.2) | |
| Tenderness at injection site:Mild (n=17,90,64) | 17.6 (3.8 to 43.4) | 12.2 (6.3 to 20.8) | 12.5 (5.6 to 23.2) | |
| Tenderness at injection site:Moderate(n=17,90,64) | 5.9 (0.1 to 28.7) | 0 (0.0 to 4.0) | 0 (0.0 to 5.6) | |
| Tenderness at injection site:Severe (n=17,90, 64) | 0 (0.0 to 19.5) | 0 (0.0 to 4.0) | 0 (0.0 to 5.6) | |
| Tenderness at injection site:Grade 4 (n=17,90,64) | 0 (0.0 to 19.5) | 0 (0.0 to 4.0) | 0 (0.0 to 5.6) | |

Statistical analyses

No statistical analyses for this end point

Primary: SSB: Percentage of Participants With Local Reactions Within 7 Days After Study Vaccination 2 in Participants Aged ≥ 6 months to < 2 Years: Group 1a Only

| | |
|-----------------|--|
| End point title | SSB: Percentage of Participants With Local Reactions Within 7 Days After Study Vaccination 2 in Participants Aged ≥ 6 months to < 2 Years: Group 1a Only ^[2] |
|-----------------|--|

End point description:

Local reactions were collected in e-diary or during unscheduled clinical assessments from Day 1 to Day 7 after study vaccination 2. Redness and swelling were measured and recorded in mdu where, 1 mdu = 0.5 cm and were graded as mild (≥ 0.5 to 2.0 cm), moderate (> 2.0 to 7.0 cm), severe (> 7.0 cm) & G4 (necrosis [redness and swelling] or exfoliative dermatitis [redness]). Tenderness at injection site was graded as mild (hurts if gently touched), moderate (hurts if gently touched with crying), severe (causes

limitation of limb movement) & G4 ER visit or hospitalisation. G4 were classified by investigator or medically qualified person. Percentage of participants with local reactions within 7 days after study vaccination 2 and associated 2-sided 95% CI based on Clopper and Pearson method. Safety population=all participants who received at least 1 dose of study intervention. This endpoint is reported for Group 1a only as only participants from Group 1a received two vaccinations in the study.

| | |
|----------------|---------|
| End point type | Primary |
|----------------|---------|

End point timeframe:

Day 1 up to Day 7 after study vaccination 2 (i.e. fourth dose)

Notes:

[2] - No statistical analyses have been specified for this primary end point. It is expected there is at least one statistical analysis for each primary end point.

Justification: No statistical analysis was planned for this endpoint

| | | | | |
|--|--|--|--|--|
| End point values | SSB: Group 1a: 2 prior doses of BNT162b2 | | | |
| Subject group type | Reporting group | | | |
| Number of subjects analysed | 17 | | | |
| Units: Percentage of participants | | | | |
| number (confidence interval 95%) | | | | |
| Redness: Any | 11.8 (1.5 to 36.4) | | | |
| Redness: Mild | 11.8 (1.5 to 36.4) | | | |
| Redness: Moderate | 0 (0.0 to 19.5) | | | |
| Redness: Severe | 0 (0.0 to 19.5) | | | |
| Redness: Grade 4 | 0 (0.0 to 19.5) | | | |
| Swelling: Any | 5.9 (0.1 to 28.7) | | | |
| Swelling: Mild | 5.9 (0.1 to 28.7) | | | |
| Swelling: Moderate | 0 (0.0 to 19.5) | | | |
| Swelling: Severe | 0 (0.0 to 19.5) | | | |
| Swelling: Grade 4 | 0 (0.0 to 19.5) | | | |
| Tenderness at the injection site: Any | 17.6 (3.8 to 43.4) | | | |
| Tenderness at the injection site: Mild | 11.8 (1.5 to 36.4) | | | |
| Tenderness at the injection site: Moderate | 0 (0.0 to 19.5) | | | |
| Tenderness at the injection site: Severe | 5.9 (0.1 to 28.7) | | | |
| Tenderness at the injection site: Grade 4 | 0 (0.0 to 19.5) | | | |

Statistical analyses

No statistical analyses for this end point

Primary: SSB: Percentage of Participants With Systemic Events Within 7 Days After Study Vaccination 1 in Participants Aged ≥ 6 months to < 2 Years

| | |
|-----------------|---|
| End point title | SSB: Percentage of Participants With Systemic Events Within 7 Days After Study Vaccination 1 in Participants Aged ≥ 6 months to < 2 Years ^[3] |
|-----------------|---|

End point description:

Systemic events recorded in an e-diary and at unscheduled clinical assessments from Day 1 to 7 after study vaccination 1. Fever: oral temperature ≥ 38.0 deg C categorised as ≥ 38.0 to 38.4 deg C, >38.4 to 38.9 deg C, >38.9 to 40.0 deg C and >40.0 deg C. Decreased appetite: mild (decreased interest in eating), moderate (decreased oral intake), severe (refusal to feed). Drowsiness: mild (increased or prolonged sleeping bouts), moderate (slightly subdued interfering with daily activity), severe (disabling; not interested in usual daily activity). Irritability: mild (easily consolable), moderate (requiring increased attention), severe (Inconsolable; crying cannot be comforted). G4 for all events: ER visit/hospitalisation and classified by investigator or medically qualified person. Events reported as AEs in the CRF within 7 days after vaccination were also included. Exact 95% CI based on Clopper and Pearson method. Safety population was used. n=number of participants evaluable for the specified rows.

| | |
|----------------|---------|
| End point type | Primary |
|----------------|---------|

End point timeframe:

Day 1 up to Day 7 after study vaccination 1 (i.e. third dose for Group 1a and fourth dose for Groups 2a and 3a)

Notes:

[3] - No statistical analyses have been specified for this primary end point. It is expected there is at least one statistical analysis for each primary end point.

Justification: No statistical analysis was planned for this endpoint

| End point values | SSB: Group 1a: 2 prior doses of BNT162b2 | SSB: Group 2a: 3 prior doses of BNT162b2 | SSB: Group 3a: 3 prior doses of BNT162b2 | |
|---|--|--|--|--|
| Subject group type | Reporting group | Reporting group | Reporting group | |
| Number of subjects analysed | 17 | 92 | 68 | |
| Units: Percentage of participants | | | | |
| number (confidence interval 95%) | | | | |
| Fever: Any (n=17, 92, 68) | 0 (0.0 to 19.5) | 8.7 (3.8 to 16.4) | 11.8 (5.2 to 21.9) | |
| Fever: ≥ 38.0 to 38.4 deg C (n=17, 92, 68) | 0 (0.0 to 19.5) | 6.5 (2.4 to 13.7) | 2.9 (0.4 to 10.2) | |
| Fever: >38.4 to 38.9 deg C (n=17, 92, 68) | 0 (0.0 to 19.5) | 1.1 (0.0 to 5.9) | 2.9 (0.4 to 10.2) | |
| Fever: >38.9 to 40.0 deg C (n=17, 92, 68) | 0 (0.0 to 19.5) | 1.1 (0.0 to 5.9) | 4.4 (0.9 to 12.4) | |
| Fever: >40.0 deg C (n=17, 92, 68) | 0 (0.0 to 19.5) | 0 (0.0 to 3.9) | 0 (0.0 to 5.3) | |
| Fever: Unknown (n=17, 92, 68) | 0 (0.0 to 19.5) | 0 (0.0 to 3.9) | 1.5 (0.0 to 7.9) | |
| Decreased appetite: Any (n=17, 89, 64) | 23.5 (6.8 to 49.9) | 20.2 (12.4 to 30.1) | 20.3 (11.3 to 32.2) | |
| Decreased appetite: Mild (n=17, 89, 64) | 11.8 (1.5 to 36.4) | 9.0 (4.0 to 16.9) | 14.1 (6.6 to 25.0) | |
| Decreased appetite: Moderate (n=17, 89, 64) | 11.8 (1.5 to 36.4) | 11.2 (5.5 to 19.7) | 6.3 (1.7 to 15.2) | |
| Decreased appetite: Severe (n=17, 89, 64) | 0 (0.0 to 19.5) | 0 (0.0 to 4.1) | 0 (0.0 to 5.6) | |
| Decreased appetite: Grade 4 (n=17, 89, 64) | 0 (0.0 to 19.5) | 0 (0.0 to 4.1) | 0 (0.0 to 5.6) | |
| Drowsiness: Any (n=17, 89, 64) | 41.2 (18.4 to 67.1) | 20.2 (12.4 to 30.1) | 17.2 (8.9 to 28.7) | |
| Drowsiness: Mild (n=17, 89, 64) | 35.3 (14.2 to 61.7) | 18.0 (10.6 to 27.5) | 15.6 (7.8 to 26.9) | |
| Drowsiness: Moderate (n=17, 89, 64) | 5.9 (0.1 to 28.7) | 2.2 (0.3 to 7.9) | 1.6 (0.0 to 8.4) | |
| Drowsiness: Severe (n=17, 89, 64) | 0 (0.0 to 19.5) | 0 (0.0 to 4.1) | 0 (0.0 to 5.6) | |
| Drowsiness: Grade 4 (n=17, 89, 64) | 0 (0.0 to 19.5) | 0 (0.0 to 4.1) | 0 (0.0 to 5.6) | |
| Irritability: Any (n=17, 89, 64) | 64.7 (38.3 to 85.8) | 36.0 (26.1 to 46.8) | 45.3 (32.8 to 58.3) | |
| Irritability: Mild (n=17, 89, 64) | 35.3 (14.2 to 61.7) | 16.9 (9.8 to 26.3) | 23.4 (13.8 to 35.7) | |

| | | | | |
|---------------------------------------|--------------------|---------------------|---------------------|--|
| Irritability: Moderate (n=17, 89, 64) | 23.5 (6.8 to 49.9) | 18.0 (10.6 to 27.5) | 21.9 (12.5 to 34.0) | |
| Irritability: Severe (n=17, 89, 64) | 5.9 (0.1 to 28.7) | 1.1 (0.0 to 6.1) | 0 (0.0 to 5.6) | |
| Irritability: Grade 4 (n=17, 89, 64) | 0 (0.0 to 19.5) | 0 (0.0 to 4.1) | 0 (0.0 to 5.6) | |

Statistical analyses

No statistical analyses for this end point

Primary: SSB: Percentage of Participants With Systemic Events Within 7 Days After Study Vaccination 2 in Participants Aged ≥ 6 months to < 2 Years: Group 1a Only

| | |
|-----------------|--|
| End point title | SSB: Percentage of Participants With Systemic Events Within 7 Days After Study Vaccination 2 in Participants Aged ≥ 6 months to < 2 Years: Group 1a Only ^[4] |
|-----------------|--|

End point description:

Systemic events recorded in an e-diary and at unscheduled clinical assessments from Day 1 to 7 after Dose 1. Fever: oral temperature ≥ 38.0 deg C; categorised as ≥ 38.0 to 38.4 deg C, > 38.4 to 38.9 deg C, > 38.9 to 40.0 deg C and > 40.0 deg C. Decreased appetite: mild (decreased interest in eating), moderate (decreased oral intake), severe (refusal to feed). Drowsiness: mild (increased or prolonged sleeping bouts), moderate (slightly subdued interfering with daily activity), severe (disabling; not interested in usual daily activity). Irritability: mild (easily consolable), moderate (requiring increased attention), severe (disabling; not interested in usual daily activity). G4 for all events: ER visit/hospitalisation and were classified by investigator or medically qualified person. Events reported as AEs in the CRF within 7 days after vaccination were also included. Exact 95% CI based on Clopper and Pearson method. Safety population.

| | |
|----------------|---------|
| End point type | Primary |
|----------------|---------|

End point timeframe:

Day 1 up to Day 7 after study vaccination 2 (i.e. fourth dose)

Notes:

[4] - No statistical analyses have been specified for this primary end point. It is expected there is at least one statistical analysis for each primary end point.

Justification: No statistical analysis was planned for this endpoint

| End point values | SSB: Group 1a: 2 prior doses of BNT162b2 | | | |
|-----------------------------------|--|--|--|--|
| Subject group type | Reporting group | | | |
| Number of subjects analysed | 17 | | | |
| Units: Percentage of participants | | | | |
| number (confidence interval 95%) | | | | |
| Fever: Any | 11.8 (1.5 to 36.4) | | | |
| Fever: ≥ 38.0 to 38.4 deg C | 0 (0.0 to 19.5) | | | |
| Fever: > 38.4 to 38.9 deg C | 0 (0.0 to 19.5) | | | |
| Fever: > 38.9 to 40.0 deg C | 11.8 (1.5 to 36.4) | | | |
| Fever: > 40.0 deg C | 0 (0.0 to 19.5) | | | |
| Decreased appetite: Any | 17.6 (3.8 to 43.4) | | | |
| Decreased appetite: Mild | 17.6 (3.8 to 43.4) | | | |
| Decreased appetite: Moderate | 0 (0.0 to 19.5) | | | |
| Decreased appetite: Severe | 0 (0.0 to 19.5) | | | |
| Decreased appetite: Grade 4 | 0 (0.0 to 19.5) | | | |

| | | | | |
|------------------------|---------------------|--|--|--|
| Drowsiness: Any | 11.8 (1.5 to 36.4) | | | |
| Drowsiness: Mild | 11.8 (1.5 to 36.4) | | | |
| Drowsiness: Moderate | 0 (0.0 to 19.5) | | | |
| Drowsiness: Severe | 0 (0.0 to 19.5) | | | |
| Drowsiness: Grade 4 | 0 (0.0 to 19.5) | | | |
| Irritability: Any | 52.9 (27.8 to 77.0) | | | |
| Irritability: Mild | 23.5 (6.8 to 49.9) | | | |
| Irritability: Moderate | 23.5 (6.8 to 49.9) | | | |
| Irritability: Severe | 5.9 (0.1 to 28.7) | | | |
| Irritability: Grade 4 | 0 (0.0 to 19.5) | | | |

Statistical analyses

No statistical analyses for this end point

Primary: SSB: Percentage of Participants Reporting Serious Adverse Events (SAEs) From the Study Vaccination to 6 Months After Last Study Vaccination in Participants Aged ≥ 6 Months to < 2 Years

| | |
|-----------------|--|
| End point title | SSB: Percentage of Participants Reporting Serious Adverse Events (SAEs) From the Study Vaccination to 6 Months After Last Study Vaccination in Participants Aged ≥ 6 Months to < 2 Years ^[5] |
|-----------------|--|

End point description:

An SAE was defined as any untoward medical occurrence that at any dose resulted in death, was life-threatening; resulted in persistent disability/incapacity; constituted a congenital anomaly/birth defect; was important medical event; required inpatient hospitalisation or prolongation of existing hospitalisation. Safety population included all participants who received at least 1 dose of the study intervention.

| | |
|----------------|---------|
| End point type | Primary |
|----------------|---------|

End point timeframe:

From study vaccination up to 6 months after last study vaccination

Notes:

[5] - No statistical analyses have been specified for this primary end point. It is expected there is at least one statistical analysis for each primary end point.

Justification: No statistical analysis was planned for this endpoint

| End point values | SSB: Group 1a: 2 prior doses of BNT162b2 | SSB: Group 2a: 3 prior doses of BNT162b2 | SSB: Group 3a: 3 prior doses of BNT162b2 | |
|-----------------------------------|--|--|--|--|
| Subject group type | Reporting group | Reporting group | Reporting group | |
| Number of subjects analysed | 17 | 92 | 68 | |
| Units: Percentage of participants | | | | |
| number (not applicable) | 0 | 0 | 0 | |

Statistical analyses

No statistical analyses for this end point

Primary: SSB: Percentage of Participants Reporting Adverse Events (AEs) From the Second Study Vaccination to 1 Month After Study Vaccination 2 in Participants Aged ≥ 6 Months to < 2 Years: Group 1a Only

| | |
|-----------------|---|
| End point title | SSB: Percentage of Participants Reporting Adverse Events (AEs) From the Second Study Vaccination to 1 Month After Study Vaccination 2 in Participants Aged ≥ 6 Months to < 2 Years: Group 1a Only ^[6] |
|-----------------|---|

End point description:

An AE was defined as any untoward medical occurrence in a clinical study participant, temporally associated with the use of study intervention, whether or not considered related to the study intervention. Percentage of participants reporting AEs within 1 month after study vaccination 2 were reported in this endpoint. Only AEs collected by non-systematic assessment (i.e., excluding local reactions and systemic events) were reported in this endpoint. Safety population included all participants who received at least 1 dose of the study intervention.

| | |
|----------------|---------|
| End point type | Primary |
|----------------|---------|

End point timeframe:

From study vaccination 2 up to 1 month after study vaccination 2 (i.e. fourth dose)

Notes:

[6] - No statistical analyses have been specified for this primary end point. It is expected there is at least one statistical analysis for each primary end point.

Justification: No statistical analysis was planned for this endpoint

| | | | | |
|-----------------------------------|--|--|--|--|
| End point values | SSB: Group 1a: 2 prior doses of BNT162b2 | | | |
| Subject group type | Reporting group | | | |
| Number of subjects analysed | 17 | | | |
| Units: Percentage of participants | | | | |
| number (not applicable) | 5.9 | | | |

Statistical analyses

No statistical analyses for this end point

Primary: SSB: Percentage of Participants Reporting Adverse Events (AEs) From the First Study Vaccination to 1 Month After Study Vaccination 1 in Participants Aged ≥ 6 Months to < 2 Years

| | |
|-----------------|---|
| End point title | SSB: Percentage of Participants Reporting Adverse Events (AEs) From the First Study Vaccination to 1 Month After Study Vaccination 1 in Participants Aged ≥ 6 Months to < 2 Years ^[7] |
|-----------------|---|

End point description:

An AE was defined as any untoward medical occurrence in a clinical study participant, temporally associated with the use of study intervention, whether or not considered related to the study intervention. Percentage of participants reporting AEs within 1 month after study vaccination were reported in this endpoint. Only AEs collected by non-systematic assessment (i.e., excluding local reactions and systemic events) were reported in this endpoint. Safety population included all participants who received at least 1 dose of the study intervention.

| | |
|----------------|---------|
| End point type | Primary |
|----------------|---------|

End point timeframe:

From study vaccination on Day 1 up to 1 month after study vaccination 1 (i.e. third dose for Group 1a and fourth dose for Group 2a and 3a)

Notes:

[7] - No statistical analyses have been specified for this primary end point. It is expected there is at least one statistical analysis for each primary end point.

Justification: No statistical analysis was planned for this endpoint

| End point values | SSB: Group 1a: 2 prior doses of BNT162b2 | SSB: Group 2a: 3 prior doses of BNT162b2 | SSB: Group 3a: 3 prior doses of BNT162b2 | |
|-----------------------------------|--|--|--|--|
| Subject group type | Reporting group | Reporting group | Reporting group | |
| Number of subjects analysed | 17 | 92 | 68 | |
| Units: Percentage of participants | | | | |
| number (not applicable) | 5.9 | 10.9 | 14.7 | |

Statistical analyses

No statistical analyses for this end point

Primary: SSB: Percentage of Participants With Local Reactions Within 7 Days After Study Vaccination 2 in Participants Aged ≥ 2 to < 5 Years: Group 1b Only

| | |
|-----------------|---|
| End point title | SSB: Percentage of Participants With Local Reactions Within 7 Days After Study Vaccination 2 in Participants Aged ≥ 2 to < 5 Years: Group 1b Only ^[8] |
|-----------------|---|

End point description:

Local reactions recorded by participants/parents/legal guardians in e-diary.Redness & swelling recorded in mdu converted to cm.1 mdu=0.5 cm&graded mild:(>0.5 to 2.0 cm),moderate: >2.0 to 7.0 cm,severe: >7.0 cm,G4: necrosis/exfoliative dermatitis(redness)&necrosis(swelling).Pain at injection site graded mild:did not interfere with daily activity,moderate:interfered with daily activity, severe: prevented daily activity & G4: ER]visit/hospitalisation.G4 classified by investigator/medically qualified person.Percentage of participants with local reactions within 7days after study vaccination and associated 2-sided 95% CI based on Clopper and Pearson method.Safety population=all participants receiving at least 1 dose of study intervention. Number of participants analyzed= participants evaluable for this endpoint.

| | |
|----------------|---------|
| End point type | Primary |
|----------------|---------|

End point timeframe:

Day 1 up to Day 7 after study vaccination 2 (i.e third dose for Group 1b)

Notes:

[8] - No statistical analyses have been specified for this primary end point. It is expected there is at least one statistical analysis for each primary end point.

Justification: No statistical analysis was planned for this endpoint

| End point values | SSB: Group 1b: 2 prior doses of BNT162b2 | | | |
|-----------------------------------|--|--|--|--|
| Subject group type | Reporting group | | | |
| Number of subjects analysed | 12 | | | |
| Units: Percentage of participants | | | | |
| number (confidence interval 95%) | | | | |
| Redness: Any | 0 (0.0 to 28.5) | | | |
| Redness: Mild | 0 (0.0 to 28.5) | | | |
| Redness: Moderate | 0 (0.0 to 28.5) | | | |
| Redness: Severe | 0 (0.0 to 28.5) | | | |
| Redness: Grade 4 | 0 (0.0 to 28.5) | | | |
| Swelling: Any | 0 (0.0 to 28.5) | | | |

| | | | | |
|--------------------------------------|-------------------|--|--|--|
| Swelling: Mild | 0 (0.0 to 28.5) | | | |
| Swelling: Moderate | 0 (0.0 to 28.5) | | | |
| Swelling: Severe | 0 (0.0 to 28.5) | | | |
| Swelling: Grade 4 | 0 (0.0 to 28.5) | | | |
| Pain at the injection site: Any | 9.1 (0.2 to 41.3) | | | |
| Pain at the injection site: Mild | 9.1 (0.2 to 41.3) | | | |
| Pain at the injection site: Moderate | 0 (0.0 to 28.5) | | | |
| Pain at the injection site: Severe | 0 (0.0 to 28.5) | | | |
| Pain at the injection site: Grade 4 | 0 (0.0 to 28.5) | | | |

Statistical analyses

No statistical analyses for this end point

Primary: SSB: Percentage of Participants With Local Reactions Within 7 Days After Study Vaccination 1 in Participants Aged ≥ 2 to < 5 Years

| | |
|-----------------|--|
| End point title | SSB: Percentage of Participants With Local Reactions Within 7 Days After Study Vaccination 1 in Participants Aged ≥ 2 to < 5 Years ^[9] |
|-----------------|--|

End point description:

Local reactions recorded by participants/parents/legal guardians in e-diary. Redness & swelling recorded in mdu converted to cm. 1 mdu = 0.5 cm & graded mild: (> 0.5 to 2.0 cm), moderate: > 2.0 to 7.0 cm, severe: > 7.0 cm, G4: necrosis/exfoliative dermatitis (redness) & necrosis (swelling). Pain at injection site graded mild: did not interfere with daily activity, moderate: interfered with daily activity, severe: prevented daily activity & G4: ER visit/hospitalisation. G4 classified by investigator/medically qualified person. Percentage of participants with local reactions within 7 days after study vaccination and associated 2-sided 95% CI based on Clopper and Pearson method. Safety population = all participants receiving at least 1 dose of study intervention. Number of participants analyzed = participants evaluable for this endpoint.

| | |
|----------------|---------|
| End point type | Primary |
|----------------|---------|

End point timeframe:

Day 1 up to Day 7 after study vaccination 1 (i.e. third dose for Group 1b and fourth dose for Groups 2b and 3b)

Notes:

[9] - No statistical analyses have been specified for this primary end point. It is expected there is at least one statistical analysis for each primary end point.

Justification: No statistical analysis was planned for this endpoint

| End point values | SSB: Group 1b: 2 prior doses of BNT162b2 | SSB: Group 2b: 3 prior doses of BNT162b2 | SSB: Group 3b: 3 prior doses of BNT162b2 | |
|-----------------------------------|--|--|--|--|
| Subject group type | Reporting group | Reporting group | Reporting group | |
| Number of subjects analysed | 13 | 218 | 986 | |
| Units: Percentage of participants | | | | |
| number (confidence interval 95%) | | | | |
| Redness: Any | 7.7 (0.2 to 36.0) | 6.4 (3.6 to 10.5) | 10.1 (8.3 to 12.2) | |
| Redness: Mild | 0 (0.0 to 24.7) | 5.5 (2.9 to 9.4) | 8.8 (7.1 to 10.8) | |
| Redness: Moderate | 7.7 (0.2 to 36.0) | 0.9 (0.1 to 3.3) | 1.3 (0.7 to 2.2) | |
| Redness: Severe | 0 (0.0 to 24.7) | 0 (0.0 to 1.7) | 0 (0.0 to 0.4) | |

| | | | | |
|--------------------------------------|--------------------|---------------------|---------------------|--|
| Redness: Grade 4 | 0 (0.0 to 24.7) | 0 (0.0 to 1.7) | 0 (0.0 to 0.4) | |
| Swelling: Any | 7.7 (0.2 to 36.0) | 4.1 (1.9 to 7.7) | 4.0 (2.8 to 5.4) | |
| Swelling: Mild | 7.7 (0.2 to 36.0) | 3.7 (1.6 to 7.1) | 3.4 (2.4 to 4.8) | |
| Swelling: Moderate | 0 (0.0 to 24.7) | 0.5 (0.0 to 2.5) | 0.5 (0.2 to 1.2) | |
| Swelling: Severe | 0 (0.0 to 24.7) | 0 (0.0 to 1.7) | 0 (0.0 to 0.4) | |
| Swelling: Grade 4 | 0 (0.0 to 24.7) | 0 (0.0 to 1.7) | 0 (0.0 to 0.4) | |
| Pain at the injection site: Any | 30.8 (9.1 to 61.4) | 30.3 (24.3 to 36.8) | 30.3 (27.5 to 33.3) | |
| Pain at the injection site: Mild | 30.8 (9.1 to 61.4) | 28.4 (22.6 to 34.9) | 27.9 (25.1 to 30.8) | |
| Pain at the injection site: Moderate | 0 (0.0 to 24.7) | 1.8 (0.5 to 4.6) | 2.5 (1.6 to 3.6) | |
| Pain at the injection site: Severe | 0 (0.0 to 24.7) | 0 (0.0 to 1.7) | 0 (0.0 to 0.4) | |
| Pain at the injection site: Grade 4 | 0 (0.0 to 24.7) | 0 (0.0 to 1.7) | 0 (0.0 to 0.4) | |

Statistical analyses

No statistical analyses for this end point

Primary: SSB: Percentage of Participants With Systemic Events Within 7 Days After Study Vaccination 1 in Participants Aged ≥ 2 to < 5 Years

| | |
|-----------------|---|
| End point title | SSB: Percentage of Participants With Systemic Events Within 7 Days After Study Vaccination 1 in Participants Aged ≥ 2 to < 5 Years ^[10] |
|-----------------|---|

End point description:

Systemic events recorded by participants/parents/legal guardians in e-diary. Fever: oral temperature ≥ 38.0 deg C and categorised as ≥ 38.0 -38.4 deg C, > 38.4 -38.9 deg C, > 38.9 -40.0 deg C & > 40.0 deg C. Fatigue, headache, chills, new/worsened muscle pain & new/worsened joint pain: mild: did not interfere with activity, moderate: some interference with activity & severe: prevented daily routine activity. Vomiting: mild: 1-2 times in 24h, moderate: > 2 times in 24h, severe: required intravenous hydration. Diarrhea: mild: 2-3 loose stools in 24h, moderate: 4-5 loose stools in 24h & severe: 6 or more loose stools in 24h. Except fever, G4=ER visit/hospitalisation. G4 events classified by investigator/medically qualified person. Exact 95% CI based on Clopper & Pearson method. Safety population=all participants receiving at least 1 dose of study intervention. N= participants evaluable for this endpoint. n=participants evaluable for specified rows

| | |
|----------------|---------|
| End point type | Primary |
|----------------|---------|

End point timeframe:

Day 1 up to Day 7 after study vaccination 1 (i.e. third dose for Group 1b and fourth dose for Groups 2b and 3b)

Notes:

[10] - No statistical analyses have been specified for this primary end point. It is expected there is at least one statistical analysis for each primary end point.

Justification: No statistical analysis was planned for this endpoint

| End point values | SSB: Group 1b: 2 prior doses of BNT162b2 | SSB: Group 2b: 3 prior doses of BNT162b2 | SSB: Group 3b: 3 prior doses of BNT162b2 | |
|-----------------------------------|--|--|--|--|
| Subject group type | Reporting group | Reporting group | Reporting group | |
| Number of subjects analysed | 13 | 218 | 986 | |
| Units: Percentage of participants | | | | |
| number (confidence interval 95%) | | | | |
| Fever: Any (n=13, 218, 986) | 0 (0.0 to 24.7) | 6.9 (3.9 to 11.1) | 5.3 (4.0 to 6.9) | |

| | | | |
|--|--------------------|---------------------|---------------------|
| Fever: ≥ 38.0 to 38.4 deg C (n=13, 218, 986) | 0 (0.0 to 24.7) | 1.8 (0.5 to 4.6) | 1.5 (0.9 to 2.5) |
| Fever: >38.4 to 38.9 deg C (n=13, 218, 986) | 0 (0.0 to 24.7) | 3.2 (1.3 to 6.5) | 2.0 (1.2 to 3.1) |
| Fever: >38.9 to 40.0 deg C (n=13, 218, 986) | 0 (0.0 to 24.7) | 1.4 (0.3 to 4.0) | 1.4 (0.8 to 2.4) |
| Fever: >40.0 deg C (n=13, 218, 986) | 0 (0.0 to 24.7) | 0.5 (0.0 to 2.5) | 0.2 (0.0 to 0.7) |
| Fever: Unknown ((n=13, 218, 986) | 0 (0.0 to 24.7) | 0 (0.0 to 1.7) | 0.1 (0.0 to 0.6) |
| Fatigue: Any (n=13, 217, 976) | 30.8 (9.1 to 61.4) | 31.3 (25.2 to 38.0) | 29.0 (26.2 to 32.0) |
| Fatigue: Mild (n=13, 217, 976) | 15.4 (1.9 to 45.4) | 17.5 (12.7 to 23.2) | 17.8 (15.5 to 20.4) |
| Fatigue: Moderate (n=13, 217, 976) | 15.4 (1.9 to 45.4) | 12.4 (8.4 to 17.6) | 10.7 (8.8 to 12.8) |
| Fatigue: Severe (n=13, 217, 976) | 0 (0.0 to 24.7) | 1.4 (0.3 to 4.0) | 0.5 (0.2 to 1.2) |
| Fatigue: Grade 4 (n=13, 217, 976) | 0 (0.0 to 24.7) | 0 (0.0 to 1.7) | 0 (0.0 to 0.4) |
| Headache: Any (n=13, 217, 976) | 7.7 (0.2 to 36.0) | 4.1 (1.9 to 7.7) | 4.4 (3.2 to 5.9) |
| Headache: Mild (n=13, 217, 976) | 7.7 (0.2 to 36.0) | 2.3 (0.8 to 5.3) | 3.7 (2.6 to 5.1) |
| Headache: Moderate (n=13, 217, 976) | 0 (0.0 to 24.7) | 1.4 (0.3 to 4.0) | 0.7 (0.3 to 1.5) |
| Headache: Severe (n=13, 217, 976) | 0 (0.0 to 24.7) | 0.5 (0.0 to 2.5) | 0 (0.0 to 0.4) |
| Headache: Grade 4 (n=13, 217, 976) | 0 (0.0 to 24.7) | 0 (0.0 to 1.7) | 0 (0.0 to 0.4) |
| Chills: Any (n=13, 217, 976) | 0 (0.0 to 24.7) | 4.6 (2.2 to 8.3) | 2.5 (1.6 to 3.6) |
| Chills: Mild (n=13, 217, 976) | 0 (0.0 to 24.7) | 3.2 (1.3 to 6.5) | 1.8 (1.1 to 2.9) |
| Chills: Moderate (n=13, 217, 976) | 0 (0.0 to 24.7) | 1.4 (0.3 to 4.0) | 0.6 (0.2 to 1.3) |
| Chills: Severe (n=13, 217, 976) | 0 (0.0 to 24.7) | 0 (0.0 to 1.7) | 0 (0.0 to 0.4) |
| Chills: Grade 4 (n=13, 217, 976) | 0 (0.0 to 24.7) | 0 (0.0 to 1.7) | 0 (0.0 to 0.4) |
| Vomiting: Any (n=13, 217, 976) | 7.7 (0.2 to 36.0) | 5.1 (2.6 to 8.9) | 4.8 (3.6 to 6.4) |
| Vomiting: Mild (n=13, 217, 976) | 7.7 (0.2 to 36.0) | 3.2 (1.3 to 6.5) | 4.0 (2.9 to 5.4) |
| Vomiting: Moderate (n=13, 217, 976) | 0 (0.0 to 24.7) | 1.8 (0.5 to 4.7) | 0.8 (0.4 to 1.6) |
| Vomiting: Severe (n=13, 217, 976) | 0 (0.0 to 24.7) | 0 (0.0 to 1.7) | 0 (0.0 to 0.4) |
| Vomiting: Grade 4 (n=13, 217, 976) | 0 (0.0 to 24.7) | 0 (0.0 to 1.7) | 0 (0.0 to 0.4) |
| Diarrhea: Any (n=13, 217, 976) | 0 (0.0 to 24.7) | 5.1 (2.6 to 8.9) | 7.0 (5.5 to 8.7) |
| Diarrhea: Mild (n=13, 217, 976) | 0 (0.0 to 24.7) | 4.1 (1.9 to 7.7) | 6.0 (4.6 to 7.7) |
| Diarrhea: Moderate (n=13, 217, 976) | 0 (0.0 to 24.7) | 0.9 (0.1 to 3.3) | 0.8 (0.4 to 1.6) |
| Diarrhea: Severe (n=13, 217, 976) | 0 (0.0 to 24.7) | 0 (0.0 to 1.7) | 0.1 (0.0 to 0.6) |
| Diarrhea: Grade 4 (n=13, 217, 976) | 0 (0.0 to 24.7) | 0 (0.0 to 1.7) | 0 (0.0 to 0.4) |
| New or worsened muscle pain:Any(n=13,217,976) | 0 (0.0 to 24.7) | 3.2 (1.3 to 6.5) | 2.0 (1.3 to 3.1) |
| New or worsened muscle pain:Mild(n=13,217,976) | 0 (0.0 to 24.7) | 2.3 (0.8 to 5.3) | 1.2 (0.6 to 2.1) |
| New or worsened muscle pain:Moderate(n=13,217,976) | 0 (0.0 to 24.7) | 0.9 (0.1 to 3.3) | 0.8 (0.4 to 1.6) |
| New or worsened muscle pain:Severe(n=13,217,976) | 0 (0.0 to 24.7) | 0 (0.0 to 1.7) | 0 (0.0 to 0.4) |
| New or worsened muscle pain:Grade4(n=13,217,976) | 0 (0.0 to 24.7) | 0 (0.0 to 1.7) | 0 (0.0 to 0.4) |
| New or worsened joint pain:Any(n=13,217,976) | 0 (0.0 to 24.7) | 0.9 (0.1 to 3.3) | 0.9 (0.4 to 1.7) |
| New or worsened joint pain:Mild(n=13,217,976) | 0 (0.0 to 24.7) | 0.9 (0.1 to 3.3) | 0.7 (0.3 to 1.5) |
| New or worsened joint pain:Moderate(n=13,217,976) | 0 (0.0 to 24.7) | 0 (0.0 to 1.7) | 0.2 (0.0 to 0.7) |
| New or worsened joint pain:Severe(n=13,217,976) | 0 (0.0 to 24.7) | 0 (0.0 to 1.7) | 0 (0.0 to 0.4) |

| | | | | |
|--|-----------------|----------------|----------------|--|
| New or worsened joint pain:Grade 4(n=13,217,976) | 0 (0.0 to 24.7) | 0 (0.0 to 1.7) | 0 (0.0 to 0.4) | |
|--|-----------------|----------------|----------------|--|

Statistical analyses

No statistical analyses for this end point

Primary: SSB: Percentage of Participants With Systemic Events Within 7 Days After Study Vaccination 2 in Participants Aged ≥ 2 to < 5 Years: Group 1b Only

| | |
|-----------------|--|
| End point title | SSB: Percentage of Participants With Systemic Events Within 7 Days After Study Vaccination 2 in Participants Aged ≥ 2 to < 5 Years: Group 1b Only ^[11] |
|-----------------|--|

End point description:

Systemic events recorded by participants/parents/legal guardians in e-diary. Fever: oral temperature ≥ 38.0 deg C and categorised as ≥ 38.0 -38.4 deg C, > 38.4 -38.9 deg C, > 38.9 -40.0 deg C & > 40.0 deg C. Fatigue, headache, chills, new/worsened muscle pain & new/worsened joint pain: mild: did not interfere with activity, moderate: some interference with activity & severe: prevented daily routine activity. Vomiting: mild: 1-2 times in 24h, moderate: > 2 times in 24h, severe: required intravenous hydration. Diarrhea: mild: 2-3 loose stools in 24h, moderate: 4-5 loose stools in 24h & severe: 6 or more loose stools in 24h. Except fever, G4=ER visit/hospitalisation. G4 events classified by investigator/medically qualified person. Exact 95% CI based on Clopper & Pearson method. Safety population=all participants receiving at least 1 dose of study intervention. N= participants evaluable for this endpoint. n=participants evaluable for specified rows.

| | |
|----------------|---------|
| End point type | Primary |
|----------------|---------|

End point timeframe:

Day 1 up to Day 7 after study vaccination 2 (i.e third dose for Group 1b)

Notes:

[11] - No statistical analyses have been specified for this primary end point. It is expected there is at least one statistical analysis for each primary end point.

Justification: No statistical analysis was planned for this endpoint

| End point values | SSB: Group 1b: 2 prior doses of BNT162b2 | | | |
|--------------------------------------|--|--|--|--|
| Subject group type | Reporting group | | | |
| Number of subjects analysed | 12 | | | |
| Units: Percentage of participants | | | | |
| number (confidence interval 95%) | | | | |
| Fever: ≥ 38.0 deg C (n=11) | 0 (0.0 to 28.5) | | | |
| Fever: 38.0 to 38.4 deg C (n=11) | 0 (0.0 to 28.5) | | | |
| Fever: > 38.4 to 38.9 deg C (n=11) | 0 (0.0 to 28.5) | | | |
| Fever: > 38.9 to 40.0 deg C (n=11) | 0 (0.0 to 28.5) | | | |
| Fever: > 40.0 deg C (n=11) | 0 (0.0 to 28.5) | | | |
| Fatigue: Any (n=12) | 33.3 (9.9 to 65.1) | | | |
| Fatigue: Mild (n=12) | 16.7 (2.1 to 48.4) | | | |
| Fatigue: Moderate (n=12) | 16.7 (2.1 to 48.4) | | | |
| Fatigue: Severe (n=12) | 0 (0.0 to 26.5) | | | |
| Fatigue: Grade 4 (n=12) | 0 (0.0 to 26.5) | | | |
| Headache: Any (n=11) | 0 (0.0 to 28.5) | | | |
| Headache: Mild (n=11) | 0 (0.0 to 28.5) | | | |

| | | | | |
|--|-------------------|--|--|--|
| Headache: Moderate (n=11) | 0 (0.0 to 28.5) | | | |
| Headache: Severe (n=11) | 0 (0.0 to 28.5) | | | |
| Headache: Grade 4 (n=11) | 0 (0.0 to 28.5) | | | |
| Chills: Any (n=11) | 0 (0.0 to 28.5) | | | |
| Chills: Mild (n=11) | 0 (0.0 to 28.5) | | | |
| Chills: Moderate (n=11) | 0 (0.0 to 28.5) | | | |
| Chills: Severe (n=11) | 0 (0.0 to 28.5) | | | |
| Chills: Grade 4 (n=11) | 0 (0.0 to 28.5) | | | |
| Vomiting: Any (n=11) | 9.1 (0.2 to 41.3) | | | |
| Vomiting: Mild (n=11) | 9.1 (0.2 to 41.3) | | | |
| Vomiting: Moderate (n=11) | 0 (0.0 to 28.5) | | | |
| Vomiting: Severe (n=11) | 0 (0.0 to 28.5) | | | |
| Vomiting: Grade 4 (n=11) | 0 (0.0 to 28.5) | | | |
| Diarrhea: Any (n=11) | 9.1 (0.2 to 41.3) | | | |
| Diarrhea: Mild (n=11) | 9.1 (0.2 to 41.3) | | | |
| Diarrhea: Moderate (n=11) | 0 (0.0 to 28.5) | | | |
| Diarrhea: Severe (n=11) | 0 (0.0 to 28.5) | | | |
| Diarrhea: Grade 4 (n=11) | 0 (0.0 to 28.5) | | | |
| New or worsened muscle pain: Any (n=11) | 0 (0.0 to 28.5) | | | |
| New or worsened muscle pain: Mild (n=11) | 0 (0.0 to 28.5) | | | |
| New or worsened muscle pain: Moderate (n=11) | 0 (0.0 to 28.5) | | | |
| New or worsened muscle pain: Severe (n=11) | 0 (0.0 to 28.5) | | | |
| New or worsened muscle pain: Grade 4 (n=11) | 0 (0.0 to 28.5) | | | |
| New or worsened joint pain: Any (n=11) | 0 (0.0 to 28.5) | | | |
| New or worsened joint pain: Mild (n=11) | 0 (0.0 to 28.5) | | | |
| New or worsened joint pain: Moderate (n=11) | 0 (0.0 to 28.5) | | | |
| New or worsened joint pain: Severe (n=11) | 0 (0.0 to 28.5) | | | |
| New or worsened joint pain: Grade 4 (n=11) | 0 (0.0 to 28.5) | | | |

Statistical analyses

No statistical analyses for this end point

Primary: SSB: Percentage of Participants Reporting AEs From the First Study Vaccination to 1 Month After Study Vaccination 1 in Participants Aged ≥ 2 to < 5 Years

| | |
|-----------------|--|
| End point title | SSB: Percentage of Participants Reporting AEs From the First Study Vaccination to 1 Month After Study Vaccination 1 in Participants Aged ≥ 2 to < 5 Years ^[12] |
|-----------------|--|

End point description:

An AE was defined as any untoward medical occurrence in a clinical study participant, temporally associated with the use of study intervention, whether or not considered related to the study

intervention. Percentage of participants reporting AEs within 1 month after study vaccination were reported in this endpoint. Only AEs collected by non-systematic assessment (i.e., excluding local reactions and systemic events) were reported in this endpoint. Safety population included all participants who received at least 1 dose of the study intervention.

| | |
|----------------|---------|
| End point type | Primary |
|----------------|---------|

End point timeframe:

From study vaccination on Day 1 up to 1 month after study vaccination 1 (i.e. third dose for Group 1b and fourth dose for Groups 2b and 3b)

Notes:

[12] - No statistical analyses have been specified for this primary end point. It is expected there is at least one statistical analysis for each primary end point.

Justification: No statistical analysis was planned for this endpoint

| End point values | SSB: Group 1b: 2 prior doses of BNT162b2 | SSB: Group 2b: 3 prior doses of BNT162b2 | SSB: Group 3b: 3 prior doses of BNT162b2 | |
|-----------------------------------|--|--|--|--|
| Subject group type | Reporting group | Reporting group | Reporting group | |
| Number of subjects analysed | 13 | 218 | 989 | |
| Units: Percentage of participants | | | | |
| number (not applicable) | 0 | 4.6 | 6.6 | |

Statistical analyses

No statistical analyses for this end point

Primary: SSB: Percentage of Participants Reporting AEs From the Second Study Vaccination to 1 Month After Study Vaccination 2 in Participants Aged ≥ 2 to <5 Years: Group 1b Only

| | |
|-----------------|---|
| End point title | SSB: Percentage of Participants Reporting AEs From the Second Study Vaccination to 1 Month After Study Vaccination 2 in Participants Aged ≥ 2 to <5 Years: Group 1b Only ^[13] |
|-----------------|---|

End point description:

An AE was defined as any untoward medical occurrence in a clinical study participant, temporally associated with the use of study intervention, whether or not considered related to the study intervention. Percentage of participants reporting AEs within 1 month after study vaccination were reported in this endpoint. Exact 2-sided CI was calculated using the Clopper and Pearson method. Only AEs collected by non-systematic assessment (i.e., excluding local reactions and systemic events) were reported in this endpoint. Safety population included all participants who received at least 1 dose of the study intervention. N=participants evaluable for this endpoint. This endpoint is reported for Group 1b only as only participants from Group 1b received two vaccinations in the study.

| | |
|----------------|---------|
| End point type | Primary |
|----------------|---------|

End point timeframe:

From study vaccination 2 up to 1 month after study vaccination 2

Notes:

[13] - No statistical analyses have been specified for this primary end point. It is expected there is at least one statistical analysis for each primary end point.

Justification: No statistical analysis was planned for this endpoint

| | | | | |
|-----------------------------------|--|--|--|--|
| End point values | SSB: Group 1b: 2 prior doses of BNT162b2 | | | |
| Subject group type | Reporting group | | | |
| Number of subjects analysed | 12 | | | |
| Units: Percentage of participants | | | | |
| number (confidence interval 95%) | 8.3 (0.2 to 38.5) | | | |

Statistical analyses

No statistical analyses for this end point

Primary: SSB: Percentage of Participants Reporting SAEs From the First Study Vaccination to 6 Months After Last Study Vaccination in Participants Aged ≥ 2 to < 5 Years

| | |
|-----------------|---|
| End point title | SSB: Percentage of Participants Reporting SAEs From the First Study Vaccination to 6 Months After Last Study Vaccination in Participants Aged ≥ 2 to < 5 Years ^[14] |
|-----------------|---|

End point description:

An SAE was defined as any untoward medical occurrence that at any dose resulted in death, was life-threatening; resulted in persistent disability/incapacity; constituted a congenital anomaly/birth defect; was important medical event; required inpatient hospitalisation or prolongation of existing hospitalisation. Safety population included all participants who received at least 1 dose of the study intervention. N= participants evaluable for this endpoint.

| | |
|----------------|---------|
| End point type | Primary |
|----------------|---------|

End point timeframe:

From first study vaccination on Day 1 up to 6 months after last study vaccination

Notes:

[14] - No statistical analyses have been specified for this primary end point. It is expected there is at least one statistical analysis for each primary end point.

Justification: No statistical analysis was planned for this endpoint

| | | | | |
|-----------------------------------|--|--|--|--|
| End point values | SSB: Group 1b: 2 prior doses of BNT162b2 | SSB: Group 2b: 3 prior doses of BNT162b2 | SSB: Group 3b: 3 prior doses of BNT162b2 | |
| Subject group type | Reporting group | Reporting group | Reporting group | |
| Number of subjects analysed | 12 | 218 | 989 | |
| Units: Percentage of participants | | | | |
| number (not applicable) | 0 | 0 | 0.4 | |

Statistical analyses

No statistical analyses for this end point

Primary: SSB: GMR Based on Geometric Mean Titers of Severe Acute Respiratory Syndrome Coronavirus 2 (SARSCoV2) Omicron (BA.4/BA.5)–Neutralizing Titers at 1 Month After Dose 4 for Group 2 and at 1 Month After Dose 3 for C4591007 Phase 2/3 Participants

| | |
|-----------------|---|
| End point title | SSB: GMR Based on Geometric Mean Titers of Severe Acute |
|-----------------|---|

End point description:

GMTs and the corresponding 2-sided CIs were calculated by exponentiating the least square means and the corresponding CIs based on analysis of log-transformed assay results using a linear regression model with baseline log-transformed neutralizing titers, postbaseline infection status & vaccine group as covariates. Assay results below the LLOQ were set to 0.5*LLOQ. Evaluable immunogenicity population included all eligible participants who received the study intervention to which they were assigned, had at least one valid and determinate immunogenicity result from the blood sample collected within 28-42 days after the study vaccination, had no other important protocol deviations as determined by clinician. Results are presented for per-protocol subset which included random sample of 240 participants selected from the full group & comprised the same percentages of participants in each age group and baseline SARS-CoV-2 infection status group as the full group. 'N'=participants evaluable.

| | |
|----------------|---------|
| End point type | Primary |
|----------------|---------|

End point timeframe:

1 month after Dose 4 for Group 2 and 1 month after Dose 3 for C4591007 control arm

| End point values | SSB: Group 2a: 3 prior doses of BNT162b2 | SSB: Group 2b: 3 prior doses of BNT162b2 | SSB Historical cohort: C4591007 BNT162b2 >=6 months to <2 years | SSB Historical cohort: C4591007 BNT162b2 3 mcg |
|--|--|--|---|--|
| Subject group type | Reporting group | Reporting group | Subject analysis set | Subject analysis set |
| Number of subjects analysed | 62 | 161 | 71 | 167 |
| Units: Titers | | | | |
| geometric mean (confidence interval 95%) | 1664.4 (1339.3 to 2068.3) | 1920.7 (1661.9 to 2219.8) | 1031.3 (842.0 to 1263.3) | 901.8 (782.4 to 1039.5) |

Statistical analyses

| | |
|----------------------------|----------------------|
| Statistical analysis title | Geometric Mean Ratio |
|----------------------------|----------------------|

Statistical analysis description:

GMRs and 2-sided CIs were calculated by exponentiating the difference of LSMeans for the assay and the corresponding CIs based on analysis of log-transformed assay results using a linear regression model with baseline log-transformed neutralizing titers, postbaseline infection status, age group and vaccine group as covariates.

| | |
|---|---|
| Comparison groups | SSB: Group 2b: 3 prior doses of BNT162b2 v SSB Historical cohort: C4591007 BNT162b2 3 mcg |
| Number of subjects included in analysis | 328 |
| Analysis specification | Pre-specified |
| Analysis type | superiority |
| Parameter estimate | Geometric Mean Ratio |
| Point estimate | 2.13 |
| Confidence interval | |
| level | 95 % |
| sides | 2-sided |
| lower limit | 1.73 |
| upper limit | 2.62 |

| | |
|---|--|
| Statistical analysis title | Geometric Mean Ratio |
| Statistical analysis description: GMRs and 2-sided CIs were calculated by exponentiating the difference of LSMeans for the assay and the corresponding CIs based on analysis of log-transformed assay results using a linear regression model with baseline log-transformed neutralizing titers, postbaseline infection status, age group and vaccine group as covariates. | |
| Comparison groups | SSB: Group 2a: 3 prior doses of BNT162b2 v SSB Historical cohort:C4591007 BNT162b2 >=6 months to<2 years |
| Number of subjects included in analysis | 133 |
| Analysis specification | Pre-specified |
| Analysis type | superiority |
| Parameter estimate | Geometric Mean Ratio |
| Point estimate | 1.61 |
| Confidence interval | |
| level | 95 % |
| sides | 2-sided |
| lower limit | 1.2 |
| upper limit | 2.18 |

Primary: SSB: Percentage of Participants With Seroresponse to the Omicron (BA.4/BA.5)–Strain at 1 Month After Dose 4 for Group 2 and at 1 Month After Dose 3 for C4591007 Phase 2/3 Participants

| | |
|-----------------|---|
| End point title | SSB: Percentage of Participants With Seroresponse to the Omicron (BA.4/BA.5)–Strain at 1 Month After Dose 4 for Group 2 and at 1 Month After Dose 3 for C4591007 Phase 2/3 Participants |
|-----------------|---|

End point description:

Seroresponse was defined as achieving ≥ 4 -fold rise from baseline (before Dose 4 for C4591048 Substudy B Group 2 and before Dose 3 for C4591007). If the baseline measurement was below the lower limit of quantification (LLOQ), the postvaccination assay result of $\geq 4 \times \text{LLOQ}$ was considered a seroresponse. Exact 2-sided 95% CI was based on the Clopper and Pearson method. Percentage of participants achieving seroresponse at 1 month after study vaccination was reported in this endpoint. Evaluable immunogenicity population was analyzed. Results were presented for per-protocol subset which included a random sample of 240 participants selected from the full group and comprised of the same percentage of participants in each age group and baseline SARS-CoV-2 infection status group as the full group. 'N'=participants evaluable for this endpoint.

| | |
|----------------|---------|
| End point type | Primary |
|----------------|---------|

End point timeframe:

1 month after Dose 4 for Group 2 and 1 month after Dose 3 for C4591007 control arm

| | | | | |
|-----------------------------------|--|--|--|--|
| End point values | SSB: Group 2a: 3 prior doses of BNT162b2 | SSB: Group 2b: 3 prior doses of BNT162b2 | SSB Historical cohort:C4591007 BNT162b2 ≥ 6 months to<2 years | SSB Historical cohort: C4591007 BNT162b2 3 mcg |
| Subject group type | Reporting group | Reporting group | Subject analysis set | Subject analysis set |
| Number of subjects analysed | 62 | 161 | 71 | 167 |
| Units: Percentage of participants | | | | |

| | | | | |
|----------------------------------|---------------------|---------------------|---------------------|---------------------|
| number (confidence interval 95%) | 54.8 (41.7 to 67.5) | 71.4 (63.8 to 78.3) | 42.3 (30.6 to 54.6) | 53.9 (46.0 to 61.6) |
|----------------------------------|---------------------|---------------------|---------------------|---------------------|

Statistical analyses

| Statistical analysis title | Percentages of Participants With Seroresponse |
|---|---|
| Statistical analysis description: Adjusted difference in proportion based on the Miettinen and Nurminen method stratified by baseline neutralizing titer category (<median, ≥median), expressed as a percentage (bivalent BNT162b2 [original/Omi BA.4/BA.5] 3 mcg - BNT162b2 3 mcg). | |
| Comparison groups | SSB: Group 2b: 3 prior doses of BNT162b2 v SSB Historical cohort: C4591007 BNT162b2 3 mcg |
| Number of subjects included in analysis | 328 |
| Analysis specification | Pre-specified |
| Analysis type | non-inferiority ^[15] |
| Parameter estimate | Percentage Difference |
| Point estimate | 21.37 |
| Confidence interval | |
| level | 95 % |
| sides | 2-sided |
| lower limit | 11.59 |
| upper limit | 31.15 |

Notes:

[15] - Noninferiority was established if the lower bound of the 2-sided 95% CI for the difference in percentage was greater than -5%.

| Statistical analysis title | Percentages of Participants With Seroresponse |
|---|---|
| Statistical analysis description: Adjusted difference in proportion based on the Miettinen and Nurminen method stratified by baseline neutralizing titer category (<median, ≥median), expressed as a percentage (bivalent BNT162b2 [original/Omi BA.4/BA.5] 3 mcg - BNT162b2 3 mcg). | |
| Comparison groups | SSB: Group 2a: 3 prior doses of BNT162b2 v SSB Historical cohort:C4591007 BNT162b2 ≥6 months to<2 years |
| Number of subjects included in analysis | 133 |
| Analysis specification | Pre-specified |
| Analysis type | non-inferiority ^[16] |
| Parameter estimate | Percentage Difference |
| Point estimate | 16.24 |
| Confidence interval | |
| level | 95 % |
| sides | 2-sided |
| lower limit | 0.8 |
| upper limit | 31.67 |

Notes:

[16] - Noninferiority was established if the lower bound of the 2-sided 95% CI for the difference in percentage was greater than -5%.

Primary: SSC: Percentage of Participants With Local Reactions Within 7 Days After Study Vaccination in Participants Aged ≥6 Months to <2 Years

| | |
|-----------------|---|
| End point title | SSC: Percentage of Participants With Local Reactions Within 7 Days After Study Vaccination in Participants Aged ≥6 Months to <2 Years ^[17] |
|-----------------|---|

End point description:

Local reactions were collected in e-diary or during unscheduled clinical assessments from Day 1 to Day 7 after study vaccination. Redness and swelling were measured and recorded in mdu where, 1 mdu =0.5 cm and were graded as mild (≥ 0.5 to 2.0 cm), moderate (>2.0 to 7.0 cm), severe (>7.0 cm) and G4 (necrosis [redness and swelling] or exfoliative dermatitis [redness]). Tenderness at injection site was graded as mild (hurts if gently touched), moderate (hurts if gently touched with crying), severe (causes limitation of limb movement) & G4 ER visit or hospitalisation. G4 were classified by investigator or medically qualified person. Percentage of participants with local reactions within 7 days after study vaccination and associated 2-sided 95% CI based on Clopper and Pearson method is reported. Safety population=all participants receiving at least 1 dose of study intervention.

| | |
|----------------|---------|
| End point type | Primary |
|----------------|---------|

End point timeframe:

Day 1 up to Day 7 after study vaccination

Notes:

[17] - No statistical analyses have been specified for this primary end point. It is expected there is at least one statistical analysis for each primary end point.

Justification: No statistical analysis was planned for this endpoint

| End point values | SSC: Group 1a: 3 prior doses of BNT162b2 | SSC: Group 1b: 3 prior doses of BNT162b2 | | |
|--|--|--|--|--|
| Subject group type | Reporting group | Reporting group | | |
| Number of subjects analysed | 17 | 19 | | |
| Units: Percentage of participants | | | | |
| number (confidence interval 95%) | | | | |
| Redness: Any | 23.5 (6.8 to 49.9) | 21.1 (6.1 to 45.6) | | |
| Redness: Mild | 17.6 (3.8 to 43.4) | 21.1 (6.1 to 45.6) | | |
| Redness: Moderate | 5.9 (0.1 to 28.7) | 0 (0.0 to 17.6) | | |
| Redness: Severe | 0 (0.0 to 19.5) | 0 (0.0 to 17.6) | | |
| Redness: Grade 4 | 0 (0.0 to 19.5) | 0 (0.0 to 17.6) | | |
| Swelling: Any | 0 (0.0 to 19.5) | 0 (0.0 to 17.6) | | |
| Swelling: Mild | 0 (0.0 to 19.5) | 0 (0.0 to 17.6) | | |
| Swelling: Moderate | 0 (0.0 to 19.5) | 0 (0.0 to 17.6) | | |
| Swelling: Severe | 0 (0.0 to 19.5) | 0 (0.0 to 17.6) | | |
| Swelling: Grade 4 | 0 (0.0 to 19.5) | 0 (0.0 to 17.6) | | |
| Tenderness at the injection site: Any | 5.9 (0.1 to 28.7) | 15.8 (3.4 to 39.6) | | |
| Tenderness at the injection site: Mild | 5.9 (0.1 to 28.7) | 15.8 (3.4 to 39.6) | | |
| Tenderness at the injection site: Moderate | 0 (0.0 to 19.5) | 0 (0.0 to 17.6) | | |
| Tenderness at the injection site: Severe | 0 (0.0 to 19.5) | 0 (0.0 to 17.6) | | |
| Tenderness at the injection site: Grade 4 | 0 (0.0 to 19.5) | 0 (0.0 to 17.6) | | |

Statistical analyses

No statistical analyses for this end point

Primary: SSC: Percentage of Participants With Systemic Events Within 7 Days After Study Vaccination in Participants Aged ≥ 6 Months to <2 Years

| | |
|-----------------|--|
| End point title | SSC: Percentage of Participants With Systemic Events Within 7 Days After Study Vaccination in Participants Aged ≥ 6 Months to < 2 Years ^[18] |
|-----------------|--|

End point description:

Systemic events recorded in an e-diary and at unscheduled clinical assessments from Day 1 to 7 after study vaccination. Fever: oral temperature ≥ 38.0 deg C categorised as ≥ 38.0 to 38.4 deg C, > 38.4 to 38.9 deg C, > 38.9 to 40.0 deg C & > 40.0 deg C. Decreased appetite: mild (decreased interest in eating), moderate (decreased oral intake), severe (refusal to feed). Drowsiness: mild (increased or prolonged sleeping bouts), moderate (slightly subdued interfering with daily activity), severe (disabling; not interested in usual daily activity). Irritability: mild (easily consolable), moderate (requiring increased attention), severe (disabling; not interested in usual daily activity). G4 for all events except fever: ER visit/hospitalisation & were classified by investigator or medically qualified person. Events reported as AEs in the CRF within 7 days after vaccination were also included. Exact 95% CI based on Clopper and Pearson method. Safety population = all participants receiving at least 1 dose of study intervention.

| | |
|----------------|---------|
| End point type | Primary |
|----------------|---------|

End point timeframe:

Day 1 up to Day 7 after study vaccination

Notes:

[18] - No statistical analyses have been specified for this primary end point. It is expected there is at least one statistical analysis for each primary end point.

Justification: No statistical analysis was planned for this endpoint

| End point values | SSC: Group 1a: 3 prior doses of BNT162b2 | SSC: Group 1b: 3 prior doses of BNT162b2 | | |
|------------------------------------|--|--|--|--|
| Subject group type | Reporting group | Reporting group | | |
| Number of subjects analysed | 17 | 19 | | |
| Units: Percentage of participants | | | | |
| number (confidence interval 95%) | | | | |
| Fever: Any | 17.6 (3.8 to 43.4) | 5.3 (0.1 to 26.0) | | |
| Fever: ≥ 38.0 to 38.4 deg C | 11.8 (1.5 to 36.4) | 0 (0.0 to 17.6) | | |
| Fever: > 38.4 to 38.9 deg C | 5.9 (0.1 to 28.7) | 5.3 (0.1 to 26.0) | | |
| Fever: > 38.9 to 40.0 deg C | 0 (0.0 to 19.5) | 0 (0.0 to 17.6) | | |
| Fever: > 40.0 deg C | 0 (0.0 to 19.5) | 0 (0.0 to 17.6) | | |
| Decreased appetite: Any | 23.5 (6.8 to 49.9) | 15.8 (3.4 to 39.6) | | |
| Decreased appetite: Mild | 23.5 (6.8 to 49.9) | 15.8 (3.4 to 39.6) | | |
| Decreased appetite: Moderate | 0 (0.0 to 19.5) | 0 (0.0 to 17.6) | | |
| Decreased appetite: Severe | 0 (0.0 to 19.5) | 0 (0.0 to 17.6) | | |
| Decreased appetite: Grade 4 | 0 (0.0 to 19.5) | 0 (0.0 to 17.6) | | |
| Drowsiness: Any | 29.4 (10.3 to 56.0) | 26.3 (9.1 to 51.2) | | |
| Drowsiness: Mild | 17.6 (3.8 to 43.4) | 21.1 (6.1 to 45.6) | | |
| Drowsiness: Moderate | 11.8 (1.5 to 36.4) | 5.3 (0.1 to 26.0) | | |
| Drowsiness: Severe | 0 (0.0 to 19.5) | 0 (0.0 to 17.6) | | |
| Drowsiness: Grade 4 | 0 (0.0 to 19.5) | 0 (0.0 to 17.6) | | |
| Irritability: Any | 47.1 (23.0 to 72.2) | 73.7 (48.8 to 90.9) | | |
| Irritability: Mild | 29.4 (10.3 to 56.0) | 21.1 (6.1 to 45.6) | | |
| Irritability: Moderate | 17.6 (3.8 to 43.4) | 52.6 (28.9 to 75.6) | | |
| Irritability: Severe | 0 (0.0 to 19.5) | 0 (0.0 to 17.6) | | |

| | | | | |
|-----------------------|-----------------|-----------------|--|--|
| Irritability: Grade 4 | 0 (0.0 to 19.5) | 0 (0.0 to 17.6) | | |
|-----------------------|-----------------|-----------------|--|--|

Statistical analyses

No statistical analyses for this end point

Primary: SSC: Percentage of Participants Reporting Adverse Events (AEs) Within 1 Month After Study Vaccination in Participants Aged ≥ 6 Months to < 2 Years

| | |
|-----------------|---|
| End point title | SSC: Percentage of Participants Reporting Adverse Events (AEs) Within 1 Month After Study Vaccination in Participants Aged ≥ 6 Months to < 2 Years ^[19] |
|-----------------|---|

End point description:

An AE was defined as any untoward medical occurrence in a clinical study participant, temporally associated with the use of study intervention, whether or not considered related to the study intervention. Percentage of participants reporting AEs within 1 month after study vaccination were reported in this endpoint. Only AEs collected by non-systematic assessment (i.e., excluding local reactions and systemic events) were reported in this endpoint. Safety population included all participants who received at least 1 dose of the study intervention.

| | |
|----------------|---------|
| End point type | Primary |
|----------------|---------|

End point timeframe:

From study vaccination on Day 1 up to 1 month after study vaccination

Notes:

[19] - No statistical analyses have been specified for this primary end point. It is expected there is at least one statistical analysis for each primary end point.

Justification: No statistical analysis was planned for this endpoint

| End point values | SSC: Group 1a: 3 prior doses of BNT162b2 | SSC: Group 1b: 3 prior doses of BNT162b2 | | |
|-----------------------------------|--|--|--|--|
| Subject group type | Reporting group | Reporting group | | |
| Number of subjects analysed | 17 | 19 | | |
| Units: Percentage of participants | | | | |
| number (not applicable) | 11.8 | 15.8 | | |

Statistical analyses

No statistical analyses for this end point

Primary: SSC: Percentage of Participants With Local Reactions Within 7 Days After Study Vaccination in Participants Aged ≥ 2 to < 5 Years

| | |
|-----------------|---|
| End point title | SSC: Percentage of Participants With Local Reactions Within 7 Days After Study Vaccination in Participants Aged ≥ 2 to < 5 Years ^[20] |
|-----------------|---|

End point description:

Local reactions recorded by participants/parents/legal guardians in e-diary. Redness & swelling recorded in mdu converted to cm. 1 mdu = 0.5 cm & graded mild: (> 0.5 to 2.0 cm), moderate: > 2.0 to 7.0 cm, severe: > 7.0 cm, G4: necrosis/exfoliative dermatitis (redness) & necrosis (swelling). Pain at injection site graded mild: did not interfere with daily activity, moderate: interfered with daily activity, severe: prevented daily activity & G4: ER]visit/hospitalisation. G4 classified by investigator/medically qualified

Percentage of participants with local reactions within 7days after study vaccination and associated 2-sided 95% CI based on Clopper and Pearson method.Safety population=all participants receiving at least 1 dose of study intervention. Number of subjects analyzed= participants evaluable for this endpoint.

| | |
|--|---------|
| End point type | Primary |
| End point timeframe: | |
| Day 1 up to Day 7 after study vaccination | |
| Notes: | |
| [20] - No statistical analyses have been specified for this primary end point. It is expected there is at least one statistical analysis for each primary end point. | |
| Justification: No statistical analysis was planned for this endpoint | |

| End point values | SSC: Group 2a: 3 prior doses of BNT162b2 | SSC: Group 2b: 3 prior doses of BNT162b2 | | |
|--------------------------------------|--|--|--|--|
| Subject group type | Reporting group | Reporting group | | |
| Number of subjects analysed | 32 | 30 | | |
| Units: Percentage of participants | | | | |
| number (confidence interval 95%) | | | | |
| Redness: Any | 6.3 (0.8 to 20.8) | 3.3 (0.1 to 17.2) | | |
| Redness: Mild | 6.3 (0.8 to 20.8) | 3.3 (0.1 to 17.2) | | |
| Redness: Moderate | 0 (0.0 to 10.9) | 0 (0.0 to 11.6) | | |
| Redness: Severe | 0 (0.0 to 10.9) | 0 (0.0 to 11.6) | | |
| Redness: Grade 4 | 0 (0.0 to 10.9) | 0 (0.0 to 11.6) | | |
| Swelling: Any | 6.3 (0.8 to 20.8) | 0 (0.0 to 11.6) | | |
| Swelling: Mild | 6.3 (0.8 to 20.8) | 0 (0.0 to 11.6) | | |
| Swelling: Moderate | 0 (0.0 to 10.9) | 0 (0.0 to 11.6) | | |
| Swelling: Severe | 0 (0.0 to 10.9) | 0 (0.0 to 11.6) | | |
| Swelling: Grade 4 | 0 (0.0 to 10.9) | 0 (0.0 to 11.6) | | |
| Pain at the injection site: Any | 31.3 (16.1 to 50.0) | 26.7 (12.3 to 45.9) | | |
| Pain at the injection site: Mild | 28.1 (13.7 to 46.7) | 26.7 (12.3 to 45.9) | | |
| Pain at the injection site: Moderate | 3.1 (0.1 to 16.2) | 0 (0.0 to 11.6) | | |
| Pain at the injection site: Severe | 0 (0.0 to 10.9) | 0 (0.0 to 11.6) | | |
| Pain at the injection site: Grade 4 | 0 (0.0 to 10.9) | 0 (0.0 to 11.6) | | |

Statistical analyses

No statistical analyses for this end point

Primary: SSC: Percentage of Participants Reporting Serious Adverse Events (SAEs) Within 6 Months After Study Vaccination in Participants Aged >=6 Months to <2 Years

| | |
|-----------------|---|
| End point title | SSC: Percentage of Participants Reporting Serious Adverse Events (SAEs) Within 6 Months After Study Vaccination in Participants Aged >=6 Months to <2 Years ^[21] |
|-----------------|---|

End point description:

An SAE was defined as any untoward medical occurrence that at any dose resulted in death, was life-threatening; resulted in persistent disability/incapacity; constituted a congenital anomaly/birth defect; was important medical event; required inpatient hospitalisation or prolongation of existing hospitalisation. Safety population included all participants who received at least 1 dose of the study intervention.

| | |
|----------------|---------|
| End point type | Primary |
|----------------|---------|

End point timeframe:

From study vaccination on Day 1 up to 6 months after study vaccination

Notes:

[21] - No statistical analyses have been specified for this primary end point. It is expected there is at least one statistical analysis for each primary end point.

Justification: No statistical analysis was planned for this endpoint

| End point values | SSC: Group 1a: 3 prior doses of BNT162b2 | SSC: Group 1b: 3 prior doses of BNT162b2 | | |
|-----------------------------------|--|--|--|--|
| Subject group type | Reporting group | Reporting group | | |
| Number of subjects analysed | 17 | 19 | | |
| Units: Percentage of participants | | | | |
| number (not applicable) | 0 | 0 | | |

Statistical analyses

No statistical analyses for this end point

Primary: SSC: Percentage of Participants With Systemic Events Within 7 Days After Study Vaccination in Participants Aged ≥ 2 to < 5 Years

| | |
|-----------------|---|
| End point title | SSC: Percentage of Participants With Systemic Events Within 7 Days After Study Vaccination in Participants Aged ≥ 2 to < 5 Years ^[22] |
|-----------------|---|

End point description:

Systemic events recorded by participants/parents/legal guardians in e-diary. Fever: oral temperature ≥ 38.0 deg C and categorised as ≥ 38.0 - 38.4 deg C, > 38.4 - 38.9 deg C, > 38.9 - 40.0 deg C & > 40.0 deg C. Fatigue, headache, chills, new/worsened muscle pain & new/worsened joint pain: mild: did not interfere with activity, moderate: some interference with activity & severe: prevented daily routine activity. Vomiting: mild: 1-2 times in 24h, moderate: > 2 times in 24h, severe: required intravenous hydration. Diarrhea: mild: 2-3 loose stools in 24h, moderate: 4-5 loose stools in 24h & severe: 6 or more loose stools in 24h. Except fever, G4=ER visit/hospitalisation. G4 events classified by investigator/medically qualified person. Exact 95% CI based on Clopper & Pearson method. Safety population=all participants receiving at least 1 dose of study intervention.

| | |
|----------------|---------|
| End point type | Primary |
|----------------|---------|

End point timeframe:

Day 1 up to Day 7 after study vaccination

Notes:

[22] - No statistical analyses have been specified for this primary end point. It is expected there is at least one statistical analysis for each primary end point.

Justification: No statistical analysis was planned for this endpoint

| End point values | SSC: Group 2a: 3 prior doses of BNT162b2 | SSC: Group 2b: 3 prior doses of BNT162b2 | | |
|-----------------------------------|--|--|--|--|
| Subject group type | Reporting group | Reporting group | | |
| Number of subjects analysed | 32 | 30 | | |
| Units: Percentage of participants | | | | |
| number (confidence interval 95%) | | | | |
| Fever: Any | 25.0 (11.5 to 43.4) | 10.0 (2.1 to 26.5) | | |
| Fever: 38.0 to 38.4 deg C | 6.3 (0.8 to 20.8) | 6.7 (0.8 to 22.1) | | |
| Fever: >38.4 to 38.9 deg C | 12.5 (3.5 to 29.0) | 0 (0.0 to 11.6) | | |
| Fever: >38.9 to 40.0 deg C | 6.3 (0.8 to 20.8) | 3.3 (0.1 to 17.2) | | |
| Fever: >40.0 deg C | 0 (0.0 to 10.9) | 0 (0.0 to 11.6) | | |
| Fatigue: Any | 40.6 (23.7 to 59.4) | 36.7 (19.9 to 56.1) | | |
| Fatigue: Mild | 12.5 (3.5 to 29.0) | 23.3 (9.9 to 42.3) | | |
| Fatigue: Moderate | 21.9 (9.3 to 40.0) | 13.3 (3.8 to 30.7) | | |
| Fatigue: Severe | 6.3 (0.8 to 20.8) | 0 (0.0 to 11.6) | | |
| Fatigue: Grade 4 | 0 (0.0 to 10.9) | 0 (0.0 to 11.6) | | |
| Headache: Any | 12.5 (3.5 to 29.0) | 3.3 (0.1 to 17.2) | | |
| Headache: Mild | 6.3 (0.8 to 20.8) | 3.3 (0.1 to 17.2) | | |
| Headache: Moderate | 6.3 (0.8 to 20.8) | 0 (0.0 to 11.6) | | |
| Headache: Severe | 0 (0.0 to 10.9) | 0 (0.0 to 11.6) | | |
| Headache: Grade 4 | 0 (0.0 to 10.9) | 0 (0.0 to 11.6) | | |
| Chills: Any | 12.5 (3.5 to 29.0) | 3.3 (0.1 to 17.2) | | |
| Chills: Mild | 9.4 (2.0 to 25.0) | 0 (0.0 to 11.6) | | |
| Chills: Moderate | 3.1 (0.1 to 16.2) | 3.3 (0.1 to 17.2) | | |
| Chills: Severe | 0 (0.0 to 10.9) | 0 (0.0 to 11.6) | | |
| Chills: Grade 4 | 0 (0.0 to 10.9) | 0 (0.0 to 11.6) | | |
| Vomiting: Any | 9.4 (2.0 to 25.0) | 6.7 (0.8 to 22.1) | | |
| Vomiting: Mild | 6.3 (0.8 to 20.8) | 6.7 (0.8 to 22.1) | | |
| Vomiting: Moderate | 3.1 (0.1 to 16.2) | 0 (0.0 to 11.6) | | |
| Vomiting: Severe | 0 (0.0 to 10.9) | 0 (0.0 to 11.6) | | |
| Vomiting: Grade 4 | 0 (0.0 to 10.9) | 0 (0.0 to 11.6) | | |
| Diarrhea: Any | 6.3 (0.8 to 20.8) | 3.3 (0.1 to 17.2) | | |
| Diarrhea: Mild | 3.1 (0.1 to 16.2) | 0 (0.0 to 11.6) | | |
| Diarrhea: Moderate | 3.1 (0.0 to 10.9) | 3.3 (0.1 to 17.2) | | |
| Diarrhea: Severe | 0 (0.0 to 10.9) | 0 (0.0 to 11.6) | | |
| Diarrhea: Grade 4 | 0 (0.0 to 10.9) | 0 (0.0 to 11.6) | | |

| | | | | |
|---------------------------------------|-------------------|-------------------|--|--|
| New or worsened muscle pain: Any | 9.4 (2.0 to 25.0) | 6.7 (0.8 to 22.1) | | |
| New or worsened muscle pain: Mild | 6.3 (0.8 to 20.8) | 3.3 (0.1 to 17.2) | | |
| New or worsened muscle pain: Moderate | 3.1 (0.1 to 16.2) | 3.3 (0.1 to 17.2) | | |
| New or worsened muscle pain: Severe | 0 (0.0 to 10.9) | 0 (0.0 to 11.6) | | |
| New or worsened muscle pain: Grade 4 | 0 (0.0 to 10.9) | 0 (0.0 to 11.6) | | |
| New or worsened joint pain: Any | 0 (0.0 to 10.9) | 0 (0.0 to 11.6) | | |
| New or worsened joint pain: Mild | 0 (0.0 to 10.9) | 0 (0.0 to 11.6) | | |
| New or worsened joint pain: Moderate | 0 (0.0 to 10.9) | 0 (0.0 to 11.6) | | |
| New or worsened joint pain: Severe | 0 (0.0 to 10.9) | 0 (0.0 to 11.6) | | |
| New or worsened joint pain: Grade 4 | 0 (0.0 to 10.9) | 0 (0.0 to 11.6) | | |

Statistical analyses

No statistical analyses for this end point

Primary: SSC: Percentage of Participants Reporting AEs Within 1 Month After Study Vaccination in Participants Aged ≥ 2 to < 5 Years

| | |
|-----------------|---|
| End point title | SSC: Percentage of Participants Reporting AEs Within 1 Month After Study Vaccination in Participants Aged ≥ 2 to < 5 Years ^[23] |
|-----------------|---|

End point description:

An AE was defined as any untoward medical occurrence in a clinical study participant, temporally associated with the use of study intervention, whether or not considered related to the study intervention. Percentage of participants reporting AEs within 1 month after study vaccination were reported in this endpoint. Only AEs collected by non-systematic assessment (i.e., excluding local reactions and systemic events) were reported in this endpoint. Safety population included all participants who received at least 1 dose of the study intervention.

| | |
|----------------|---------|
| End point type | Primary |
|----------------|---------|

End point timeframe:

From study vaccination on Day 1 up to 1 month after study vaccination

Notes:

[23] - No statistical analyses have been specified for this primary end point. It is expected there is at least one statistical analysis for each primary end point.

Justification: No statistical analysis was planned for this endpoint

| End point values | SSC: Group 2a: 3 prior doses of BNT162b2 | SSC: Group 2b: 3 prior doses of BNT162b2 | | |
|-----------------------------------|--|--|--|--|
| Subject group type | Reporting group | Reporting group | | |
| Number of subjects analysed | 32 | 30 | | |
| Units: Percentage of participants | | | | |
| number (not applicable) | 0 | 0 | | |

Statistical analyses

No statistical analyses for this end point

Primary: SSC: Percentage of Participants Reporting SAEs Within 6 Months After Study Vaccination in Participants Aged ≥ 2 to < 5 Years

| | |
|-----------------|---|
| End point title | SSC: Percentage of Participants Reporting SAEs Within 6 Months After Study Vaccination in Participants Aged ≥ 2 to < 5 Years ^[24] |
|-----------------|---|

End point description:

An SAE was defined as any untoward medical occurrence that at any dose resulted in death, was life-threatening; resulted in persistent disability/incapacity; constituted a congenital anomaly/birth defect; was important medical event; required inpatient hospitalisation or prolongation of existing hospitalisation. Safety population included all participants who received at least 1 dose of the study intervention.

| | |
|----------------|---------|
| End point type | Primary |
|----------------|---------|

End point timeframe:

From study vaccination on Day 1 up to 6 months after study vaccination

Notes:

[24] - No statistical analyses have been specified for this primary end point. It is expected there is at least one statistical analysis for each primary end point.

Justification: No statistical analysis was planned for this endpoint

| End point values | SSC: Group 2a: 3 prior doses of BNT162b2 | SSC: Group 2b: 3 prior doses of BNT162b2 | | |
|-----------------------------------|--|--|--|--|
| Subject group type | Reporting group | Reporting group | | |
| Number of subjects analysed | 32 | 30 | | |
| Units: Percentage of participants | | | | |
| number (not applicable) | 0 | 0 | | |

Statistical analyses

No statistical analyses for this end point

Primary: SSC: Percentages of Participants With Seroresponse to the Omicron (BA.4/BA.5)– Neutralizing Titers at 1 Month After Study Vaccination

| | |
|-----------------|---|
| End point title | SSC: Percentages of Participants With Seroresponse to the Omicron (BA.4/BA.5)– Neutralizing Titers at 1 Month After Study Vaccination ^[25] |
|-----------------|---|

End point description:

Seroresponse was defined as achieving ≥ 4 -fold rise from baseline (before the study vaccination). If the baseline measurement was below the lower limit of quantification (LLOQ), the postvaccination assay result of $\geq 4 \times$ LLOQ was considered a seroresponse. Exact 2-sided 95% CI, based on the Clopper and Pearson method. Percentage of participants achieving seroresponse at 1 month after study vaccination was reported in this endpoint. Evaluable immunogenicity population included all eligible randomised participants who received the study intervention to which they were randomised, had a valid and determinate immunogenicity result within 28-42 days after the study vaccination, and had no other important protocol deviations as determined by the clinician. Participants with or without evidence of prior infection were included in the analysis. 'N'=participants evaluable for this endpoint.

| | |
|----------------|---------|
| End point type | Primary |
|----------------|---------|

End point timeframe:

1 Month after study vaccination

Notes:

[25] - No statistical analyses have been specified for this primary end point. It is expected there is at least one statistical analysis for each primary end point.

Justification: No statistical analysis was planned for this endpoint

| End point values | SSC: Group 1a: 3 prior doses of BNT162b2 | SSC: Group 1b: 3 prior doses of BNT162b2 | SSC: Group 2a: 3 prior doses of BNT162b2 | SSC: Group 2b: 3 prior doses of BNT162b2 |
|-----------------------------------|--|--|--|--|
| Subject group type | Reporting group | Reporting group | Reporting group | Reporting group |
| Number of subjects analysed | 9 | 14 | 27 | 28 |
| Units: Percentage of participants | | | | |
| number (confidence interval 95%) | 55.6 (21.2 to 86.3) | 78.6 (49.2 to 95.3) | 85.2 (66.3 to 95.8) | 92.9 (76.5 to 99.1) |

Statistical analyses

No statistical analyses for this end point

Primary: SSC: Geometric Mean Titers of SARSCoV2 Omicron (BA.4/BA.5)–Neutralizing Titers Before Vaccination and 1 Month After Vaccination

| | |
|-----------------|---|
| End point title | SSC: Geometric Mean Titers of SARSCoV2 Omicron (BA.4/BA.5)–Neutralizing Titers Before Vaccination and 1 Month After Vaccination ^[26] |
|-----------------|---|

End point description:

GMT of SARS-CoV-2 Omicron strain–neutralizing titers before vaccination and 1 month after the study vaccination was reported in this endpoint. GMTs and the corresponding 2-sided CIs were calculated by exponentiating the mean logarithm of the titers and the corresponding CIs (based on Student's t distribution). Assay results below the LLOQ were set to 0.5*LLOQ. Evaluable immunogenicity population included all eligible randomised participants who received the study intervention to which they were randomised, had a valid and determinate immunogenicity result within 28-42 days after the study vaccination, and had no other important protocol deviations as determined by the clinician. Participants with or without evidence of prior infection were included in the analysis. 'N'=participants evaluable for this endpoint.

| | |
|----------------|---------|
| End point type | Primary |
|----------------|---------|

End point timeframe:

before vaccination and 1 month after study vaccination

Notes:

[26] - No statistical analyses have been specified for this primary end point. It is expected there is at least one statistical analysis for each primary end point.

Justification: No statistical analysis was planned for this endpoint

| End point values | SSC: Group 1a: 3 prior doses of BNT162b2 | SSC: Group 1b: 3 prior doses of BNT162b2 | SSC: Group 2a: 3 prior doses of BNT162b2 | SSC: Group 2b: 3 prior doses of BNT162b2 |
|---|--|--|--|--|
| Subject group type | Reporting group | Reporting group | Reporting group | Reporting group |
| Number of subjects analysed | 11 | 14 | 30 | 30 |
| Units: Titers | | | | |
| geometric mean (confidence interval 95%) | | | | |
| Pre-vaccination (n= 9, 14, 27, 28) | 370.6 (62.7 to 2190.9) | 225.8 (66.7 to 763.7) | 199.3 (102.4 to 387.7) | 312.6 (161.5 to 605.0) |
| 1 month after vaccination (n= 11, 14, 30, 30) | 3059.7 (767.0 to 12205.5) | 2866.8 (772.8 to 10634.9) | 3536.4 (2044.2 to 6117.9) | 7155.7 (3926.9 to 13039.1) |

Statistical analyses

No statistical analyses for this end point

Primary: SSC: Geometric Mean Fold Rise (GMFR) of SARS-CoV-2 Omicron BA.4/BA.5–Neutralizing Titers From Study Vaccination to 1 Month After Vaccination

| | |
|-----------------|--|
| End point title | SSC: Geometric Mean Fold Rise (GMFR) of SARS-CoV-2 Omicron BA.4/BA.5–Neutralizing Titers From Study Vaccination to 1 Month After Vaccination ^[27] |
|-----------------|--|

End point description:

GMFR of SARS-CoV-2 omicron BA.4/BA.5-neutralizing titers at 1 month after study vaccination was reported in this endpoint. GMFRs and 2-sided 95% CIs were calculated by exponentiating the mean logarithm of fold rises and the corresponding CIs (based on the Student t distribution). Assay results below the LLOQ were set to 0.5*LLOQ in the analysis. Evaluable immunogenicity population included all eligible randomised participants who received the study intervention to which they were randomised, had a valid and determinate immunogenicity result within 28-42 days after the study vaccination, and had no other important protocol deviations as determined by the clinician. Participants with or without evidence of prior infection were included in the analysis. 'N'=participants evaluable for this endpoint.

| | |
|----------------|---------|
| End point type | Primary |
|----------------|---------|

End point timeframe:

From study vaccination on Day 1 up to 1 month after study vaccination

Notes:

[27] - No statistical analyses have been specified for this primary end point. It is expected there is at least one statistical analysis for each primary end point.

Justification: No statistical analysis was planned for this endpoint

| End point values | SSC: Group 1a: 3 prior doses of BNT162b2 | SSC: Group 1b: 3 prior doses of BNT162b2 | SSC: Group 2a: 3 prior doses of BNT162b2 | SSC: Group 2b: 3 prior doses of BNT162b2 |
|--|--|--|--|--|
| Subject group type | Reporting group | Reporting group | Reporting group | Reporting group |
| Number of subjects analysed | 9 | 14 | 27 | 28 |
| Units: Fold rise | | | | |
| geometric mean (confidence interval 95%) | 8.3 (2.5 to 27.3) | 12.7 (6.1 to 26.3) | 17.4 (11.1 to 27.4) | 24.4 (14.9 to 40.0) |

Statistical analyses

No statistical analyses for this end point

Primary: SSC:GMFR of SARS-CoV-2 Reference-Strain–Neutralizing Titers From Study Vaccination to 1 Month After Vaccination

| | |
|-----------------|---|
| End point title | SSC:GMFR of SARS-CoV-2 Reference-Strain–Neutralizing Titers From Study Vaccination to 1 Month After Vaccination ^[28] |
|-----------------|---|

End point description:

GMFR of SARS-CoV-2 reference-strain-neutralizing titers before vaccination to 1 month after study vaccination was reported in this endpoint. GMFRs and 2-sided 95% CIs were calculated by exponentiating the mean logarithm of fold rises and the corresponding CIs (based on the Student t distribution). Assay results below the LLOQ were set to 0.5* LLOQ in the analysis. Evaluable immunogenicity population included all eligible randomised participants who received the study intervention to which they were randomised, had a valid and determinate immunogenicity result within 28-42 days after the study vaccination, and had no other important protocol deviations as determined by the clinician. Participants with or without evidence of prior infection were included in the analysis. 'N'=participants evaluable for this endpoint.

| | |
|----------------|---------|
| End point type | Primary |
|----------------|---------|

End point timeframe:

1 Month after study vaccination

Notes:

[28] - No statistical analyses have been specified for this primary end point. It is expected there is at least one statistical analysis for each primary end point.

Justification: No statistical analysis was planned for this endpoint

| End point values | SSC: Group 1a: 3 prior doses of BNT162b2 | SSC: Group 1b: 3 prior doses of BNT162b2 | SSC: Group 2a: 3 prior doses of BNT162b2 | SSC: Group 2b: 3 prior doses of BNT162b2 |
|--|--|--|--|--|
| Subject group type | Reporting group | Reporting group | Reporting group | Reporting group |
| Number of subjects analysed | 9 | 14 | 26 | 28 |
| Units: Fold rise | | | | |
| geometric mean (confidence interval 95%) | 5.4 (3.1 to 9.6) | 8.1 (5.2 to 12.6) | 5.7 (3.4 to 9.5) | 7.4 (4.9 to 11.2) |

Statistical analyses

No statistical analyses for this end point

Primary: SSC:Geometric Mean Titers of SARSCoV2 Reference-Strain-Neutralizing Titers Before Vaccination and 1 Month After Vaccination

| | |
|-----------------|---|
| End point title | SSC:Geometric Mean Titers of SARSCoV2 Reference-Strain-Neutralizing Titers Before Vaccination and 1 Month After Vaccination ^[29] |
|-----------------|---|

End point description:

GMT of SARS-CoV-2 reference-strain-neutralizing titers before vaccination to 1 month after study vaccination was reported in this endpoint. GMTs and the corresponding 2-sided CIs were calculated by exponentiating the mean logarithm of the titers & the corresponding CIs (based on Student's t distribution). Assay results below the LLOQ were set to 0.5*LLOQ. Evaluable immunogenicity population included all eligible randomised participants who received the study intervention to which they were randomised, had a valid and determinate immunogenicity result within 28-42 days after the study vaccination, and had no other important protocol deviations as determined by the clinician. Participants with or without evidence of prior infection were included in the analysis. 'N'=participants evaluable for this endpoint.n=participants evaluable for specified rows.

| | |
|----------------|---------|
| End point type | Primary |
|----------------|---------|

End point timeframe:

Before study vaccination and 1 Month after study vaccination

Notes:

[29] - No statistical analyses have been specified for this primary end point. It is expected there is at least one statistical analysis for each primary end point.

Justification: No statistical analysis was planned for this endpoint

| End point values | SSC: Group 1a: 3 prior doses of BNT162b2 | SSC: Group 1b: 3 prior doses of BNT162b2 | SSC: Group 2a: 3 prior doses of BNT162b2 | SSC: Group 2b: 3 prior doses of BNT162b2 |
|--|--|--|--|--|
| Subject group type | Reporting group | Reporting group | Reporting group | Reporting group |
| Number of subjects analysed | 11 | 14 | 30 | 30 |
| Units: Titers | | | | |
| geometric mean (confidence interval 95%) | | | | |
| Before Vaccination (n=9,14,26,28) | 1638.1 (690.2 to 3887.9) | 1041.5 (641.3 to 1691.5) | 1536.5 (952.7 to 2477.9) | 2263.8 (1502.2 to 3411.5) |

| | | | | |
|--|----------------------------|----------------------------|----------------------------|------------------------------|
| 1 Month After Vaccination (n=11, 14, 30, 30) | 7698.7 (4384.4 to 13518.6) | 8443.8 (5696.8 to 12515.4) | 9389.0 (6314.3 to 13961.1) | 16541.7 (12265.4 to 22309.0) |
|--|----------------------------|----------------------------|----------------------------|------------------------------|

Statistical analyses

No statistical analyses for this end point

Primary: SSC: Percentages of Participants With Seroresponse to the SARS-CoV-2 Reference Strain Neutralizing Titers at 1 Month After Study Vaccination

| | |
|-----------------|--|
| End point title | SSC: Percentages of Participants With Seroresponse to the SARS-CoV-2 Reference Strain Neutralizing Titers at 1 Month After Study Vaccination ^[30] |
|-----------------|--|

End point description:

Seroresponse was defined as achieving ≥ 4 -fold rise from baseline (before study vaccination). If the baseline measurement was below the lower limit of quantification (LLOQ), the postvaccination assay result of $\geq 4 \times \text{LLOQ}$ was considered a seroresponse. Exact 2-sided 95% CI, based on the Clopper and Pearson method. Percentage of participants achieving seroresponse at 1 month after study vaccination was reported in this endpoint. Evaluable immunogenicity population included all eligible randomised participants who received the study intervention to which they were randomised, had a valid and determinate immunogenicity result within 28-42 days after the study vaccination, and had no other important protocol deviations as determined by the clinician. Participants with or without evidence of prior infection were included in the analysis. 'N'=participants evaluable for this endpoint.

| | |
|----------------|---------|
| End point type | Primary |
|----------------|---------|

End point timeframe:

1 Month After Study Vaccination

Notes:

[30] - No statistical analyses have been specified for this primary end point. It is expected there is at least one statistical analysis for each primary end point.

Justification: No statistical analysis was planned for this endpoint

| End point values | SSC: Group 1a: 3 prior doses of BNT162b2 | SSC: Group 1b: 3 prior doses of BNT162b2 | SSC: Group 2a: 3 prior doses of BNT162b2 | SSC: Group 2b: 3 prior doses of BNT162b2 |
|-----------------------------------|--|--|--|--|
| Subject group type | Reporting group | Reporting group | Reporting group | Reporting group |
| Number of subjects analysed | 9 | 14 | 26 | 28 |
| Units: Percentage of participants | | | | |
| number (confidence interval 95%) | 55.6 (21.2 to 86.3) | 85.7 (57.2 to 98.2) | 76.9 (56.4 to 91.0) | 67.9 (47.6 to 84.1) |

Statistical analyses

No statistical analyses for this end point

Primary: SSD: Percentage of Participants With Local Reactions Within 7 Days After Study Vaccination

| | |
|-----------------|--|
| End point title | SSD: Percentage of Participants With Local Reactions Within 7 Days After Study Vaccination ^[31] |
|-----------------|--|

End point description:

Local reactions recorded by participants/parents/legal guardians in electronic diary(e-diary).Redness&swelling recorded in measuring device units(mdu)converted to centimeter(cm).1

cm&graded mild:(greater than[>]0.5 to 2.0cm),moderate:>2.0 to 7.0cm,severe:>7.0 cm,Grade 4(G4): necrosis/exfoliative dermatitis(redness)&necrosis(swelling).Pain at injection site graded mild:did not interfere with daily activity,moderate:interfered with daily activity,severe: prevented daily activity&G4:emergency room[ER]visit/hospitalisation.G4 classified by investigator/medically qualified person.Percentage of participants with local reactions within 7days after study vaccination and associated 2-sided 95% confidence interval(CI) based on Clopper and Pearson method.Safety population=all participants receiving at least 1dose of study intervention.Number of Participants Analysed(N)'= participants evaluable.99999=data could not be generated since it was not part of specified analysis in the protocol.

| | |
|----------------|---------|
| End point type | Primary |
|----------------|---------|

End point timeframe:

Day 1 up to Day 7 after study vaccination

Notes:

[31] - No statistical analyses have been specified for this primary end point. It is expected there is at least one statistical analysis for each primary end point.

Justification: No statistical analysis was planned for this endpoint

| End point values | SSD: Group 1: 2 prior doses of BNT162b2 | SSD: Group 2: 3 prior doses of BNT162b2 | SSD Historical cohort: Participants from study C4591007 Phase 1 | |
|--------------------------------------|---|---|---|--|
| Subject group type | Reporting group | Reporting group | Reporting group | |
| Number of subjects analysed | 2 | 111 | 19 | |
| Units: Percentage of participants | | | | |
| number (confidence interval 95%) | | | | |
| Redness: Any | 0 (-99999 to 99999) | 7.2 (3.2 to 13.7) | 10.5 (1.3 to 33.1) | |
| Redness: Mild | 0 (-99999 to 99999) | 4.5 (1.5 to 10.2) | 10.5 (1.3 to 33.1) | |
| Redness: Moderate | 0 (-99999 to 99999) | 2.7 (0.6 to 7.7) | 0 (0.0 to 17.6) | |
| Redness: Severe | 0 (-99999 to 99999) | 0 (0.0 to 3.3) | 0 (0.0 to 17.6) | |
| Redness: Grade 4 | 0 (-99999 to 99999) | 0 (0.0 to 3.3) | 0 (0.0 to 17.6) | |
| Swelling: Any | 0 (-99999 to 99999) | 4.5 (1.5 to 10.2) | 10.5 (1.3 to 33.1) | |
| Swelling: Mild | 0 (-99999 to 99999) | 0.9 (0.0 to 4.9) | 10.5 (1.3 to 33.1) | |
| Swelling: Moderate | 0 (-99999 to 99999) | 3.6 (1.0 to 9.0) | 0 (0.0 to 17.6) | |
| Swelling: Severe | 0 (-99999 to 99999) | 0 (0.0 to 3.3) | 0 (0.0 to 17.6) | |
| Swelling: Grade 4 | 0 (-99999 to 99999) | 0 (0.0 to 3.3) | 0 (0.0 to 17.6) | |
| Pain at the injection site: Any | 0 (-99999 to 99999) | 64.0 (54.3 to 72.9) | 68.4 (43.4 to 87.4) | |
| Pain at the injection site: Mild | 50.0 (-99999 to 99999) | 45.0 (35.6 to 54.8) | 52.6 (28.9 to 75.6) | |
| Pain at the injection site: Moderate | 0 (-99999 to 99999) | 18.9 (12.1 to 27.5) | 15.8 (3.4 to 39.6) | |
| Pain at the injection site: Severe | 0 (-99999 to 99999) | 0 (0.0 to 3.3) | 0 (0.0 to 17.6) | |
| Pain at the injection site: Grade 4 | 0 (-99999 to 99999) | 0 (0.0 to 3.3) | 0 (0.0 to 17.6) | |

Statistical analyses

No statistical analyses for this end point

Primary: SSD: Percentage of Participants With Systemic Events Within 7 Days After Study Vaccination

| | |
|-----------------|--|
| End point title | SSD: Percentage of Participants With Systemic Events Within 7 Days After Study Vaccination ^[32] |
|-----------------|--|

End point description:

Systemic events recorded by participants/parents/legal guardians in e-diary. Fever: oral temperature ≥ 38.0 degree Celsius(deg C)&categorised as ≥ 38.0 -38.4 deg C, >38.4 -38.9 deg C, >38.9 -40.0 deg C & >40.0 deg C.Fatigue,headache,chills,new/worsened muscle pain&new/worsened joint pain:mild:did not interfere with activity,moderate:some interference with activity&severe: prevented daily routine activity.Vomiting:mild: 1-2 times in 24hours(h),moderate: >2 times in 24h,severe:required intravenous hydration.Diarrhea:mild: 2-3 loose stools in 24h,moderate:4-5 loose stools in 24h&severe:6 or more loose stools in 24h.Except fever,G4=ER visit/hospitalisation.G4 events classified by investigator/medically qualified person. Exact 95% CI based on Clopper & Pearson method.Safety population=all participants receiving at least 1 dose of study intervention.N= participants evaluable for this endpoint.99999=data could not be generated since it was not part of specified analysis in the protocol.

| | |
|----------------|---------|
| End point type | Primary |
|----------------|---------|

End point timeframe:

Day 1 up to Day 7 after study vaccination

Notes:

[32] - No statistical analyses have been specified for this primary end point. It is expected there is at least one statistical analysis for each primary end point.

Justification: No statistical analysis was planned for this endpoint

| End point values | SSD: Group 1: 2 prior doses of BNT162b2 | SSD: Group 2: 3 prior doses of BNT162b2 | SSD Historical cohort:Particip ants from study C4591007 Phase 1 | |
|-----------------------------------|---|---|--|--|
| Subject group type | Reporting group | Reporting group | Reporting group | |
| Number of subjects analysed | 2 | 111 | 19 | |
| Units: Percentage of participants | | | | |
| number (confidence interval 95%) | | | | |
| Fever: Any | 0 (-99999 to 99999) | 4.5 (1.5 to 10.2) | 10.5 (1.3 to 33.1) | |
| Fever: ≥ 38.0 to 38.4 deg C | 0 (-99999 to 99999) | 1.8 (0.2 to 6.4) | 0 (0.0 to 17.6) | |
| Fever: >38.4 to 38.9 deg C | 0 (-99999 to 99999) | 0.9 (0.0 to 4.9) | 5.3 (0.1 to 26.0) | |
| Fever: >38.9 to 40.0 deg C | 0 (-99999 to 99999) | 1.8 (0.2 to 6.4) | 5.3 (0.1 to 26.0) | |
| Fever: >40.0 deg C | 0 (-99999 to 99999) | 0 (0.0 to 3.3) | 0 (0.0 to 17.6) | |
| Fatigue: Any | 0 (-99999 to 99999) | 40.5 (31.3 to 50.3) | 57.9 (33.5 to 79.7) | |
| Fatigue: Mild | 0 (-99999 to 99999) | 23.4 (15.9 to 32.4) | 36.8 (16.3 to 61.6) | |
| Fatigue: Moderate | 0 (-99999 to 99999) | 16.2 (9.9 to 24.4) | 15.8 (3.4 to 39.6) | |
| Fatigue: Severe | 0 (-99999 to 99999) | 0.9 (0.0 to 4.9) | 5.3 (0.1 to 26.0) | |
| Fatigue: Grade 4 | 0 (-99999 to 99999) | 0 (0.0 to 3.3) | 0 (0.0 to 17.6) | |
| Headache: Any | 0 (-99999 to 99999) | 25.2 (17.5 to 34.4) | 36.8 (16.3 to 61.6) | |

| | | | | |
|---------------------------------------|---------------------|---------------------|--------------------|--|
| Headache: Mild | 0 (-99999 to 99999) | 18.0 (11.4 to 26.4) | 26.3 (9.1 to 51.2) | |
| Headache: Moderate | 0 (-99999 to 99999) | 6.3 (2.6 to 12.6) | 10.5 (1.3 to 33.1) | |
| Headache: Severe | 0 (-99999 to 99999) | 0.9 (0.0 to 4.9) | 0 (0.0 to 17.6) | |
| Headache: Grade 4 | 0 (-99999 to 99999) | 0 (0.0 to 3.3) | 0 (0.0 to 17.6) | |
| Chills: Any | 0 (-99999 to 99999) | 9.0 (4.4 to 15.9) | 10.5 (1.3 to 33.1) | |
| Chills: Mild | 0 (-99999 to 99999) | 6.3 (2.6 to 12.6) | 10.5 (1.3 to 33.1) | |
| Chills: Moderate | 0 (-99999 to 99999) | 2.7 (0.6 to 7.7) | 0 (0.0 to 17.6) | |
| Chills: Severe | 0 (-99999 to 99999) | 0 (0.0 to 3.3) | 0 (0.0 to 17.6) | |
| Chills: Grade 4 | 0 (-99999 to 99999) | 0 (0.0 to 3.3) | 0 (0.0 to 17.6) | |
| Vomiting: Any | 0 (-99999 to 99999) | 3.6 (1.0 to 9.0) | 0 (0.0 to 17.6) | |
| Vomiting: Mild | 0 (-99999 to 99999) | 3.6 (1.0 to 9.0) | 0 (0.0 to 17.6) | |
| Vomiting: Moderate | 0 (-99999 to 99999) | 0 (0.0 to 3.3) | 0 (0.0 to 17.6) | |
| Vomiting: Severe | 0 (-99999 to 99999) | 0 (0.0 to 3.3) | 0 (0.0 to 17.6) | |
| Vomiting: Grade 4 | 0 (-99999 to 99999) | 0 (0.0 to 3.3) | 0 (0.0 to 17.6) | |
| Diarrhea: Any | 0 (-99999 to 99999) | 3.6 (1.0 to 9.0) | 0 (0.0 to 17.6) | |
| Diarrhea: Mild | 0 (-99999 to 99999) | 3.6 (1.0 to 9.0) | 0 (0.0 to 17.6) | |
| Diarrhea: Moderate | 0 (-99999 to 99999) | 0 (0.0 to 3.3) | 0 (0.0 to 17.6) | |
| Diarrhea: Severe | 0 (-99999 to 99999) | 0 (0.0 to 3.3) | 0 (0.0 to 17.6) | |
| Diarrhea: Grade 4 | 0 (-99999 to 99999) | 0 (0.0 to 3.3) | 0 (0.0 to 17.6) | |
| New or worsened muscle pain: Any | 0 (-99999 to 99999) | 13.5 (7.8 to 21.3) | 21.1 (6.1 to 45.6) | |
| New or worsened muscle pain: Mild | 0 (-99999 to 99999) | 7.2 (3.2 to 13.7) | 10.5 (1.3 to 33.1) | |
| New or worsened muscle pain: Moderate | 0 (-99999 to 99999) | 6.3 (2.6 to 12.6) | 10.5 (1.3 to 33.1) | |
| New or worsened muscle pain: Severe | 0 (-99999 to 99999) | 0 (0.0 to 3.3) | 0 (0.0 to 17.6) | |
| New or worsened muscle pain: Grade 4 | 0 (-99999 to 99999) | 0 (0.0 to 3.3) | 0 (0.0 to 17.6) | |
| New or worsened joint pain: Any | 0 (-99999 to 99999) | 9.0 (4.4 to 15.9) | 10.5 (1.3 to 33.1) | |
| New or worsened joint pain: Mild | 0 (-99999 to 99999) | 7.2 (3.2 to 13.7) | 5.3 (0.1 to 26.0) | |
| New or worsened joint pain: Moderate | 0 (-99999 to 99999) | 1.8 (0.2 to 6.4) | 5.3 (0.1 to 26.0) | |
| New or worsened joint pain: Severe | 0 (-99999 to 99999) | 0 (0.0 to 3.3) | 0 (0.0 to 17.6) | |
| New or worsened joint pain: Grade 4 | 0 (-99999 to 99999) | 0 (0.0 to 3.3) | 0 (0.0 to 17.6) | |

Statistical analyses

No statistical analyses for this end point

Primary: SSD: Percentages of Participants With Seroresponse to the Omicron (BA.4/BA.5)– Neutralizing Titers at 1 Month After Dose 4 for Group 2 and C4591007 Phase 2/3 Participants (1 Month After Dose 3)

| | |
|-----------------|---|
| End point title | SSD: Percentages of Participants With Seroresponse to the Omicron (BA.4/BA.5)– Neutralizing Titers at 1 Month After Dose 4 for Group 2 and C4591007 Phase 2/3 Participants (1 Month After Dose 3) |
|-----------------|---|

End point description:

Seroresponse was defined as achieving ≥ 4 -fold rise from baseline (before Dose 4 for C4591048 Substudy D Group 2 and before Dose 3 for C4591007). If the baseline measurement was below the lower limit of quantification (LLOQ), the postvaccination assay result of $\geq 4 \times$ LLOQ was considered a seroresponse. Exact 2-sided 95% CI was based on the Clopper and Pearson method. Percentage of participants achieving seroresponse at 1 month after study vaccination was reported in this endpoint. Evaluable immunogenicity population was analyzed. Results include those from a comparator group of C4591007 (NCT04816643) Phase 2/3 participants of the same age who received 3 doses of original BNT162b2 10 μ g as of the data cutoff date of 27 May 2022. Participants with or without evidence of prior infection were included in the analysis. 'N'=participants evaluable for this endpoint.

| | |
|----------------|---------|
| End point type | Primary |
|----------------|---------|

End point timeframe:

1 month after Dose 4 for Group 2 and 1 month after Dose 3 for C4591007 control arm

| | | | | |
|-----------------------------------|---|---|--|--|
| End point values | SSD: Group 2: 3 prior doses of BNT162b2 | SSD Historical cohort: C4591007 BNT162b2 10 μ g | | |
| Subject group type | Reporting group | Subject analysis set | | |
| Number of subjects analysed | 101 | 112 | | |
| Units: Percentage of participants | | | | |
| number (confidence interval 95%) | 53.5 (43.3 to 63.5) | 52.7 (43.0 to 62.2) | | |

Statistical analyses

| | |
|-----------------------------------|---|
| Statistical analysis title | Group 2 and Historical cohort from C4591007 |
|-----------------------------------|---|

Statistical analysis description:

Adjusted difference in proportions based on the Miettinen and Nurminen method stratified by baseline neutralizing titer category ($<$ median, \geq median), expressed as a percentage (bivalent BNT162b2 [original/Omi BA.4/BA.5] 10 μ g - BNT162b2 10 μ g). 2-Sided CI, based on the Miettinen and Nurminen method for the difference in proportions stratified by baseline neutralizing titer category ($<$ median, \geq median), expressed as a percentage.

| | |
|-------------------|---|
| Comparison groups | SSD: Group 2: 3 prior doses of BNT162b2 v SSD Historical cohort: C4591007 BNT162b2 10 μ g |
|-------------------|---|

| | |
|---|-----------------------|
| Number of subjects included in analysis | 213 |
| Analysis specification | Pre-specified |
| Analysis type | other |
| Parameter estimate | Percentage Difference |
| Point estimate | 8.76 |
| Confidence interval | |
| level | 95 % |
| sides | 2-sided |
| lower limit | -2.47 |
| upper limit | 19.99 |

Primary: SSD: Percentage of Participants Reporting Serious Adverse Events (SAEs) Within 6 Months After Study Vaccination

| | |
|-----------------|---|
| End point title | SSD: Percentage of Participants Reporting Serious Adverse Events (SAEs) Within 6 Months After Study Vaccination ^[33] |
|-----------------|---|

End point description:

An SAE was defined as any untoward medical occurrence that at any dose resulted in death, was life-threatening; resulted in persistent disability/incapacity; constituted a congenital anomaly/birth defect; was important medical event; required inpatient hospitalisation or prolongation of existing hospitalisation. Safety population included all participants who received at least 1 dose of the study intervention.

| | |
|----------------|---------|
| End point type | Primary |
|----------------|---------|

End point timeframe:

From study vaccination on Day 1 up to 6 months after study vaccination

Notes:

[33] - No statistical analyses have been specified for this primary end point. It is expected there is at least one statistical analysis for each primary end point.

Justification: No statistical analysis was planned for this endpoint

| End point values | SSD: Group 1: 2 prior doses of BNT162b2 | SSD: Group 2: 3 prior doses of BNT162b2 | SSD Historical cohort: Participants from study C4591007 Phase 1 | |
|-----------------------------------|---|---|---|--|
| Subject group type | Reporting group | Reporting group | Reporting group | |
| Number of subjects analysed | 2 | 113 | 19 | |
| Units: Percentage of participants | | | | |
| number (not applicable) | 0 | 0 | 0 | |

Statistical analyses

No statistical analyses for this end point

Primary: SSD: Percentage of Participants Reporting Adverse Events (AEs) 1 Month After Study Vaccination

| | |
|-----------------|--|
| End point title | SSD: Percentage of Participants Reporting Adverse Events (AEs) 1 Month After Study Vaccination ^[34] |
|-----------------|--|

End point description:

An AE was defined as any untoward medical occurrence in a clinical study participant, temporally associated with the use of study intervention, whether or not considered related to the study

intervention. Percentage of participants reporting AEs within 1 month after study vaccination were reported in this endpoint. Exact 2-sided CI was calculated using the Clopper and Pearson method. Only AEs collected by non-systematic assessment (i.e., excluding local reactions and systemic events) were reported in this endpoint. Safety population included all participants who received at least 1 dose of the study intervention. 99999= data could not be generated since it was not part of specified analysis in the protocol.

| | |
|----------------|---------|
| End point type | Primary |
|----------------|---------|

End point timeframe:

From study vaccination on Day 1 up to 1 month after study vaccination

Notes:

[34] - No statistical analyses have been specified for this primary end point. It is expected there is at least one statistical analysis for each primary end point.

Justification: No statistical analysis was planned for this endpoint

| | | | | |
|-----------------------------------|---|---|---|--|
| End point values | SSD: Group 1: 2 prior doses of BNT162b2 | SSD: Group 2: 3 prior doses of BNT162b2 | SSD Historical cohort: Participants from study C4591007 Phase 1 | |
| Subject group type | Reporting group | Reporting group | Reporting group | |
| Number of subjects analysed | 2 | 113 | 19 | |
| Units: Percentage of participants | | | | |
| number (confidence interval 95%) | 0.0 (-99999 to 99999) | 3.5 (1.0 to 8.8) | 15.8 (3.4 to 39.6) | |

Statistical analyses

No statistical analyses for this end point

Primary: SSD:Geometric Mean Ratio(GMR)Based on Geometric Mean Titers of Severe Acute Respiratory Syndrome Coronavirus 2(SARSCoV2)Omicron(BA.4/BA.5)-Neutralizing Titers at 1 Month After Dose 4 for Group 2 and C4591007 Phase 2/3 Participants(1 Month After Dose 3)

| | |
|-----------------|--|
| End point title | SSD:Geometric Mean Ratio(GMR)Based on Geometric Mean Titers of Severe Acute Respiratory Syndrome Coronavirus 2(SARSCoV2)Omicron(BA.4/BA.5)-Neutralizing Titers at 1 Month After Dose 4 for Group 2 and C4591007 Phase 2/3 Participants(1 Month After Dose 3) |
|-----------------|--|

End point description:

GMTs and the corresponding 2-sided CIs were calculated by exponentiating the least square means and the corresponding CIs based on analysis of log-transformed assay results using a linear regression model with baseline log-transformed neutralizing titers, postbaseline infection status, and vaccine group as covariates. Evaluable immunogenicity population included all eligible randomised participants who received the study intervention to which they were randomised, had a valid and determinate immunogenicity result within 28-42 days after the study vaccination, and had no other important protocol deviations as determined by the clinician. Results include those from a comparator group of C4591007 (NCT04816643) Phase 2/3 participants of the same age who received 3 doses of original BNT162b2 10 µg as of the data cutoff date of 27 May 2022. Participants with or without evidence of prior infection were included in the analysis. 'N'=participants evaluable for this endpoint.

| | |
|----------------|---------|
| End point type | Primary |
|----------------|---------|

End point timeframe:

1 month after Dose 4 for Group 2 and 1 month after Dose 3 for C4591007 control arm

| | | | | |
|--|---|--|--|--|
| End point values | SSD: Group 2: 3 prior doses of BNT162b2 | SSD Historical cohort: C4591007 BNT162b2 10 µg | | |
| Subject group type | Reporting group | Subject analysis set | | |
| Number of subjects analysed | 101 | 112 | | |
| Units: Titers | | | | |
| geometric mean (confidence interval 95%) | 1836.1 (1593.8 to 2115.2) | 1632.5 (1427.5 to 1867.0) | | |

Statistical analyses

| | |
|---|--|
| Statistical analysis title | Group 2 and Historical cohort from C4591007 |
| Statistical analysis description: GMRs and 2-sided CIs were calculated by exponentiating the difference of LSMeans for the assay and the corresponding CIs based on a linear regression model with baseline log-transformed neutralizing titers, postbaseline infection status, and vaccine group as covariates. | |
| Comparison groups | SSD: Group 2: 3 prior doses of BNT162b2 v SSD Historical cohort: C4591007 BNT162b2 10 µg |
| Number of subjects included in analysis | 213 |
| Analysis specification | Pre-specified |
| Analysis type | other |
| Parameter estimate | Geometric Mean Ratio |
| Point estimate | 1.12 |
| Confidence interval | |
| level | 95 % |
| sides | 2-sided |
| lower limit | 0.92 |
| upper limit | 1.37 |

Secondary: SSB: GMR Based on Geometric Mean Titers of SARSCoV2 Reference-Strain-Neutralizing Titers at 1 Month After Dose 4 for Group 2 and at 1 Month After Dose 3 for C4591007 Phase 2/3 Participants

| | |
|---|--|
| End point title | SSB: GMR Based on Geometric Mean Titers of SARSCoV2 Reference-Strain-Neutralizing Titers at 1 Month After Dose 4 for Group 2 and at 1 Month After Dose 3 for C4591007 Phase 2/3 Participants |
| End point description: GMTs and the corresponding 2-sided CIs were calculated by exponentiating the least square means & the corresponding CIs based on analysis of log-transformed assay results using linear regression model with baseline log-transformed neutralizing titers, postbaseline infection status & vaccine group as covariates. Assay results below the LLOQ were set to 0.5*LLOQ. Evaluable immunogenicity population included all eligible participants who received the study intervention to which they were assigned, had at least one valid & determinate immunogenicity result from the blood sample collected within 28-42 days after the study vaccination, and had no other important protocol deviations as determined by the clinician. Results are presented for per-protocol subset which included a random sample of 240 participants selected from the full group and comprised the same percentages of participants in each age group & baseline SARS-CoV-2 infection status group as full group. 'N' = participants evaluable. | |
| End point type | Secondary |
| End point timeframe: 1 month after Dose 4 for Group 2 and 1 month after Dose 3 for C4591007 control arm | |

| | | | | |
|--|--|--|---|--|
| End point values | SSB: Group 2a: 3 prior doses of BNT162b2 | SSB: Group 2b: 3 prior doses of BNT162b2 | SSB Historical cohort: C4591007 BNT162b2 ≥ 6 months to < 2 years | SSB Historical cohort: C4591007 BNT162b2 3 mcg |
| Subject group type | Reporting group | Reporting group | Subject analysis set | Subject analysis set |
| Number of subjects analysed | 62 | 161 | 72 | 166 |
| Units: Titers | | | | |
| geometric mean (confidence interval 95%) | 5965.4 (4958.5 to 7176.8) | 6921.5 (6160.2 to 7777.0) | 7108.9 (5989.2 to 8438.0) | 7384.8 (6584.6 to 8282.3) |

Statistical analyses

| | |
|---|---|
| Statistical analysis title | Geometric Mean Ratio |
| Statistical analysis description: GMRs and 2-sided CIs were calculated by exponentiating the difference of LSMeans for the assay and the corresponding CIs based on analysis of log-transformed assay results using a linear regression model with baseline log-transformed neutralizing titers, postbaseline infection status, age group and vaccine group as covariates. | |
| Comparison groups | SSB: Group 2b: 3 prior doses of BNT162b2 v SSB Historical cohort: C4591007 BNT162b2 3 mcg |
| Number of subjects included in analysis | 327 |
| Analysis specification | Pre-specified |
| Analysis type | non-inferiority |
| Parameter estimate | Geometric Mean Ratio |
| Point estimate | 0.94 |
| Confidence interval | |
| level | 95 % |
| sides | 2-sided |
| lower limit | 0.79 |
| upper limit | 1.11 |

| | |
|---|--|
| Statistical analysis title | Geometric Mean Ratio |
| Statistical analysis description: GMRs and 2-sided CIs were calculated by exponentiating the difference of LSMeans for the assay and the corresponding CIs based on analysis of log-transformed assay results using a linear regression model with baseline log-transformed neutralizing titers, postbaseline infection status, age group and vaccine group as covariates. | |
| Comparison groups | SSB: Group 2a: 3 prior doses of BNT162b2 v SSB Historical cohort: C4591007 BNT162b2 ≥ 6 months to < 2 years |

| | |
|---|----------------------|
| Number of subjects included in analysis | 134 |
| Analysis specification | Pre-specified |
| Analysis type | non-inferiority |
| Parameter estimate | Geometric Mean Ratio |
| Point estimate | 0.84 |
| Confidence interval | |
| level | 95 % |
| sides | 2-sided |
| lower limit | 0.65 |
| upper limit | 1.08 |

Secondary: SSB: Percentage of Participants With Seroresponse to the SARSCoV2 Reference-Strain-Neutralizing Titers at 1 Month After Dose 4 for Group 2 and at 1 Month After Dose 3 for C4591007 Phase 2/3 Participants

| | |
|-----------------|--|
| End point title | SSB: Percentage of Participants With Seroresponse to the SARSCoV2 Reference-Strain-Neutralizing Titers at 1 Month After Dose 4 for Group 2 and at 1 Month After Dose 3 for C4591007 Phase 2/3 Participants |
|-----------------|--|

End point description:

Seroresponse was defined as achieving ≥ 4 -fold rise from baseline (before Dose 4 for C4591048 Substudy B Group 2 and before Dose 3 for C4591007). If the baseline measurement was below LLOQ, the postvaccination assay result of $\geq 4 \times \text{LLOQ}$ was considered a seroresponse. Exact 2-sided 95% CI was based on Clopper and Pearson method. Evaluable immunogenicity population included all eligible participants who received the study intervention to which they were assigned, had at least one valid and determinate immunogenicity result from the blood sample collected within 28-42 days after the study vaccination, and had no other important protocol deviations as determined by the clinician. Results were presented for per-protocol subset which included a random sample of 240 participants selected from the full group and comprised of the same percentage of participants in each age group and baseline SARS-CoV-2 infection status group as the full group. 'N' = participants evaluable.

| | |
|----------------|-----------|
| End point type | Secondary |
|----------------|-----------|

End point timeframe:

1 month after Dose 4 for Group 2 and 1 month after Dose 3 for C4591007 control arm

| End point values | SSB: Group 2a: 3 prior doses of BNT162b2 | SSB: Group 2b: 3 prior doses of BNT162b2 | SSB Historical cohort: C4591007 BNT162b2 ≥ 6 months to < 2 years | SSB Historical cohort: C4591007 BNT162b2 3 mcg |
|-----------------------------------|--|--|---|--|
| Subject group type | Reporting group | Reporting group | Subject analysis set | Subject analysis set |
| Number of subjects analysed | 62 | 161 | 72 | 166 |
| Units: Percentage of participants | | | | |
| number (confidence interval 95%) | 40.3 (28.1 to 53.6) | 52.8 (44.8 to 60.7) | 44.4 (32.7 to 56.6) | 65.7 (57.9 to 72.8) |

Statistical analyses

| | |
|----------------------------|---|
| Statistical analysis title | Percentages of Participants With Seroresponse |
|----------------------------|---|

Statistical analysis description:

Adjusted difference in proportion based on the Miettinen and Nurminen method stratified by baseline neutralizing titer category (<median, ≥median), expressed as a percentage (bivalent BNT162b2 [original/Omi BA.4/BA.5] 3 mcg - BNT162b2 3 mcg).

| | |
|---|---|
| Comparison groups | SSB: Group 2a: 3 prior doses of BNT162b2 v SSB Historical cohort: C4591007 BNT162b2 ≥6 months to <2 years |
| Number of subjects included in analysis | 134 |
| Analysis specification | Pre-specified |
| Analysis type | non-inferiority ^[35] |
| Parameter estimate | Percentage Difference |
| Point estimate | 5.67 |
| Confidence interval | |
| level | 95 % |
| sides | 2-sided |
| lower limit | -7.43 |
| upper limit | 18.77 |

Notes:

[35] - Noninferiority was established if the lower bound of the 2-sided 95% CI for the difference in percentage was greater than -10%.

Secondary: SSB: GMT of SARS-CoV-2 Omicron BA.4/BA.5–Neutralizing Titers at Dose 3 and 1 Month After Dose 3: Group 1 Only

| | |
|-----------------|---|
| End point title | SSB: GMT of SARS-CoV-2 Omicron BA.4/BA.5–Neutralizing Titers at Dose 3 and 1 Month After Dose 3: Group 1 Only |
|-----------------|---|

End point description:

GMT of SARS-CoV-2 omicron BA.4/BA.5-neutralizing titers at dose 3 and 1 month after dose 3 was reported in this endpoint. GMTs and the corresponding 2-sided CIs were calculated by exponentiating the mean logarithm of the titers and the corresponding CIs (based on Student's t distribution). Assay results below the LLOQ were set to 0.5 *LLOQ. Evaluable immunogenicity population (third dose) included all eligible participants who received first study intervention as third dose to which they were assigned, had at least one valid and determinate immunogenicity result from the blood sample collected within 28-42 days after the third dose, and had no other important protocol deviations as determined by the clinician. Participants with or without evidence of prior infection were included in the analysis. 'N'=participants evaluable for this endpoint. 'n'= Participants evaluable for specified rows.

| | |
|----------------|-----------|
| End point type | Secondary |
|----------------|-----------|

End point timeframe:

At dose 3 and 1 month after dose 3

| End point values | SSB: Group 1a: 2 prior doses of BNT162b2 | SSB: Group 1b: 2 prior doses of BNT162b2 | | |
|--|--|--|--|--|
| Subject group type | Reporting group | Reporting group | | |
| Number of subjects analysed | 14 | 10 | | |
| Units: Titer | | | | |
| geometric mean (confidence interval 95%) | | | | |
| Dose 3 (n= 14, 10) | 142.5 (45.6 to 444.9) | 323.2 (83.7 to 1248.8) | | |
| 1 month after dose 3 (n=13, 10) | 1548.9 (408.0 to 5879.6) | 2699.9 (580.8 to 12551.1) | | |

Statistical analyses

No statistical analyses for this end point

Secondary: SSB: GMT of SARS-CoV-2 Omicron BA.4/BA.5–Neutralizing Titers at 1 Month After Dose 4: Group 1 Only

| | |
|-----------------|--|
| End point title | SSB: GMT of SARS-CoV-2 Omicron BA.4/BA.5–Neutralizing Titers at 1 Month After Dose 4: Group 1 Only |
|-----------------|--|

End point description:

GMT of SARS-CoV-2 Omicron BA.4/BA.5–neutralizing titers at 1 month after dose 4 was reported in this endpoint. GMTs and the corresponding 2-sided CIs were calculated by exponentiating the mean logarithm of the titers and the corresponding CIs (based on Student's t distribution). Assay results below the LLOQ were set to 0.5 *LLOQ. Evaluable immunogenicity population (fourth dose) included all eligible participants who received 2 doses of the study intervention as third and fourth dose to which they were assigned, had at least one valid and determinate immunogenicity result from the blood sample collected within 28-42 days after the study vaccination, and had no other important protocol deviations as determined by the clinician. Participants with or without evidence of prior infection were included in the analysis. 'N'=participants evaluable for this endpoint.

| | |
|----------------|-----------|
| End point type | Secondary |
|----------------|-----------|

End point timeframe:

At 1 month after dose 4

| End point values | SSB: Group 1a: 2 prior doses of BNT162b2 | SSB: Group 1b: 2 prior doses of BNT162b2 | | |
|--|--|--|--|--|
| Subject group type | Reporting group | Reporting group | | |
| Number of subjects analysed | 16 | 9 | | |
| Units: Titer | | | | |
| geometric mean (confidence interval 95%) | 2800.0 (1260.5 to 6219.8) | 4128.5 (1158.9 to 14708.1) | | |

Statistical analyses

No statistical analyses for this end point

Secondary: SSB: GMT of SARS-CoV-2 Omicron BA.4/BA.5–Neutralizing Titers at Dose 4 and 1 Month After Dose 4

| | |
|-----------------|---|
| End point title | SSB: GMT of SARS-CoV-2 Omicron BA.4/BA.5–Neutralizing Titers at Dose 4 and 1 Month After Dose 4 |
|-----------------|---|

End point description:

GMT of SARS-CoV-2 Omicron strain–neutralizing titers at 1 month after the study vaccination was reported in this endpoint. GMTs and the corresponding 2-sided CIs were calculated by exponentiating the mean logarithm of the titers and the corresponding CIs (based on Student's t distribution). Assay results below the LLOQ were set to 0.5 *LLOQ. Evaluable immunogenicity population included all eligible participants who received the study intervention to which they were assigned, had at least one valid and determinate immunogenicity result from the blood sample collected within 28-42 days after the study vaccination, and had no other important protocol deviations as determined by the clinician. Participants with or without evidence of prior infection were included in the analysis.'N'=participants evaluable for this endpoint.

| | |
|----------------|-----------|
| End point type | Secondary |
|----------------|-----------|

End point timeframe:

Group 2: At Dose 4 and 1 month after Dose 4

| End point values | SSB: Group 2a: 3 prior doses of BNT162b2 | SSB: Group 2b: 3 prior doses of BNT162b2 | | |
|--|--|--|--|--|
| Subject group type | Reporting group | Reporting group | | |
| Number of subjects analysed | 78 | 196 | | |
| Units: Titers | | | | |
| geometric mean (confidence interval 95%) | | | | |
| At dose 4 (n=74, 192) | 293.9 (195.4 to 441.9) | 224.1 (177.2 to 283.5) | | |
| 1 month after Dose 4 (n=78, 196) | 1905.1 (1328.9 to 2731.2) | 2384.9 (1965.4 to 2893.9) | | |

Statistical analyses

No statistical analyses for this end point

Secondary: SSB: GMT of SARS-CoV-2 Reference-Strain–Neutralizing Titers at Dose 4 and 1 Month After Dose 4

| | |
|-----------------|--|
| End point title | SSB: GMT of SARS-CoV-2 Reference-Strain–Neutralizing Titers at Dose 4 and 1 Month After Dose 4 |
|-----------------|--|

End point description:

GMT of SARS-CoV-2 reference-strain-neutralizing titers before vaccination to 1 month after study vaccination was reported in this endpoint. GMTs and the corresponding 2-sided CIs were calculated by exponentiating the mean logarithm of the titers & the corresponding CIs (based on Student's t distribution). Assay results below the LLOQ were set to 0.5* LLOQ. Evaluable immunogenicity population included all eligible participants who received the study intervention to which they were assigned, had at least one valid and determinate immunogenicity result from the blood sample collected within 28-42 days after the study vaccination, and had no other important protocol deviations as determined by the clinician. Participants with or without evidence of prior infection were included in the analysis. 'N' = participants evaluable for this endpoint.

| | |
|----------------|-----------|
| End point type | Secondary |
|----------------|-----------|

End point timeframe:

Baseline (at dose 4) and 1 Month after Dose 4

| End point values | SSB: Group 2a: 3 prior doses of BNT162b2 | SSB: Group 2b: 3 prior doses of BNT162b2 | | |
|--|--|--|--|--|
| Subject group type | Reporting group | Reporting group | | |
| Number of subjects analysed | 78 | 196 | | |
| Units: Titers | | | | |
| geometric mean (confidence interval 95%) | | | | |

| | | | | |
|----------------------------------|---------------------------|---------------------------|--|--|
| Pre-vaccination (n=74, 192) | 1688.3 (1271.6 to 2241.6) | 1734.9 (1466.0 to 2053.3) | | |
| 1 month after Dose 4 (n= 78,196) | 6312.0 (5143.6 to 7746.0) | 7897.3 (6952.0 to 8971.2) | | |

Statistical analyses

No statistical analyses for this end point

Secondary: SSB: GMT of SARS-CoV-2 Reference-Strain–Neutralizing Titers at Dose 3 and 1 Month After Dose 3: Group 1 Only

| | |
|-----------------|--|
| End point title | SSB: GMT of SARS-CoV-2 Reference-Strain–Neutralizing Titers at Dose 3 and 1 Month After Dose 3: Group 1 Only |
|-----------------|--|

End point description:

GMT of SARS-CoV-2 reference strain–neutralizing titers at dose 3 and 1 month after dose 3 was reported in this endpoint. GMTs and the corresponding 2-sided CIs were calculated by exponentiating the mean logarithm of the titers and the corresponding CIs (based on Student's t distribution). Assay results below the LLOQ were set to 0.5 *LLOQ. Evaluable immunogenicity population (third dose) included all eligible participants who received first study intervention as third dose to which they were assigned, had at least one valid and determinate immunogenicity result from the blood sample collected within 28-42 days after the third dose, and had no other important protocol deviations as determined by the clinician. Participants with or without evidence of prior infection were included in the analysis. 'N'=participants evaluable for this endpoint. 'n'= Participants evaluable for specified rows.

| | |
|----------------|-----------|
| End point type | Secondary |
|----------------|-----------|

End point timeframe:

At dose 3 and 1 month After dose 3

| End point values | SSB: Group 1a: 2 prior doses of BNT162b2 | SSB: Group 1b: 2 prior doses of BNT162b2 | | |
|--|--|--|--|--|
| Subject group type | Reporting group | Reporting group | | |
| Number of subjects analysed | 14 | 10 | | |
| Units: Titer | | | | |
| geometric mean (confidence interval 95%) | | | | |
| Dose 3 (n= 14, 10) | 271.7 (114.6 to 644.3) | 636.6 (262.7 to 1542.5) | | |
| 1 month after dose 3 (n= 13, 10) | 3536.4 (2024.4 to 6177.6) | 2576.5 (1204.5 to 5511.5) | | |

Statistical analyses

No statistical analyses for this end point

Secondary: SSB: GMT of SARS-CoV-2 Reference-Strain–Neutralizing Titers at 1 Month After Dose 4: Group 1 Only

| | |
|---|---|
| End point title | SSB: GMT of SARS-CoV-2 Reference-Strain-Neutralizing Titers at 1 Month After Dose 4: Group 1 Only |
| End point description: GMT of SARS-CoV-2 reference strain-neutralizing titers at 1 month after dose 4 was reported in this endpoint. GMTs and the corresponding 2-sided CIs were calculated by exponentiating the mean logarithm of the titers and the corresponding CIs (based on Student's t distribution). Assay results below the LLOQ were set to 0.5 *LLOQ. Evaluable immunogenicity population (fourth dose) included all eligible participants who received 2 doses of the study intervention as third and fourth dose to which they were assigned, had at least one valid and determinate immunogenicity result from the blood sample collected within 28-42 days after the study vaccination, and had no other important protocol deviations as determined by the clinician. Participants with or without evidence of prior infection were included in the analysis. 'N'=participants evaluable for this endpoint. | |
| End point type | Secondary |
| End point timeframe: At 1 month after dose 4 | |

| End point values | SSB: Group 1a: 2 prior doses of BNT162b2 | SSB: Group 1b: 2 prior doses of BNT162b2 | | |
|--|--|--|--|--|
| Subject group type | Reporting group | Reporting group | | |
| Number of subjects analysed | 16 | 9 | | |
| Units: Titer | | | | |
| geometric mean (confidence interval 95%) | 2357.1 (1485.0 to 3741.3) | 2468.2 (1188.8 to 5124.6) | | |

Statistical analyses

No statistical analyses for this end point

Secondary: SSB: GMFR of SARS-CoV-2 Reference-Strain-Neutralizing Titers From Dose 3 to 1 Month After Dose 3: Group 1 Only

| | |
|--|--|
| End point title | SSB: GMFR of SARS-CoV-2 Reference-Strain-Neutralizing Titers From Dose 3 to 1 Month After Dose 3: Group 1 Only |
| End point description: GMFR of SARS-CoV-2 reference strain-neutralizing titers from dose 3 to 1 month after dose 3 was reported in this endpoint. GMFRs and 2-sided 95% CIs were calculated by exponentiating the mean logarithm of fold rises and the corresponding CIs (based on the Student t distribution). Assay results below the LLOQ were set to 0.5*LLOQ in the analysis. Evaluable immunogenicity population (third dose) included all eligible participants who received first study intervention as third dose to which they were assigned, had at least one valid and determinate immunogenicity result from the blood sample collected within 28-42 days after the third dose, and had no other important protocol deviations as determined by the clinician. Participants with or without evidence of prior infection were included in the analysis. 'N'=participants evaluable for this endpoint. | |
| End point type | Secondary |
| End point timeframe: From dose 3 to 1 month after dose 3 | |

| End point values | SSB: Group 1a: 2 prior doses of BNT162b2 | SSB: Group 1b: 2 prior doses of BNT162b2 | | |
|--|--|--|--|--|
| Subject group type | Reporting group | Reporting group | | |
| Number of subjects analysed | 11 | 10 | | |
| Units: Fold rise | | | | |
| geometric mean (confidence interval 95%) | 12.6 (4.9 to 32.1) | 4.0 (2.2 to 7.5) | | |

Statistical analyses

No statistical analyses for this end point

Secondary: SSB: GMFR of SARS-CoV-2 Omicron BA.4/BA.5–Neutralizing Titers From Dose 3 to 1 Month After Dose 4: Group 1 Only

| | |
|---|---|
| End point title | SSB: GMFR of SARS-CoV-2 Omicron BA.4/BA.5–Neutralizing Titers From Dose 3 to 1 Month After Dose 4: Group 1 Only |
| End point description: | |
| GMFR of SARS-CoV-2 omicron BA.4/BA.5-neutralizing titers at dose 3 to 1 month After dose 4 was reported in this endpoint. GMFRs and 2-sided 95% CIs were calculated by exponentiating the mean logarithm of fold rises and the corresponding CIs (based on the Student t distribution). Assay results below the LLOQ were set to 0.5*LLOQ in the analysis. Evaluable immunogenicity population (fourth dose) included all eligible participants who received 2 doses of the study intervention as third and fourth dose to which they were assigned, had at least one valid and determinate immunogenicity result from the blood sample collected within 28-42 days after the study vaccination, and had no other important protocol deviations as determined by the clinician. Participants with or without evidence of prior infection were included in the analysis. 'N'=participants evaluable for this endpoint. | |
| End point type | Secondary |
| End point timeframe: | |
| From dose 3 to 1 month after dose 4 | |

| End point values | SSB: Group 1a: 2 prior doses of BNT162b2 | SSB: Group 1b: 2 prior doses of BNT162b2 | | |
|--|--|--|--|--|
| Subject group type | Reporting group | Reporting group | | |
| Number of subjects analysed | 14 | 9 | | |
| Units: Fold rise | | | | |
| geometric mean (confidence interval 95%) | 14.9 (7.4 to 30.0) | 17.2 (7.6 to 39.0) | | |

Statistical analyses

No statistical analyses for this end point

Secondary: SSB: GMFR of SARS-CoV-2 Reference-Strain–Neutralizing Titers From Dose 4 to 1 Month after Dose 4

| | |
|-----------------|---|
| End point title | SSB: GMFR of SARS-CoV-2 Reference-Strain–Neutralizing |
|-----------------|---|

End point description:

GMFR of SARS-CoV-2 reference-strain-neutralizing titers before vaccination from dose 4 to 1 month after dose 4 was reported in this endpoint. GMFRs and 2-sided 95% CIs were calculated by exponentiating the mean logarithm of fold rises and the corresponding CIs (based on the Student t distribution). Assay results below the LLOQ were set to 0.5 *LLOQ in the analysis. Evaluable immunogenicity population included all eligible participants who received the study intervention to which they were assigned, had at least one valid and determinate immunogenicity result from the blood sample collected within 28-42 days after the study vaccination, and had no other important protocol deviations as determined by the clinician. Participants with or without evidence of prior infection were included in the analysis. 'N'=participants evaluable for this endpoint.

| | |
|----------------|-----------|
| End point type | Secondary |
|----------------|-----------|

End point timeframe:

From dose 4 to 1 month after dose 4

| End point values | SSB: Group 2a: 3 prior doses of BNT162b2 | SSB: Group 2b: 3 prior doses of BNT162b2 | | |
|--|--|--|--|--|
| Subject group type | Reporting group | Reporting group | | |
| Number of subjects analysed | 74 | 192 | | |
| Units: Fold rise | | | | |
| geometric mean (confidence interval 95%) | 3.7 (2.9 to 4.7) | 4.5 (3.9 to 5.2) | | |

Statistical analyses

No statistical analyses for this end point

Secondary: SSB: GMFR of SARS-CoV-2 Omicron BA.4/BA.5–Neutralizing Titers From Dose 3 to 1 Month After Dose 3: Group 1 Only

| | |
|-----------------|---|
| End point title | SSB: GMFR of SARS-CoV-2 Omicron BA.4/BA.5–Neutralizing Titers From Dose 3 to 1 Month After Dose 3: Group 1 Only |
|-----------------|---|

End point description:

GMFR of SARS-CoV-2 omicron BA.4/BA.5-neutralizing titers from dose 3 to 1 month after dose 3 was reported in this endpoint. GMFRs and 2-sided 95% CIs were calculated by exponentiating the mean logarithm of fold rises and the corresponding CIs (based on the Student t distribution). Assay results below the LLOQ were set to 0.5*LLOQ in the analysis. Evaluable immunogenicity population (third dose) included all eligible participants who received first study intervention as third dose to which they were assigned, had at least one valid and determinate immunogenicity result from the blood sample collected within 28-42 days after the third dose, and had no other important protocol deviations as determined by the clinician. Participants with or without evidence of prior infection were included in the analysis. 'N'=participants evaluable for this endpoint.

| | |
|----------------|-----------|
| End point type | Secondary |
|----------------|-----------|

End point timeframe:

From dose 3 to 1 month after dose 3

| End point values | SSB: Group 1a: 2 prior doses of BNT162b2 | SSB: Group 1b: 2 prior doses of BNT162b2 | | |
|--|--|--|--|--|
| Subject group type | Reporting group | Reporting group | | |
| Number of subjects analysed | 11 | 10 | | |
| Units: Fold rise | | | | |
| geometric mean (confidence interval 95%) | 9.1 (3.6 to 22.8) | 8.4 (3.8 to 18.1) | | |

Statistical analyses

No statistical analyses for this end point

Secondary: SSB: Geometric Mean Fold Rise (GMFR) of SARS-CoV-2 Omicron BA.4/BA.5–Neutralizing Titers From Dose 4 to 1 Month after Dose 4

| | |
|-----------------|--|
| End point title | SSB: Geometric Mean Fold Rise (GMFR) of SARS-CoV-2 Omicron BA.4/BA.5–Neutralizing Titers From Dose 4 to 1 Month after Dose 4 |
|-----------------|--|

End point description:

GMFR of SARS-CoV-2 omicron BA.4/BA.5-neutralizing titers from dose 4 to 1 month after dose 4 was reported in this endpoint. GMFRs and 2-sided 95% CIs were calculated by exponentiating the mean logarithm of fold rises and the corresponding CIs (based on the Student t distribution). Assay results below the LLOQ were set to 0.5*LLOQ in the analysis. Evaluable immunogenicity population included all eligible participants who received the study intervention to which they were assigned, had at least one valid and determinate immunogenicity result from the blood sample collected within 28-42 days after the study vaccination, and had no other important protocol deviations as determined by the clinician. Participants with or without evidence of prior infection were included in the analysis. 'N'=participants evaluable for this endpoint.

| | |
|----------------|-----------|
| End point type | Secondary |
|----------------|-----------|

End point timeframe:

From dose 4 to 1 month after dose 4

| End point values | SSB: Group 2a: 3 prior doses of BNT162b2 | SSB: Group 2b: 3 prior doses of BNT162b2 | | |
|--|--|--|--|--|
| Subject group type | Reporting group | Reporting group | | |
| Number of subjects analysed | 74 | 192 | | |
| Units: Fold rise | | | | |
| geometric mean (confidence interval 95%) | 6.7 (5.1 to 8.8) | 10.5 (8.9 to 12.5) | | |

Statistical analyses

No statistical analyses for this end point

Secondary: SSB: Percentage of Participants With Seroresponse to SARS-CoV-2 Omicron BA.4/BA.5–Neutralizing Titers at 1 Month After Dose 4

| | |
|---|---|
| End point title | SSB: Percentage of Participants With Seroresponse to SARS-CoV-2 Omicron BA.4/BA.5–Neutralizing Titers at 1 Month After Dose 4 |
| End point description: | |
| Seroresponse was defined as achieving ≥ 4 -fold rise from baseline (before Dose 4 for C4591048 Substudy D Group 2). If the baseline measurement was below the lower limit of quantification (LLOQ), the postvaccination assay result of $\geq 4 \times$ LLOQ was considered a seroresponse. Evaluable immunogenicity population included all eligible participants who received the study intervention to which they were assigned, had at least one valid and determinate immunogenicity result from the blood sample collected within 28–42 days after the study vaccination, and had no other important protocol deviations as determined by the clinician. Exact 2-sided 95% CI, based on the Clopper and Pearson method. Percentage of participants achieving seroresponse to SARS-CoV-2 omicron BA.4/BA.5–neutralizing titers at 1 month after dose 4 was reported in this endpoint. Participants with or without evidence of prior infection were included in the analysis. 'N'=participants evaluable for this endpoint. | |
| End point type | Secondary |
| End point timeframe: | |
| 1 Month after Dose 4 | |

| | | | | |
|-----------------------------------|--|--|--|--|
| End point values | SSB: Group 2a: 3 prior doses of BNT162b2 | SSB: Group 2b: 3 prior doses of BNT162b2 | | |
| Subject group type | Reporting group | Reporting group | | |
| Number of subjects analysed | 74 | 192 | | |
| Units: Percentage of participants | | | | |
| number (confidence interval 95%) | 56.8 (44.7 to 68.2) | 74.5 (67.7 to 80.5) | | |

Statistical analyses

No statistical analyses for this end point

Secondary: SSB: Percentage of Participants With Seroresponse to Reference-Strain-Neutralizing Titers at 1 Month After Dose 4: Group 1 Only

| | |
|---|---|
| End point title | SSB: Percentage of Participants With Seroresponse to Reference-Strain-Neutralizing Titers at 1 Month After Dose 4: Group 1 Only |
| End point description: | |
| Seroresponse was defined as achieving ≥ 4 -fold rise from baseline (before Dose 3). If the baseline measurement was below the LLOQ, the postvaccination assay result of $\geq 4 \times$ LLOQ was considered a seroresponse. Evaluable immunogenicity population (fourth dose) included all eligible participants who received 2 doses of the study intervention as third and fourth dose to which they were assigned, had at least one valid and determinate immunogenicity result from the blood sample collected within 28–42 days after the study vaccination, and had no other important protocol deviations as determined by the clinician. Exact 2-sided 95% CI, based on the Clopper and Pearson method. Percentage of participants achieving seroresponse to reference-strain-neutralizing titers at 1 month after dose 4 was reported in this endpoint. Participants with or without evidence of prior infection were included in the analysis. 'N'=participants evaluable for this endpoint. | |
| End point type | Secondary |
| End point timeframe: | |
| At 1 month after dose 4 | |

| End point values | SSB: Group 1a: 2 prior doses of BNT162b2 | SSB: Group 1b: 2 prior doses of BNT162b2 | | |
|-----------------------------------|--|--|--|--|
| Subject group type | Reporting group | Reporting group | | |
| Number of subjects analysed | 14 | 9 | | |
| Units: Percentage of participants | | | | |
| number (confidence interval 95%) | 64.3 (35.1 to 87.2) | 77.8 (40.0 to 97.2) | | |

Statistical analyses

No statistical analyses for this end point

Secondary: SSB: Percentage of Participants With Seroresponse to Reference-Strain-Neutralizing Titers at 1 Month After Dose 3: Group 1 Only

| | |
|-----------------|---|
| End point title | SSB: Percentage of Participants With Seroresponse to Reference-Strain-Neutralizing Titers at 1 Month After Dose 3: Group 1 Only |
|-----------------|---|

End point description:

Seroresponse was defined as achieving ≥ 4 -fold rise from baseline (before Dose 3). If the baseline measurement was below the LLOQ, the postvaccination assay result of $\geq 4 \times \text{LLOQ}$ was considered a seroresponse. Evaluable immunogenicity population (third dose) included all eligible participants who received first study intervention as third dose to which they were assigned, had at least one valid and determinate immunogenicity result from the blood sample collected within 28-42 days after the third dose, and had no other important protocol deviations as determined by the clinician. Exact 2-sided 95% CI, based on the Clopper and Pearson method. Percentage of participants achieving seroresponse to reference-strain-neutralizing titers at 1 month after dose 3 was reported in this endpoint.

| | |
|----------------|-----------|
| End point type | Secondary |
|----------------|-----------|

End point timeframe:

1 month after dose 3

| End point values | SSB: Group 1a: 2 prior doses of BNT162b2 | SSB: Group 1b: 2 prior doses of BNT162b2 | | |
|-----------------------------------|--|--|--|--|
| Subject group type | Reporting group | Reporting group | | |
| Number of subjects analysed | 11 | 10 | | |
| Units: Percentage of participants | | | | |
| number (confidence interval 95%) | 81.8 (48.2 to 97.7) | 50.0 (18.7 to 81.3) | | |

Statistical analyses

No statistical analyses for this end point

Secondary: SSB: Percentage of Participants With Seroresponse to Reference-Strain-Neutralizing Titers at 1 Month After Dose 4

| | |
|-----------------|---|
| End point title | SSB: Percentage of Participants With Seroresponse to Reference-Strain-Neutralizing Titers at 1 Month After Dose 4 |
|-----------------|---|

End point description:

Seroresponse was defined as achieving ≥ 4 -fold rise from baseline (before Dose 4 for C4591048 Substudy B Group 2). If the baseline measurement was below the lower limit of quantification (LLOQ), the postvaccination assay result of $\geq 4 \times$ LLOQ was considered a seroresponse. Evaluable immunogenicity population included all eligible participants who received the study intervention to which they were assigned, had at least one valid and determinate immunogenicity result from the blood sample collected within 28-42 days after the study vaccination, and had no other important protocol deviations as determined by the clinician. Exact 2-sided 95% CI, based on the Clopper and Pearson method. Percentage of participants achieving seroresponse to reference-strain-neutralizing titers at 1 month after dose 4 was reported in this endpoint. Participants with or without evidence of prior infection were included in the analysis. 'N'=participants evaluable for this endpoint.

| | |
|----------------|-----------|
| End point type | Secondary |
|----------------|-----------|

End point timeframe:

1 Month after Dose 4

| End point values | SSB: Group 2a: 3 prior doses of BNT162b2 | SSB: Group 2b: 3 prior doses of BNT162b2 | | |
|-----------------------------------|--|--|--|--|
| Subject group type | Reporting group | Reporting group | | |
| Number of subjects analysed | 74 | 192 | | |
| Units: Percentage of participants | | | | |
| number (confidence interval 95%) | 43.2 (31.8 to 55.3) | 52.1 (44.8 to 59.3) | | |

Statistical analyses

No statistical analyses for this end point

Secondary: SSB: GMFR of SARS-CoV-2 Reference-Strain-Neutralizing Titers At 1 Month After Dose 4: Group 1 Only

| | |
|-----------------|--|
| End point title | SSB: GMFR of SARS-CoV-2 Reference-Strain-Neutralizing Titers At 1 Month After Dose 4: Group 1 Only |
|-----------------|--|

End point description:

GMFR of SARS-CoV-2 reference strain-neutralizing titers at 1 month after dose 4 was reported in this endpoint. GMFRs and 2-sided 95% CIs were calculated by exponentiating the mean logarithm of fold rises and the corresponding CIs (based on the Student t distribution). Assay results below the LLOQ were set to $0.5 \times$ LLOQ in the analysis. Evaluable immunogenicity population included all eligible participants who received 2 doses of the study intervention as third and fourth dose to which they were assigned, had at least one valid and determinate immunogenicity result from the blood sample collected within 28-42 days after the study vaccination, and had no other important protocol deviations as determined by the clinician. Participants with or without evidence of prior infection were included in the analysis. 'N'=participants evaluable for this endpoint.

| | |
|----------------|-----------|
| End point type | Secondary |
|----------------|-----------|

End point timeframe:

At 1 month after dose 4

| End point values | SSB: Group 1a: 2 prior doses of BNT162b2 | SSB: Group 1b: 2 prior doses of BNT162b2 | | |
|--|--|--|--|--|
| Subject group type | Reporting group | Reporting group | | |
| Number of subjects analysed | 14 | 9 | | |
| Units: Fold rise | | | | |
| geometric mean (confidence interval 95%) | 8.8 (4.5 to 17.0) | 4.6 (2.4 to 8.8) | | |

Statistical analyses

No statistical analyses for this end point

Secondary: SSB: Percentage of Participants With Seroresponse to SARS-CoV-2 Omicron BA.4/BA.5–Neutralizing Titers at 1 Month After Dose 4: Group 1 Only

| | |
|-----------------|---|
| End point title | SSB: Percentage of Participants With Seroresponse to SARS-CoV-2 Omicron BA.4/BA.5–Neutralizing Titers at 1 Month After Dose 4: Group 1 Only |
|-----------------|---|

End point description:

Seroresponse was defined as achieving ≥ 4 -fold rise from baseline (before Dose 3). If the baseline measurement was below the LLOQ, the postvaccination assay result of $\geq 4 \times \text{LLOQ}$ was considered a seroresponse. Evaluable immunogenicity population (fourth dose) included all eligible participants who received 2 doses of the study intervention as third and fourth dose to which they were assigned, had at least one valid and determinate immunogenicity result from the blood sample collected within 28-42 days after the study vaccination, and had no other important protocol deviations as determined by the clinician. Exact 2-sided 95% CI, based on the Clopper and Pearson method. Percentage of participants achieving seroresponse to SARS-CoV-2 omicron BA.4/BA.5–neutralizing titers at 1 month after dose 3 and 1 month after dose 4 was reported in this endpoint. Participants with or without evidence of prior infection were included in the analysis. 'N'=participants evaluable for this endpoint.

| | |
|-------------------------|-----------|
| End point type | Secondary |
| End point timeframe: | |
| At 1 month after dose 4 | |

| End point values | SSB: Group 1a: 2 prior doses of BNT162b2 | SSB: Group 1b: 2 prior doses of BNT162b2 | | |
|-----------------------------------|--|--|--|--|
| Subject group type | Reporting group | Reporting group | | |
| Number of subjects analysed | 14 | 9 | | |
| Units: Percentage of participants | | | | |
| number (confidence interval 95%) | 78.6 (49.2 to 95.3) | 88.9 (51.8 to 99.7) | | |

Statistical analyses

Secondary: SSB: Percentage of Participants With Seroresponse to SARS-CoV-2 Omicron BA.4/BA.5–Neutralizing Titers at 1 Month After Dose 3: Group 1 Only

| | |
|-----------------|---|
| End point title | SSB: Percentage of Participants With Seroresponse to SARS-CoV-2 Omicron BA.4/BA.5–Neutralizing Titers at 1 Month After Dose 3: Group 1 Only |
|-----------------|---|

End point description:

Seroresponse was defined as achieving ≥ 4 -fold rise from baseline (before Dose 3). If the baseline measurement was below the LLOQ, the postvaccination assay result of $\geq 4 \times \text{LLOQ}$ was considered a seroresponse. Evaluable immunogenicity population (third dose) included all eligible participants who received first study intervention as third dose to which they were assigned, had at least one valid and determinate immunogenicity result from the blood sample collected within 28–42 days after the third dose, and had no other important protocol deviations as determined by the clinician. Exact 2-sided 95% CI, based on the Clopper and Pearson method. Percentage of participants achieving seroresponse to SARS-CoV-2 omicron BA.4/BA.5–neutralizing titers at 1 month after dose 3 was reported in this endpoint. Participants with or without evidence of prior infection were included in the analysis. 'N'=participants evaluable for this endpoint.

| | |
|----------------|-----------|
| End point type | Secondary |
|----------------|-----------|

End point timeframe:

1 month after dose 3

| End point values | SSB: Group 1a: 2 prior doses of BNT162b2 | SSB: Group 1b: 2 prior doses of BNT162b2 | | |
|-----------------------------------|--|--|--|--|
| Subject group type | Reporting group | Reporting group | | |
| Number of subjects analysed | 11 | 10 | | |
| Units: Percentage of participants | | | | |
| number (confidence interval 95%) | 45.5 (16.7 to 76.6) | 70.0 (34.8 to 93.3) | | |

Statistical analyses

No statistical analyses for this end point

Secondary: SSD: Geometric Mean Titers (GMT) of SARS-CoV-2 Reference-Strain–Neutralizing Titers at Baseline and 1 Month After Dose 4 for Group 2 and C4591007 Phase 2/3 Participants (1 Month After Dose 3)

| | |
|-----------------|---|
| End point title | SSD: Geometric Mean Titers (GMT) of SARS-CoV-2 Reference-Strain–Neutralizing Titers at Baseline and 1 Month After Dose 4 for Group 2 and C4591007 Phase 2/3 Participants (1 Month After Dose 3) |
|-----------------|---|

End point description:

GMT of SARS-CoV-2 reference-strain-neutralizing titers before vaccination to 1 month after study vaccination was reported in this endpoint. GMTs and the corresponding 2-sided CIs were calculated by exponentiating the mean logarithm of the titers & the corresponding CIs (based on Student's *t* distribution). Assay results below the LLOQ were set to $0.5 \times \text{LLOQ}$. Evaluable immunogenicity population was analyzed. Results include those from a comparator group of C4591007 (NCT04816643) Phase 2/3 participants of the same age who received 3 doses of original BNT162b2 10 µg as of the data cutoff date of 27 May 2022. Participants with or without evidence of prior infection were included in the analysis. 'N'=participants evaluable for this endpoint.

| | |
|----------------|-----------|
| End point type | Secondary |
|----------------|-----------|

End point timeframe:

Group 2: Baseline and 1 month after Dose 4; C4591007 control arm: Baseline and 1 month after Dose 3

| | | | | |
|---|---|--|--|--|
| End point values | SSD: Group 2: 3 prior doses of BNT162b2 | SSD Historical cohort: C4591007 BNT162b2 10 µg | | |
| Subject group type | Reporting group | Subject analysis set | | |
| Number of subjects analysed | 102 | 113 | | |
| Units: Titers | | | | |
| geometric mean (confidence interval 95%) | | | | |
| Baseline | 2904.0 (2372.6 to 3554.5) | 1323.1 (1055.7 to 1658.2) | | |
| 1 Month | 8245.9 (7108.9 to 9564.9) | 7235.1 (6331.5 to 8267.8) | | |

Statistical analyses

No statistical analyses for this end point

Secondary: SSD: Geometric Mean Titers (GMT) of SARS-CoV-2 Omicron BA.4/BA.5–Neutralizing Titers at Baseline and 1 Month After Dose 4 for Group 2 and C4591007 Phase 2/3 Participants (1 Month After Dose 3)

| | |
|-----------------|--|
| End point title | SSD: Geometric Mean Titers (GMT) of SARS-CoV-2 Omicron BA.4/BA.5–Neutralizing Titers at Baseline and 1 Month After Dose 4 for Group 2 and C4591007 Phase 2/3 Participants (1 Month After Dose 3) |
|-----------------|--|

End point description:

GMT of SARS-CoV-2 Omicron strain–neutralizing titers at 1 month after the study vaccination was reported in this endpoint. GMTs and the corresponding 2-sided CIs were calculated by exponentiating the mean logarithm of the titers and the corresponding CIs (based on Student's t distribution). Assay results below the LLOQ were set to $0.5 \times \text{LLOQ}$. Evaluable immunogenicity population was analyzed. Results include those from a comparator group of C4591007 (NCT04816643) Phase 2/3 participants of the same age who received 3 doses of original BNT162b2 10 µg as of the data cutoff date of 27 May 2022. Participants with or without evidence of prior infection were included in the analysis. 'N'=participants evaluable for this endpoint.

| | |
|----------------|-----------|
| End point type | Secondary |
|----------------|-----------|

End point timeframe:

Group 2: Baseline and 1 month after Dose 4; C4591007 control arm: Baseline and 1 month after Dose 3

| | | | | |
|---|---|--|--|--|
| End point values | SSD: Group 2: 3 prior doses of BNT162b2 | SSD Historical cohort: C4591007 BNT162b2 10 µg | | |
| Subject group type | Reporting group | Subject analysis set | | |
| Number of subjects analysed | 102 | 113 | | |
| Units: Titers | | | | |
| geometric mean (confidence interval 95%) | | | | |
| Baseline (n=102,112) | 488.3 (361.9 to 658.8) | 248.3 (187.2 to 329.5) | | |
| 1 Month (n=102,113) | 2189.9 (1742.8 to 2751.7) | 1393.6 (1175.8 to 1651.7) | | |

Statistical analyses

No statistical analyses for this end point

Secondary: SSD: Geometric Mean Fold Rise (GMFR) of SARS-CoV-2 Omicron BA.4/BA.5–Neutralizing Titers at 1 Month After Dose 4 for Group 2 and C4591007 Phase 2/3 Participants (1 Month After Dose 3)

| | |
|-----------------|---|
| End point title | SSD: Geometric Mean Fold Rise (GMFR) of SARS-CoV-2 Omicron BA.4/BA.5–Neutralizing Titers at 1 Month After Dose 4 for Group 2 and C4591007 Phase 2/3 Participants (1 Month After Dose 3) |
|-----------------|---|

End point description:

GMFR of SARS-CoV-2 omicron BA.4/BA.5-neutralizing titers at 1 month after study vaccination was reported in this endpoint. GMFRs and 2-sided 95% CIs were calculated by exponentiating the mean logarithm of fold rises and the corresponding CIs (based on the Student t distribution). Assay results below the LLOQ were set to 0.5 × LLOQ in the analysis. Evaluable immunogenicity population was analyzed. Results include those from a comparator group of C4591007 (NCT04816643) Phase 2/3 participants of the same age who received 3 doses of original BNT162b2 10 µg as of the data cutoff date of 27 May 2022. Participants with or without evidence of prior infection were included in the analysis. 'N'=participants evaluable for this endpoint.

| | |
|----------------|-----------|
| End point type | Secondary |
|----------------|-----------|

End point timeframe:

1 month after Dose 4 for Group 2 and 1 month after Dose 3 for C4591007 control arm

| | | | | |
|---|---|--|--|--|
| End point values | SSD: Group 2: 3 prior doses of BNT162b2 | SSD Historical cohort: C4591007 BNT162b2 10 µg | | |
| Subject group type | Reporting group | Subject analysis set | | |
| Number of subjects analysed | 101 | 112 | | |
| Units: Fold rise | | | | |
| geometric mean (confidence interval 95%) | 4.5 (3.8 to 5.4) | 5.6 (4.5 to 6.9) | | |

Statistical analyses

No statistical analyses for this end point

Secondary: SSD: GMFR of SARS-CoV-2 Reference-Strain-Neutralizing Titers at 1 Month After Dose 4 for Group 2 and C4591007 Phase 2/3 Participants (1 Month After Dose 3)

| | |
|-----------------|---|
| End point title | SSD: GMFR of SARS-CoV-2 Reference-Strain-Neutralizing Titers at 1 Month After Dose 4 for Group 2 and C4591007 Phase 2/3 Participants (1 Month After Dose 3) |
|-----------------|---|

End point description:

GMFR of SARS-CoV-2 reference-strain-neutralizing titers before vaccination to 1 month after study vaccination was reported in this endpoint. GMFRs and 2-sided 95% CIs were calculated by exponentiating the mean logarithm of fold rises and the corresponding CIs (based on the Student t distribution). Assay results below the LLOQ were set to $0.5 \times \text{LLOQ}$ in the analysis. Evaluable immunogenicity population was analyzed. Results include those from a comparator group of C4591007 (NCT04816643) Phase 2/3 participants of the same age who received 3 doses of original BNT162b2 10 µg as of the data cutoff date of 27 May 2022. Participants with or without evidence of prior infection were included in the analysis. 'N' = participants evaluable for this endpoint.

| | |
|----------------|-----------|
| End point type | Secondary |
|----------------|-----------|

End point timeframe:

1 month after Dose 4 for Group 2 and 1 month after Dose 3 for C4591007 control arm

| | | | | |
|--|---|--|--|--|
| End point values | SSD: Group 2: 3 prior doses of BNT162b2 | SSD Historical cohort: C4591007 BNT162b2 10 µg | | |
| Subject group type | Reporting group | Subject analysis set | | |
| Number of subjects analysed | 101 | 113 | | |
| Units: Fold rise | | | | |
| geometric mean (confidence interval 95%) | 2.8 (2.5 to 3.3) | 5.5 (4.5 to 6.7) | | |

Statistical analyses

No statistical analyses for this end point

Secondary: SSD: Percentages of Participants With Seroresponse to SARS-CoV-2 Omicron BA.4/BA.5-Neutralizing Titers at 1 Month After Dose 4 for Group 2 and C4591007 Phase 2/3 Participants (1 Month After Dose 3)

| | |
|-----------------|---|
| End point title | SSD: Percentages of Participants With Seroresponse to SARS-CoV-2 Omicron BA.4/BA.5-Neutralizing Titers at 1 Month After Dose 4 for Group 2 and C4591007 Phase 2/3 Participants (1 Month After Dose 3) |
|-----------------|---|

End point description:

Seroresponse was defined as achieving ≥ 4 -fold rise from baseline (before Dose 4 for C4591048 Substudy D Group 2 and before Dose 3 for C4591007). If the baseline measurement was below the lower limit of quantification (LLOQ), the postvaccination assay result of $\geq 4 \times \text{LLOQ}$ was considered a seroresponse. Exact 2-sided 95% CI, based on the Clopper and Pearson method. Percentage of participants achieving seroresponse at 1 month after study vaccination was reported in this endpoint. Evaluable immunogenicity population was analyzed. Results include those from a comparator group of C4591007 (NCT04816643) Phase 2/3 participants of the same age who received 3 doses of original BNT162b2 10 µg as of the data cutoff date of 27 May 2022. Participants with or without evidence of prior

infection were included in the analysis.'N'=participants evaluable for this endpoint.

| | |
|--|-----------|
| End point type | Secondary |
| End point timeframe: | |
| 1 month after Dose 4 for Group 2 and 1 month after Dose 3 for C4591007 control arm | |

| | | | | |
|-----------------------------------|---|--|--|--|
| End point values | SSD: Group 2: 3 prior doses of BNT162b2 | SSD Historical cohort: C4591007 BNT162b2 10 µg | | |
| Subject group type | Reporting group | Subject analysis set | | |
| Number of subjects analysed | 101 | 112 | | |
| Units: Percentage of participants | | | | |
| number (confidence interval 95%) | 53.5 (43.3 to 63.5) | 52.7 (43.0 to 62.2) | | |

Statistical analyses

No statistical analyses for this end point

Secondary: SSD: Percentages of Participants With Seroresponse to Reference-Strain-Neutralizing Titers at 1 Month After Dose 4 for Group 2 and C4591007 Phase 2/3 Participants (1 Month After Dose 3)

| | |
|-----------------|---|
| End point title | SSD: Percentages of Participants With Seroresponse to Reference-Strain-Neutralizing Titers at 1 Month After Dose 4 for Group 2 and C4591007 Phase 2/3 Participants (1 Month After Dose 3) |
|-----------------|---|

End point description:

Seroresponse was defined as achieving ≥ 4 -fold rise from baseline (before Dose 4 for C4591048 Substudy D Group 2 and before Dose 3 for C4591007). If the baseline measurement was below the lower limit of quantification (LLOQ), the postvaccination assay result of $\geq 4 \times$ LLOQ was considered a seroresponse. Exact 2-sided 95% CI, based on the Clopper and Pearson method. Percentage of participants achieving seroresponse at 1 month after study vaccination was reported in this endpoint. Results include those from a comparator group of C4591007 (NCT04816643) Phase 2/3 participants of the same age who received 3 doses of original BNT162b2 10 µg as of the data cutoff date of 27 May 2022. Participants with or without evidence of prior infection were included in the analysis.' N'=participants evaluable for this endpoint.

| | |
|--|-----------|
| End point type | Secondary |
| End point timeframe: | |
| 1 month after Dose 4 for Group 2 and 1 month after Dose 3 for C4591007 control arm | |

| | | | | |
|-----------------------------------|---|--|--|--|
| End point values | SSD: Group 2: 3 prior doses of BNT162b2 | SSD Historical cohort: C4591007 BNT162b2 10 µg | | |
| Subject group type | Reporting group | Subject analysis set | | |
| Number of subjects analysed | 101 | 113 | | |
| Units: Percentage of participants | | | | |

| | | | | |
|----------------------------------|---------------------|---------------------|--|--|
| number (confidence interval 95%) | 30.7 (21.9 to 40.7) | 54.9 (45.2 to 64.2) | | |
|----------------------------------|---------------------|---------------------|--|--|

Statistical analyses

No statistical analyses for this end point

Adverse events

Adverse events information

Timeframe for reporting adverse events:

Local reactions/systemic events(systematic assessment):up to Day 7 after vaccination.Non-SAEs (non-systematic assessment):From Day 1 up to 1 month after study vaccination.For SAE (non-systematic assessment)from Day 1 to 6 months after study vaccination.

| | |
|-----------------|----------------|
| Assessment type | Non-systematic |
|-----------------|----------------|

Dictionary used

| | |
|-----------------|--------|
| Dictionary name | MedDRA |
|-----------------|--------|

| | |
|--------------------|------|
| Dictionary version | 26.1 |
|--------------------|------|

Reporting groups

| | |
|-----------------------|---|
| Reporting group title | SSD: Group 1: 2 prior doses of BNT162b2 |
|-----------------------|---|

Reporting group description:

Participants aged 5 to 11 years who had received two prior doses of BNT162b2 10 microgram (mcg) 90 to 240 days before enrollment in the study were included. Participants received a single dose of BNT162b2 10 mcg via intramuscular route on Day 1 of the study.

| | |
|-----------------------|---|
| Reporting group title | SSD: Group 2: 3 prior doses of BNT162b2 |
|-----------------------|---|

Reporting group description:

Participants aged 5 to 11 years who had received three prior doses of BNT162b2 10 mcg 90 to 240 days before enrollment in the study were included. Participants received a single dose of BNT162b2 10 mcg via intramuscular route on Day 1 of the study.

| | |
|-----------------------|---|
| Reporting group title | SSB: Group 1b: 2 prior doses of BNT162b2 (Second Vaccination) |
|-----------------------|---|

Reporting group description:

Participants aged ≥ 2 to < 5 years who had received three prior doses of BNT162b2 10 mcg with the last dose received 60 to 240 days before enrollment in the study were included. Participants received a single dose (fourth) of BNT162b2 3 mcg via intramuscular route on Day 1 of the study.

| | |
|-----------------------|---|
| Reporting group title | SSB: Group 1a: 2 prior doses of BNT162b2 (Second Vaccination) |
|-----------------------|---|

Reporting group description:

Participants aged ≥ 6 months to < 2 years who had received three prior doses of BNT162b2 10 mcg with the last dose received 60 to 240 days before enrollment in the study were included. Participants received a single dose (fourth) of BNT162b2 3 mcg via intramuscular route on Day 1 of the study.

| | |
|-----------------------|--|
| Reporting group title | SSB: Group 1b: 2 prior doses of BNT162b2 (First Vaccination) |
|-----------------------|--|

Reporting group description:

Participants aged ≥ 2 to < 5 years who had received three prior doses of BNT162b2 10 mcg with the last dose received 60 to 240 days before enrollment in the study were included. Participants received a single dose (fourth) of BNT162b2 3 mcg via intramuscular route on Day 1 of the study.

| | |
|-----------------------|--|
| Reporting group title | SSD: Group 3: Participants from study C4591007 Phase 1 |
|-----------------------|--|

Reporting group description:

Participants from C4591007 phase 1 trial, aged 5 to 11 years who had received three prior doses of BNT162b2 10 mcg at least 90 days before enrollment in the study were included. Participants received a single dose of BNT162b2 10 mcg via intramuscular route on Day 1 of the study.

| | |
|-----------------------|--|
| Reporting group title | SSC: Group 1a: 3 prior doses of BNT162b2 |
|-----------------------|--|

Reporting group description:

Participants aged ≥ 6 months to < 2 years who had received three prior doses of BNT162b2 3 mcg with the last dose received 60 to 240 days before enrollment in the study were included. Participants received a single (fourth) dose of BNT162b2 6 mcg via intramuscular route on Day 1 of the study.

| | |
|-----------------------|--|
| Reporting group title | SSC: Group 1b: 3 prior doses of BNT162b2 |
|-----------------------|--|

Reporting group description:

Participants aged ≥ 6 months to < 2 years who had received three prior doses of BNT162b2 3 mcg with the last dose received 60 to 240 days before enrollment in the study were included. Participants received a single (fourth) dose of BNT162b2 10 mcg via intramuscular route on Day 1 of the study.

| | |
|-----------------------|--|
| Reporting group title | SSC: Group 2a: 3 prior doses of BNT162b2 |
|-----------------------|--|

Reporting group description:

Participants aged ≥ 2 to < 5 years who had received three prior doses of BNT162b2 3 mcg with the last dose received 60 to 240 days before enrollment in the study were included. Participants received a single (fourth) dose of BNT162b2 6 mcg via intramuscular route on Day 1 of the study.

| | |
|-----------------------|--|
| Reporting group title | SSC: Group 2b: 3 prior doses of BNT162b2 |
|-----------------------|--|

Reporting group description:

Participants aged ≥ 2 to < 5 years who had received three prior doses of BNT162b2 3 mcg with the last dose received 60 to 240 days before enrollment in the study were included. Participants received a single (fourth) dose of BNT162b2 10 mcg via intramuscular route on Day 1 of the study.

| | |
|-----------------------|--|
| Reporting group title | SSB: Group 1a: 2 prior doses of BNT162b2 (First Vaccination) |
|-----------------------|--|

Reporting group description:

Participants aged ≥ 6 months to < 2 years who had received three prior doses of BNT162b2 10 mcg with the last dose received 60 to 240 days before enrollment in the study were included. Participants received a single dose (fourth) of BNT162b2 3 mcg via intramuscular route on Day 1 of the study.

| | |
|-----------------------|--|
| Reporting group title | SSB: Group 3a: 3 prior doses of BNT162b2 |
|-----------------------|--|

Reporting group description:

Participants from C4591007 (NCT04816643) phase 1 trial, aged ≥ 6 months to < 2 years who had received three prior doses of BNT162b2 3 mcg with the last dose received at least 60 days before enrollment in the study were included. Participants received a single dose (fourth) of BNT162b2 3 mcg via intramuscular route on Day 1 of the study.

| | |
|-----------------------|--|
| Reporting group title | SSB: Group 2b: 3 prior doses of BNT162b2 |
|-----------------------|--|

Reporting group description:

Participants aged ≥ 2 to < 5 years who had received three prior doses of BNT162b2 10 mcg with the last dose received 60 to 240 days before enrollment in the study were included. Participants received a single dose (fourth) of BNT162b2 3 mcg via intramuscular route on Day 1 of the study.

| | |
|-----------------------|--|
| Reporting group title | SSB: Group 2a: 3 prior doses of BNT162b2 |
|-----------------------|--|

Reporting group description:

Participants aged ≥ 6 months to < 2 years who had received three prior doses of BNT162b2 10 mcg with the last dose received 60 to 240 days before enrollment in the study were included. Participants received a single dose (fourth) of BNT162b2 3 mcg via intramuscular route on Day 1 of the study.

| | |
|-----------------------|--|
| Reporting group title | SSB: Group 3b: 3 prior doses of BNT162b2 |
|-----------------------|--|

Reporting group description:

Participants from C4591007 (NCT04816643) phase 1 trial, aged ≥ 2 to < 5 years who had received three prior doses of BNT162b2 3 mcg with the last dose received at least 60 days before enrollment in the study were included. Participants received a single dose (fourth) of BNT162b2 3 mcg via intramuscular route on Day 1 of the study.

| Serious adverse events | SSD: Group 1: 2 prior doses of BNT162b2 | SSD: Group 2: 3 prior doses of BNT162b2 | SSB: Group 1b: 2 prior doses of BNT162b2 (Second Vaccination) |
|---|---|---|---|
| Total subjects affected by serious adverse events | | | |
| subjects affected / exposed | 0 / 2 (0.00%) | 0 / 113 (0.00%) | 0 / 13 (0.00%) |
| number of deaths (all causes) | 0 | 0 | 0 |
| number of deaths resulting from adverse events | 0 | 0 | 0 |
| Injury, poisoning and procedural complications | | | |
| Post procedural haemorrhage | | | |
| subjects affected / exposed | 0 / 2 (0.00%) | 0 / 113 (0.00%) | 0 / 13 (0.00%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| General disorders and administration | | | |

| | | | |
|---|---------------|-----------------|----------------|
| site conditions | | | |
| Hypothermia | | | |
| subjects affected / exposed | 0 / 2 (0.00%) | 0 / 113 (0.00%) | 0 / 13 (0.00%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Gastrointestinal disorders | | | |
| Faecaloma | | | |
| subjects affected / exposed | 0 / 2 (0.00%) | 0 / 113 (0.00%) | 0 / 13 (0.00%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Vomiting | | | |
| subjects affected / exposed | 0 / 2 (0.00%) | 0 / 113 (0.00%) | 0 / 13 (0.00%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Respiratory, thoracic and mediastinal disorders | | | |
| Asthma | | | |
| subjects affected / exposed | 0 / 2 (0.00%) | 0 / 113 (0.00%) | 0 / 13 (0.00%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Bronchial hyperreactivity | | | |
| subjects affected / exposed | 0 / 2 (0.00%) | 0 / 113 (0.00%) | 0 / 13 (0.00%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Psychiatric disorders | | | |
| Breathing-related sleep disorder | | | |
| subjects affected / exposed | 0 / 2 (0.00%) | 0 / 113 (0.00%) | 0 / 13 (0.00%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Mental status changes | | | |
| subjects affected / exposed | 0 / 2 (0.00%) | 0 / 113 (0.00%) | 0 / 13 (0.00%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Infections and infestations | | | |
| Cellulitis | | | |

| | | | |
|---|---------------|-----------------|----------------|
| subjects affected / exposed | 0 / 2 (0.00%) | 0 / 113 (0.00%) | 0 / 13 (0.00%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Pneumonia viral | | | |
| subjects affected / exposed | 0 / 2 (0.00%) | 0 / 113 (0.00%) | 0 / 13 (0.00%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Urinary tract infection | | | |
| subjects affected / exposed | 0 / 2 (0.00%) | 0 / 113 (0.00%) | 0 / 13 (0.00%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Viral upper respiratory tract infection | | | |
| subjects affected / exposed | 0 / 2 (0.00%) | 0 / 113 (0.00%) | 0 / 13 (0.00%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Metabolism and nutrition disorders | | | |
| Dehydration | | | |
| subjects affected / exposed | 0 / 2 (0.00%) | 0 / 113 (0.00%) | 0 / 13 (0.00%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Hyperglycaemia | | | |
| subjects affected / exposed | 0 / 2 (0.00%) | 0 / 113 (0.00%) | 0 / 13 (0.00%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |

| Serious adverse events | SSB: Group 1a: 2 prior doses of BNT162b2 (Second Vaccination) | SSB: Group 1b: 2 prior doses of BNT162b2 (First Vaccination) | SSD: Group 3: Participants from study C4591007 Phase 1 |
|---|---|--|--|
| Total subjects affected by serious adverse events | | | |
| subjects affected / exposed | 0 / 17 (0.00%) | 0 / 13 (0.00%) | 0 / 19 (0.00%) |
| number of deaths (all causes) | 0 | 0 | 0 |
| number of deaths resulting from adverse events | 0 | 0 | 0 |
| Injury, poisoning and procedural complications | | | |
| Post procedural haemorrhage | | | |

| | | | |
|--|----------------|----------------|----------------|
| subjects affected / exposed | 0 / 17 (0.00%) | 0 / 13 (0.00%) | 0 / 19 (0.00%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| General disorders and administration site conditions | | | |
| Hypothermia | | | |
| subjects affected / exposed | 0 / 17 (0.00%) | 0 / 13 (0.00%) | 0 / 19 (0.00%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Gastrointestinal disorders | | | |
| Faecaloma | | | |
| subjects affected / exposed | 0 / 17 (0.00%) | 0 / 13 (0.00%) | 0 / 19 (0.00%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Vomiting | | | |
| subjects affected / exposed | 0 / 17 (0.00%) | 0 / 13 (0.00%) | 0 / 19 (0.00%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Respiratory, thoracic and mediastinal disorders | | | |
| Asthma | | | |
| subjects affected / exposed | 0 / 17 (0.00%) | 0 / 13 (0.00%) | 0 / 19 (0.00%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Bronchial hyperreactivity | | | |
| subjects affected / exposed | 0 / 17 (0.00%) | 0 / 13 (0.00%) | 0 / 19 (0.00%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Psychiatric disorders | | | |
| Breathing-related sleep disorder | | | |
| subjects affected / exposed | 0 / 17 (0.00%) | 0 / 13 (0.00%) | 0 / 19 (0.00%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Mental status changes | | | |

| | | | |
|--|----------------|----------------|----------------|
| subjects affected / exposed | 0 / 17 (0.00%) | 0 / 13 (0.00%) | 0 / 19 (0.00%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Infections and infestations | | | |
| Cellulitis | | | |
| subjects affected / exposed | 0 / 17 (0.00%) | 0 / 13 (0.00%) | 0 / 19 (0.00%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Pneumonia viral | | | |
| subjects affected / exposed | 0 / 17 (0.00%) | 0 / 13 (0.00%) | 0 / 19 (0.00%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Urinary tract infection | | | |
| subjects affected / exposed | 0 / 17 (0.00%) | 0 / 13 (0.00%) | 0 / 19 (0.00%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Viral upper respiratory tract infection | | | |
| subjects affected / exposed | 0 / 17 (0.00%) | 0 / 13 (0.00%) | 0 / 19 (0.00%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Metabolism and nutrition disorders | | | |
| Dehydration | | | |
| subjects affected / exposed | 0 / 17 (0.00%) | 0 / 13 (0.00%) | 0 / 19 (0.00%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Hyperglycaemia | | | |
| subjects affected / exposed | 0 / 17 (0.00%) | 0 / 13 (0.00%) | 0 / 19 (0.00%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Serious adverse events | | | |
| SSC: Group 1a: 3 prior doses of BNT162b2 | | | |
| SSC: Group 1b: 3 prior doses of BNT162b2 | | | |
| SSC: Group 2a: 3 prior doses of BNT162b2 | | | |
| Total subjects affected by serious adverse events | | | |
| subjects affected / exposed | 0 / 17 (0.00%) | 0 / 19 (0.00%) | 0 / 32 (0.00%) |
| number of deaths (all causes) | 0 | 0 | 0 |

| | | | |
|--|----------------|----------------|----------------|
| number of deaths resulting from adverse events | 0 | 0 | 0 |
| Injury, poisoning and procedural complications | | | |
| Post procedural haemorrhage | | | |
| subjects affected / exposed | 0 / 17 (0.00%) | 0 / 19 (0.00%) | 0 / 32 (0.00%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| General disorders and administration site conditions | | | |
| Hypothermia | | | |
| subjects affected / exposed | 0 / 17 (0.00%) | 0 / 19 (0.00%) | 0 / 32 (0.00%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Gastrointestinal disorders | | | |
| Faecaloma | | | |
| subjects affected / exposed | 0 / 17 (0.00%) | 0 / 19 (0.00%) | 0 / 32 (0.00%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Vomiting | | | |
| subjects affected / exposed | 0 / 17 (0.00%) | 0 / 19 (0.00%) | 0 / 32 (0.00%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Respiratory, thoracic and mediastinal disorders | | | |
| Asthma | | | |
| subjects affected / exposed | 0 / 17 (0.00%) | 0 / 19 (0.00%) | 0 / 32 (0.00%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Bronchial hyperreactivity | | | |
| subjects affected / exposed | 0 / 17 (0.00%) | 0 / 19 (0.00%) | 0 / 32 (0.00%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Psychiatric disorders | | | |
| Breathing-related sleep disorder | | | |
| subjects affected / exposed | 0 / 17 (0.00%) | 0 / 19 (0.00%) | 0 / 32 (0.00%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |

| | | | |
|---|--|--|--|
| Mental status changes | | | |
| subjects affected / exposed | 0 / 17 (0.00%) | 0 / 19 (0.00%) | 0 / 32 (0.00%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Infections and infestations | | | |
| Cellulitis | | | |
| subjects affected / exposed | 0 / 17 (0.00%) | 0 / 19 (0.00%) | 0 / 32 (0.00%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Pneumonia viral | | | |
| subjects affected / exposed | 0 / 17 (0.00%) | 0 / 19 (0.00%) | 0 / 32 (0.00%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Urinary tract infection | | | |
| subjects affected / exposed | 0 / 17 (0.00%) | 0 / 19 (0.00%) | 0 / 32 (0.00%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Viral upper respiratory tract infection | | | |
| subjects affected / exposed | 0 / 17 (0.00%) | 0 / 19 (0.00%) | 0 / 32 (0.00%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Metabolism and nutrition disorders | | | |
| Dehydration | | | |
| subjects affected / exposed | 0 / 17 (0.00%) | 0 / 19 (0.00%) | 0 / 32 (0.00%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Hyperglycaemia | | | |
| subjects affected / exposed | 0 / 17 (0.00%) | 0 / 19 (0.00%) | 0 / 32 (0.00%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Serious adverse events | | | |
| | SSC: Group 2b: 3 prior doses of BNT162b2 | SSB: Group 1a: 2 prior doses of BNT162b2 (First Vaccination) | SSB: Group 3a: 3 prior doses of BNT162b2 |
| Total subjects affected by serious adverse events | | | |

| | | | |
|--|----------------|----------------|----------------|
| subjects affected / exposed | 0 / 30 (0.00%) | 0 / 17 (0.00%) | 0 / 68 (0.00%) |
| number of deaths (all causes) | 0 | 0 | 0 |
| number of deaths resulting from adverse events | 0 | 0 | 0 |
| Injury, poisoning and procedural complications | | | |
| Post procedural haemorrhage | | | |
| subjects affected / exposed | 0 / 30 (0.00%) | 0 / 17 (0.00%) | 0 / 68 (0.00%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| General disorders and administration site conditions | | | |
| Hypothermia | | | |
| subjects affected / exposed | 0 / 30 (0.00%) | 0 / 17 (0.00%) | 0 / 68 (0.00%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Gastrointestinal disorders | | | |
| Faecaloma | | | |
| subjects affected / exposed | 0 / 30 (0.00%) | 0 / 17 (0.00%) | 0 / 68 (0.00%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Vomiting | | | |
| subjects affected / exposed | 0 / 30 (0.00%) | 0 / 17 (0.00%) | 0 / 68 (0.00%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Respiratory, thoracic and mediastinal disorders | | | |
| Asthma | | | |
| subjects affected / exposed | 0 / 30 (0.00%) | 0 / 17 (0.00%) | 0 / 68 (0.00%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Bronchial hyperreactivity | | | |
| subjects affected / exposed | 0 / 30 (0.00%) | 0 / 17 (0.00%) | 0 / 68 (0.00%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Psychiatric disorders | | | |
| Breathing-related sleep disorder | | | |

| | | | |
|---|----------------|----------------|----------------|
| subjects affected / exposed | 0 / 30 (0.00%) | 0 / 17 (0.00%) | 0 / 68 (0.00%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Mental status changes | | | |
| subjects affected / exposed | 0 / 30 (0.00%) | 0 / 17 (0.00%) | 0 / 68 (0.00%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Infections and infestations | | | |
| Cellulitis | | | |
| subjects affected / exposed | 0 / 30 (0.00%) | 0 / 17 (0.00%) | 0 / 68 (0.00%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Pneumonia viral | | | |
| subjects affected / exposed | 0 / 30 (0.00%) | 0 / 17 (0.00%) | 0 / 68 (0.00%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Urinary tract infection | | | |
| subjects affected / exposed | 0 / 30 (0.00%) | 0 / 17 (0.00%) | 0 / 68 (0.00%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Viral upper respiratory tract infection | | | |
| subjects affected / exposed | 0 / 30 (0.00%) | 0 / 17 (0.00%) | 0 / 68 (0.00%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Metabolism and nutrition disorders | | | |
| Dehydration | | | |
| subjects affected / exposed | 0 / 30 (0.00%) | 0 / 17 (0.00%) | 0 / 68 (0.00%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Hyperglycaemia | | | |
| subjects affected / exposed | 0 / 30 (0.00%) | 0 / 17 (0.00%) | 0 / 68 (0.00%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |

| Serious adverse events | SSB: Group 2b: 3 prior doses of BNT162b2 | SSB: Group 2a: 3 prior doses of BNT162b2 | SSB: Group 3b: 3 prior doses of BNT162b2 |
|--|--|--|--|
| Total subjects affected by serious adverse events | | | |
| subjects affected / exposed | 1 / 218 (0.46%) | 0 / 92 (0.00%) | 11 / 989 (1.11%) |
| number of deaths (all causes) | 0 | 0 | 0 |
| number of deaths resulting from adverse events | 0 | 0 | 0 |
| Injury, poisoning and procedural complications | | | |
| Post procedural haemorrhage | | | |
| subjects affected / exposed | 0 / 218 (0.00%) | 0 / 92 (0.00%) | 1 / 989 (0.10%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 1 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| General disorders and administration site conditions | | | |
| Hypothermia | | | |
| subjects affected / exposed | 0 / 218 (0.00%) | 0 / 92 (0.00%) | 1 / 989 (0.10%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 1 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Gastrointestinal disorders | | | |
| Faecaloma | | | |
| subjects affected / exposed | 0 / 218 (0.00%) | 0 / 92 (0.00%) | 1 / 989 (0.10%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 1 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Vomiting | | | |
| subjects affected / exposed | 0 / 218 (0.00%) | 0 / 92 (0.00%) | 1 / 989 (0.10%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 1 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Respiratory, thoracic and mediastinal disorders | | | |
| Asthma | | | |
| subjects affected / exposed | 0 / 218 (0.00%) | 0 / 92 (0.00%) | 2 / 989 (0.20%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 2 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Bronchial hyperreactivity | | | |
| subjects affected / exposed | 0 / 218 (0.00%) | 0 / 92 (0.00%) | 1 / 989 (0.10%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 1 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Psychiatric disorders | | | |

| | | | |
|--|-----------------|----------------|-----------------|
| Breathing-related sleep disorder subjects affected / exposed | 1 / 218 (0.46%) | 0 / 92 (0.00%) | 0 / 989 (0.00%) |
| occurrences causally related to treatment / all | 0 / 1 | 0 / 0 | 0 / 0 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Mental status changes subjects affected / exposed | 0 / 218 (0.00%) | 0 / 92 (0.00%) | 1 / 989 (0.10%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 1 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Infections and infestations | | | |
| Cellulitis subjects affected / exposed | 0 / 218 (0.00%) | 0 / 92 (0.00%) | 1 / 989 (0.10%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 1 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Pneumonia viral subjects affected / exposed | 0 / 218 (0.00%) | 0 / 92 (0.00%) | 1 / 989 (0.10%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 1 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Urinary tract infection subjects affected / exposed | 0 / 218 (0.00%) | 0 / 92 (0.00%) | 1 / 989 (0.10%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 1 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Viral upper respiratory tract infection subjects affected / exposed | 0 / 218 (0.00%) | 0 / 92 (0.00%) | 1 / 989 (0.10%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 1 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Metabolism and nutrition disorders | | | |
| Dehydration subjects affected / exposed | 0 / 218 (0.00%) | 0 / 92 (0.00%) | 1 / 989 (0.10%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 1 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |
| Hyperglycaemia subjects affected / exposed | 0 / 218 (0.00%) | 0 / 92 (0.00%) | 1 / 989 (0.10%) |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 1 |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | 0 / 0 |

Frequency threshold for reporting non-serious adverse events: 1 %

| Non-serious adverse events | SSD: Group 1: 2 prior doses of BNT162b2 | SSD: Group 2: 3 prior doses of BNT162b2 | SSB: Group 1b: 2 prior doses of BNT162b2 (Second Vaccination) |
|---|---|---|--|
| Total subjects affected by non-serious adverse events subjects affected / exposed | 1 / 2 (50.00%) | 88 / 113 (77.88%) | 5 / 13 (38.46%) |
| Injury, poisoning and procedural complications | | | |
| Animal bite | | | |
| subjects affected / exposed | 0 / 2 (0.00%) | 0 / 113 (0.00%) | 0 / 13 (0.00%) |
| occurrences (all) | 0 | 0 | 0 |
| Arthropod bite | | | |
| subjects affected / exposed | 0 / 2 (0.00%) | 0 / 113 (0.00%) | 0 / 13 (0.00%) |
| occurrences (all) | 0 | 0 | 0 |
| Skin abrasion | | | |
| subjects affected / exposed | 0 / 2 (0.00%) | 0 / 113 (0.00%) | 0 / 13 (0.00%) |
| occurrences (all) | 0 | 0 | 0 |
| Contusion | | | |
| subjects affected / exposed | 0 / 2 (0.00%) | 0 / 113 (0.00%) | 0 / 13 (0.00%) |
| occurrences (all) | 0 | 0 | 0 |
| Nervous system disorders | | | |
| Headache (HEADACHE) | | | |
| alternative assessment type: Systematic | | | |
| subjects affected / exposed | 0 / 2 (0.00%) | 28 / 113 (24.78%) | 0 / 13 (0.00%) |
| occurrences (all) | 0 | 28 | 0 |
| Somnolence (DROWSINESS) | | | |
| alternative assessment type: Systematic | | | |
| subjects affected / exposed | 0 / 2 (0.00%) | 0 / 113 (0.00%) | 0 / 13 (0.00%) |
| occurrences (all) | 0 | 0 | 0 |
| Somnolence | | | |
| subjects affected / exposed | 0 / 2 (0.00%) | 0 / 113 (0.00%) | 0 / 13 (0.00%) |
| occurrences (all) | 0 | 0 | 0 |
| General disorders and administration | | | |

| | | | |
|--|----------------|-------------------|-----------------|
| site conditions | | | |
| Fatigue (FATIGUE) | | | |
| alternative assessment type: Systematic | | | |
| subjects affected / exposed | 0 / 2 (0.00%) | 45 / 113 (39.82%) | 3 / 13 (23.08%) |
| occurrences (all) | 0 | 45 | 3 |
| Chills (CHILLS) | | | |
| alternative assessment type: Systematic | | | |
| subjects affected / exposed | 0 / 2 (0.00%) | 10 / 113 (8.85%) | 0 / 13 (0.00%) |
| occurrences (all) | 0 | 10 | 0 |
| Injection site swelling | | | |
| alternative assessment type: Systematic | | | |
| subjects affected / exposed | 0 / 2 (0.00%) | 5 / 113 (4.42%) | 0 / 13 (0.00%) |
| occurrences (all) | 0 | 5 | 0 |
| Injection site pain (PAIN) | | | |
| alternative assessment type: Systematic | | | |
| subjects affected / exposed | 1 / 2 (50.00%) | 71 / 113 (62.83%) | 1 / 13 (7.69%) |
| occurrences (all) | 1 | 71 | 1 |
| Injection site erythema (REDNESS) | | | |
| alternative assessment type: Systematic | | | |
| subjects affected / exposed | 0 / 2 (0.00%) | 8 / 113 (7.08%) | 0 / 13 (0.00%) |
| occurrences (all) | 0 | 8 | 0 |
| Pyrexia (FEVER) | | | |
| alternative assessment type: Systematic | | | |
| subjects affected / exposed | 0 / 2 (0.00%) | 5 / 113 (4.42%) | 0 / 13 (0.00%) |
| occurrences (all) | 0 | 5 | 0 |
| Injection site haemorrhage | | | |
| subjects affected / exposed | 0 / 2 (0.00%) | 0 / 113 (0.00%) | 0 / 13 (0.00%) |
| occurrences (all) | 0 | 0 | 0 |
| Pyrexia | | | |
| subjects affected / exposed | 0 / 2 (0.00%) | 0 / 113 (0.00%) | 0 / 13 (0.00%) |
| occurrences (all) | 0 | 0 | 0 |
| Injection site pain | | | |
| subjects affected / exposed | 0 / 2 (0.00%) | 0 / 113 (0.00%) | 0 / 13 (0.00%) |
| occurrences (all) | 0 | 0 | 0 |
| Fatigue | | | |

| | | | |
|---|--------------------|----------------------|---------------------|
| subjects affected / exposed occurrences (all) | 0 / 2 (0.00%) 0 | 0 / 113 (0.00%) 0 | 1 / 13 (7.69%) 1 |
| Injection site erythema subjects affected / exposed occurrences (all) | 0 / 2 (0.00%) 0 | 0 / 113 (0.00%) 0 | 0 / 13 (0.00%) 0 |
| Chills subjects affected / exposed occurrences (all) | 0 / 2 (0.00%) 0 | 0 / 113 (0.00%) 0 | 0 / 13 (0.00%) 0 |
| Injection site pain (TENDERNESS) subjects affected / exposed occurrences (all) | 0 / 2 (0.00%) 0 | 0 / 113 (0.00%) 0 | 0 / 13 (0.00%) 0 |
| Gastrointestinal disorders Diarrhea (DIARRHEA) alternative assessment type: Systematic subjects affected / exposed occurrences (all) | 0 / 2 (0.00%) 0 | 4 / 113 (3.54%) 4 | 1 / 13 (7.69%) 1 |
| Vomiting (VOMITING) alternative assessment type: Systematic subjects affected / exposed occurrences (all) | 0 / 2 (0.00%) 0 | 4 / 113 (3.54%) 4 | 1 / 13 (7.69%) 1 |
| Vomiting subjects affected / exposed occurrences (all) | 0 / 2 (0.00%) 0 | 0 / 113 (0.00%) 0 | 0 / 13 (0.00%) 0 |
| Diarrhoea subjects affected / exposed occurrences (all) | 0 / 2 (0.00%) 0 | 0 / 113 (0.00%) 0 | 0 / 13 (0.00%) 0 |
| Respiratory, thoracic and mediastinal disorders Nasal congestion subjects affected / exposed occurrences (all) | 0 / 2 (0.00%) 0 | 0 / 113 (0.00%) 0 | 0 / 13 (0.00%) 0 |
| Cough subjects affected / exposed occurrences (all) | 0 / 2 (0.00%) 0 | 0 / 113 (0.00%) 0 | 0 / 13 (0.00%) 0 |
| Tachypnoea | | | |

| | | | |
|--|--------------------|----------------------|---------------------|
| subjects affected / exposed occurrences (all) | 0 / 2 (0.00%) 0 | 0 / 113 (0.00%) 0 | 0 / 13 (0.00%) 0 |
| Skin and subcutaneous tissue disorders | | | |
| Urticaria | | | |
| subjects affected / exposed | 0 / 2 (0.00%) | 0 / 113 (0.00%) | 0 / 13 (0.00%) |
| occurrences (all) | 0 | 0 | 0 |
| Erythema | | | |
| subjects affected / exposed | 0 / 2 (0.00%) | 0 / 113 (0.00%) | 0 / 13 (0.00%) |
| occurrences (all) | 0 | 0 | 0 |
| Rash maculo-papular | | | |
| subjects affected / exposed | 0 / 2 (0.00%) | 0 / 113 (0.00%) | 0 / 13 (0.00%) |
| occurrences (all) | 0 | 0 | 0 |
| Psychiatric disorders | | | |
| Anxiety | | | |
| subjects affected / exposed | 0 / 2 (0.00%) | 0 / 113 (0.00%) | 0 / 13 (0.00%) |
| occurrences (all) | 0 | 0 | 0 |
| Irritability | | | |
| alternative assessment type: Systematic | | | |
| subjects affected / exposed | 0 / 2 (0.00%) | 0 / 113 (0.00%) | 0 / 13 (0.00%) |
| occurrences (all) | 0 | 0 | 0 |
| Musculoskeletal and connective tissue disorders | | | |
| Myalgia | | | |
| alternative assessment type: Systematic | | | |
| subjects affected / exposed | 0 / 2 (0.00%) | 15 / 113 (13.27%) | 0 / 13 (0.00%) |
| occurrences (all) | 0 | 15 | 0 |
| Arthralgia | | | |
| alternative assessment type: Systematic | | | |
| subjects affected / exposed | 0 / 2 (0.00%) | 10 / 113 (8.85%) | 0 / 13 (0.00%) |
| occurrences (all) | 0 | 10 | 0 |
| Pain in extremity | | | |
| subjects affected / exposed | 0 / 2 (0.00%) | 0 / 113 (0.00%) | 0 / 13 (0.00%) |
| occurrences (all) | 0 | 0 | 0 |
| Infections and infestations | | | |
| Upper respiratory tract infections | | | |
| subjects affected / exposed | 0 / 2 (0.00%) | 0 / 113 (0.00%) | 0 / 13 (0.00%) |
| occurrences (all) | 0 | 0 | 0 |

| | | | |
|---|---------------|-----------------|----------------|
| Otitis media | | | |
| subjects affected / exposed | 0 / 2 (0.00%) | 0 / 113 (0.00%) | 0 / 13 (0.00%) |
| occurrences (all) | 0 | 0 | 0 |
| Gastroenteritis | | | |
| subjects affected / exposed | 0 / 2 (0.00%) | 0 / 113 (0.00%) | 0 / 13 (0.00%) |
| occurrences (all) | 0 | 0 | 0 |
| Conjunctivitis | | | |
| subjects affected / exposed | 0 / 2 (0.00%) | 0 / 113 (0.00%) | 0 / 13 (0.00%) |
| occurrences (all) | 0 | 0 | 0 |
| Ear infection | | | |
| subjects affected / exposed | 0 / 2 (0.00%) | 0 / 113 (0.00%) | 0 / 13 (0.00%) |
| occurrences (all) | 0 | 0 | 0 |
| Impetigo | | | |
| subjects affected / exposed | 0 / 2 (0.00%) | 0 / 113 (0.00%) | 0 / 13 (0.00%) |
| occurrences (all) | 0 | 0 | 0 |
| Pharyngitis streptococcal | | | |
| subjects affected / exposed | 0 / 2 (0.00%) | 0 / 113 (0.00%) | 0 / 13 (0.00%) |
| occurrences (all) | 0 | 0 | 0 |
| Metabolism and nutrition disorders | | | |
| Decreased appetite | | | |
| alternative assessment type: Systematic | | | |
| subjects affected / exposed | 0 / 2 (0.00%) | 0 / 113 (0.00%) | 0 / 13 (0.00%) |
| occurrences (all) | 0 | 0 | 0 |

| Non-serious adverse events | SSB: Group 1a: 2 prior doses of BNT162b2 (Second Vaccination) | SSB: Group 1b: 2 prior doses of BNT162b2 (First Vaccination) | SSD: Group 3: Participants from study C4591007 Phase 1 |
|---|---|--|--|
| Total subjects affected by non-serious adverse events | | | |
| subjects affected / exposed | 11 / 17 (64.71%) | 7 / 13 (53.85%) | 16 / 19 (84.21%) |
| Injury, poisoning and procedural complications | | | |
| Animal bite | | | |
| subjects affected / exposed | 0 / 17 (0.00%) | 0 / 13 (0.00%) | 1 / 19 (5.26%) |
| occurrences (all) | 0 | 0 | 1 |
| Arthropod bite | | | |
| subjects affected / exposed | 0 / 17 (0.00%) | 0 / 13 (0.00%) | 0 / 19 (0.00%) |
| occurrences (all) | 0 | 0 | 0 |
| Skin abrasion | | | |

| | | | |
|--|----------------------|----------------------|------------------------|
| subjects affected / exposed occurrences (all) | 0 / 17 (0.00%) 0 | 0 / 13 (0.00%) 0 | 0 / 19 (0.00%) 0 |
| Contusion subjects affected / exposed occurrences (all) | 0 / 17 (0.00%) 0 | 0 / 13 (0.00%) 0 | 0 / 19 (0.00%) 0 |
| Nervous system disorders Headache (HEADACHE) alternative assessment type: Systematic subjects affected / exposed occurrences (all) | 0 / 17 (0.00%) 0 | 1 / 13 (7.69%) 1 | 7 / 19 (36.84%) 7 |
| Somnolence (DROWSINESS) alternative assessment type: Systematic subjects affected / exposed occurrences (all) | 2 / 17 (11.76%) 2 | 0 / 13 (0.00%) 0 | 0 / 19 (0.00%) 0 |
| Somnolence subjects affected / exposed occurrences (all) | 1 / 17 (5.88%) 1 | 0 / 13 (0.00%) 0 | 0 / 19 (0.00%) 0 |
| General disorders and administration site conditions Fatigue (FATIGUE) alternative assessment type: Systematic subjects affected / exposed occurrences (all) | 0 / 17 (0.00%) 0 | 4 / 13 (30.77%) 4 | 11 / 19 (57.89%) 11 |
| Chills (CHILLS) alternative assessment type: Systematic subjects affected / exposed occurrences (all) | 0 / 17 (0.00%) 0 | 0 / 13 (0.00%) 0 | 2 / 19 (10.53%) 2 |
| Injection site swelling alternative assessment type: Systematic subjects affected / exposed occurrences (all) | 1 / 17 (5.88%) 1 | 1 / 13 (7.69%) 1 | 2 / 19 (10.53%) 2 |
| Injection site pain (PAIN) alternative assessment type: Systematic subjects affected / exposed occurrences (all) | 0 / 17 (0.00%) 0 | 4 / 13 (30.77%) 4 | 13 / 19 (68.42%) 13 |
| Injection site erythema (REDNESS) | | | |

| | | | |
|--|-----------------|----------------|-----------------|
| alternative assessment type: Systematic | | | |
| subjects affected / exposed | 2 / 17 (11.76%) | 1 / 13 (7.69%) | 2 / 19 (10.53%) |
| occurrences (all) | 2 | 1 | 2 |
| Pyrexia (FEVER) | | | |
| alternative assessment type: Systematic | | | |
| subjects affected / exposed | 2 / 17 (11.76%) | 0 / 13 (0.00%) | 2 / 19 (10.53%) |
| occurrences (all) | 2 | 0 | 2 |
| Injection site haemorrhage | | | |
| subjects affected / exposed | 0 / 17 (0.00%) | 0 / 13 (0.00%) | 1 / 19 (5.26%) |
| occurrences (all) | 0 | 0 | 1 |
| Pyrexia | | | |
| subjects affected / exposed | 0 / 17 (0.00%) | 0 / 13 (0.00%) | 0 / 19 (0.00%) |
| occurrences (all) | 0 | 0 | 0 |
| Injection site pain | | | |
| subjects affected / exposed | 0 / 17 (0.00%) | 0 / 13 (0.00%) | 0 / 19 (0.00%) |
| occurrences (all) | 0 | 0 | 0 |
| Fatigue | | | |
| subjects affected / exposed | 0 / 17 (0.00%) | 0 / 13 (0.00%) | 0 / 19 (0.00%) |
| occurrences (all) | 0 | 0 | 0 |
| Injection site erythema | | | |
| subjects affected / exposed | 0 / 17 (0.00%) | 0 / 13 (0.00%) | 0 / 19 (0.00%) |
| occurrences (all) | 0 | 0 | 0 |
| Chills | | | |
| subjects affected / exposed | 0 / 17 (0.00%) | 0 / 13 (0.00%) | 0 / 19 (0.00%) |
| occurrences (all) | 0 | 0 | 0 |
| Injection site pain (TENDERNESS) | | | |
| subjects affected / exposed | 0 / 17 (0.00%) | 0 / 13 (0.00%) | 0 / 19 (0.00%) |
| occurrences (all) | 0 | 0 | 0 |
| Gastrointestinal disorders | | | |
| Diarrhea (DIARRHEA) | | | |
| alternative assessment type: Systematic | | | |
| subjects affected / exposed | 0 / 17 (0.00%) | 0 / 13 (0.00%) | 0 / 19 (0.00%) |
| occurrences (all) | 0 | 0 | 0 |
| Vomiting (VOMITING) | | | |
| alternative assessment type: Systematic | | | |

| | | | |
|---|----------------------|---------------------|---------------------|
| subjects affected / exposed occurrences (all) | 0 / 17 (0.00%) 0 | 1 / 13 (7.69%) 1 | 0 / 19 (0.00%) 0 |
| Vomiting subjects affected / exposed occurrences (all) | 0 / 17 (0.00%) 0 | 0 / 13 (0.00%) 0 | 0 / 19 (0.00%) 0 |
| Diarrhoea subjects affected / exposed occurrences (all) | 0 / 17 (0.00%) 0 | 0 / 13 (0.00%) 0 | 0 / 19 (0.00%) 0 |
| Respiratory, thoracic and mediastinal disorders Nasal congestion subjects affected / exposed occurrences (all) | 0 / 17 (0.00%) 0 | 0 / 13 (0.00%) 0 | 0 / 19 (0.00%) 0 |
| Cough subjects affected / exposed occurrences (all) | 0 / 17 (0.00%) 0 | 0 / 13 (0.00%) 0 | 0 / 19 (0.00%) 0 |
| Tachypnoea subjects affected / exposed occurrences (all) | 0 / 17 (0.00%) 0 | 0 / 13 (0.00%) 0 | 0 / 19 (0.00%) 0 |
| Skin and subcutaneous tissue disorders Urticaria subjects affected / exposed occurrences (all) | 0 / 17 (0.00%) 0 | 0 / 13 (0.00%) 0 | 0 / 19 (0.00%) 0 |
| Erythema subjects affected / exposed occurrences (all) | 0 / 17 (0.00%) 0 | 0 / 13 (0.00%) 0 | 0 / 19 (0.00%) 0 |
| Rash maculo-papular subjects affected / exposed occurrences (all) | 0 / 17 (0.00%) 0 | 0 / 13 (0.00%) 0 | 0 / 19 (0.00%) 0 |
| Psychiatric disorders Anxiety subjects affected / exposed occurrences (all) | 0 / 17 (0.00%) 0 | 0 / 13 (0.00%) 0 | 1 / 19 (5.26%) 1 |
| Irritability alternative assessment type: Systematic subjects affected / exposed occurrences (all) | 9 / 17 (52.94%) 9 | 0 / 13 (0.00%) 0 | 0 / 19 (0.00%) 0 |

| | | | | |
|---|---|----------------|----------------|-----------------|
| Musculoskeletal and connective tissue disorders | Myalgia | | | |
| | alternative assessment type: Systematic | | | |
| | subjects affected / exposed | 0 / 17 (0.00%) | 0 / 13 (0.00%) | 4 / 19 (21.05%) |
| | occurrences (all) | 0 | 0 | 4 |
| | Arthralgia | | | |
| | alternative assessment type: Systematic | | | |
| | subjects affected / exposed | 0 / 17 (0.00%) | 0 / 13 (0.00%) | 2 / 19 (10.53%) |
| | occurrences (all) | 0 | 0 | 2 |
| | Pain in extremity | | | |
| | subjects affected / exposed | 1 / 17 (5.88%) | 0 / 13 (0.00%) | 0 / 19 (0.00%) |
| | occurrences (all) | 1 | 0 | 0 |
| Infections and infestations | Upper respiratory tract infections | | | |
| | subjects affected / exposed | 0 / 17 (0.00%) | 0 / 13 (0.00%) | 1 / 19 (5.26%) |
| | occurrences (all) | 0 | 0 | 1 |
| | Otitis media | | | |
| | subjects affected / exposed | 0 / 17 (0.00%) | 0 / 13 (0.00%) | 0 / 19 (0.00%) |
| | occurrences (all) | 0 | 0 | 0 |
| | Gastroenteritis | | | |
| | subjects affected / exposed | 0 / 17 (0.00%) | 0 / 13 (0.00%) | 0 / 19 (0.00%) |
| | occurrences (all) | 0 | 0 | 0 |
| | Conjunctivitis | | | |
| | subjects affected / exposed | 0 / 17 (0.00%) | 0 / 13 (0.00%) | 0 / 19 (0.00%) |
| | occurrences (all) | 0 | 0 | 0 |
| | Ear infection | | | |
| | subjects affected / exposed | 0 / 17 (0.00%) | 0 / 13 (0.00%) | 0 / 19 (0.00%) |
| | occurrences (all) | 0 | 0 | 0 |
| | Impetigo | | | |
| | subjects affected / exposed | 0 / 17 (0.00%) | 0 / 13 (0.00%) | 0 / 19 (0.00%) |
| | occurrences (all) | 0 | 0 | 0 |
| | Pharyngitis streptococcal | | | |
| | subjects affected / exposed | 0 / 17 (0.00%) | 0 / 13 (0.00%) | 0 / 19 (0.00%) |
| | occurrences (all) | 0 | 0 | 0 |
| Metabolism and nutrition disorders | | | | |

| | | | |
|--|----------------------|---------------------|---------------------|
| Decreased appetite alternative assessment type: Systematic subjects affected / exposed occurrences (all) | 3 / 17 (17.65%) 3 | 0 / 13 (0.00%) 0 | 0 / 19 (0.00%) 0 |
|--|----------------------|---------------------|---------------------|

| Non-serious adverse events | SSC: Group 1a: 3 prior doses of BNT162b2 | SSC: Group 1b: 3 prior doses of BNT162b2 | SSC: Group 2a: 3 prior doses of BNT162b2 |
|---|--|--|--|
| Total subjects affected by non-serious adverse events subjects affected / exposed | 13 / 17 (76.47%) | 17 / 19 (89.47%) | 24 / 32 (75.00%) |
| Injury, poisoning and procedural complications | | | |
| Animal bite subjects affected / exposed occurrences (all) | 0 / 17 (0.00%) 0 | 0 / 19 (0.00%) 0 | 0 / 32 (0.00%) 0 |
| Arthropod bite subjects affected / exposed occurrences (all) | 0 / 17 (0.00%) 0 | 1 / 19 (5.26%) 1 | 0 / 32 (0.00%) 0 |
| Skin abrasion subjects affected / exposed occurrences (all) | 0 / 17 (0.00%) 0 | 0 / 19 (0.00%) 0 | 0 / 32 (0.00%) 0 |
| Contusion subjects affected / exposed occurrences (all) | 0 / 17 (0.00%) 0 | 0 / 19 (0.00%) 0 | 0 / 32 (0.00%) 0 |
| Nervous system disorders | | | |
| Headache (HEADACHE) alternative assessment type: Systematic subjects affected / exposed occurrences (all) | 0 / 17 (0.00%) 0 | 0 / 19 (0.00%) 0 | 4 / 32 (12.50%) 4 |
| Somnolence (DROWSINESS) alternative assessment type: Systematic subjects affected / exposed occurrences (all) | 5 / 17 (29.41%) 5 | 5 / 19 (26.32%) 5 | 0 / 32 (0.00%) 0 |
| Somnolence subjects affected / exposed occurrences (all) | 0 / 17 (0.00%) 0 | 0 / 19 (0.00%) 0 | 0 / 32 (0.00%) 0 |
| General disorders and administration site conditions | | | |

| | | | |
|--|-----------------|-----------------|------------------|
| Fatigue (FATIGUE) | | | |
| alternative assessment type: Systematic | | | |
| subjects affected / exposed | 0 / 17 (0.00%) | 0 / 19 (0.00%) | 13 / 32 (40.63%) |
| occurrences (all) | 0 | 0 | 13 |
| Chills (CHILLS) | | | |
| alternative assessment type: Systematic | | | |
| subjects affected / exposed | 0 / 17 (0.00%) | 0 / 19 (0.00%) | 4 / 32 (12.50%) |
| occurrences (all) | 0 | 0 | 4 |
| Injection site swelling | | | |
| alternative assessment type: Systematic | | | |
| subjects affected / exposed | 0 / 17 (0.00%) | 0 / 19 (0.00%) | 2 / 32 (6.25%) |
| occurrences (all) | 0 | 0 | 2 |
| Injection site pain (PAIN) | | | |
| alternative assessment type: Systematic | | | |
| subjects affected / exposed | 1 / 17 (5.88%) | 3 / 19 (15.79%) | 10 / 32 (31.25%) |
| occurrences (all) | 1 | 3 | 10 |
| Injection site erythema (REDNESS) | | | |
| alternative assessment type: Systematic | | | |
| subjects affected / exposed | 4 / 17 (23.53%) | 4 / 19 (21.05%) | 2 / 32 (6.25%) |
| occurrences (all) | 4 | 4 | 2 |
| Pyrexia (FEVER) | | | |
| alternative assessment type: Systematic | | | |
| subjects affected / exposed | 3 / 17 (17.65%) | 1 / 19 (5.26%) | 8 / 32 (25.00%) |
| occurrences (all) | 3 | 1 | 8 |
| Injection site haemorrhage | | | |
| subjects affected / exposed | 0 / 17 (0.00%) | 0 / 19 (0.00%) | 0 / 32 (0.00%) |
| occurrences (all) | 0 | 0 | 0 |
| Pyrexia | | | |
| subjects affected / exposed | 1 / 17 (5.88%) | 0 / 19 (0.00%) | 1 / 32 (3.13%) |
| occurrences (all) | 1 | 0 | 1 |
| Injection site pain | | | |
| subjects affected / exposed | 0 / 17 (0.00%) | 0 / 19 (0.00%) | 0 / 32 (0.00%) |
| occurrences (all) | 0 | 0 | 0 |
| Fatigue | | | |

| | | | |
|---|---------------------|---------------------|---------------------|
| subjects affected / exposed occurrences (all) | 0 / 17 (0.00%) 0 | 0 / 19 (0.00%) 0 | 0 / 32 (0.00%) 0 |
| Injection site erythema subjects affected / exposed occurrences (all) | 0 / 17 (0.00%) 0 | 0 / 19 (0.00%) 0 | 0 / 32 (0.00%) 0 |
| Chills subjects affected / exposed occurrences (all) | 0 / 17 (0.00%) 0 | 0 / 19 (0.00%) 0 | 0 / 32 (0.00%) 0 |
| Injection site pain (TENDERNESS) subjects affected / exposed occurrences (all) | 0 / 17 (0.00%) 0 | 0 / 19 (0.00%) 0 | 0 / 32 (0.00%) 0 |
| Gastrointestinal disorders Diarrhea (DIARRHEA) alternative assessment type: Systematic subjects affected / exposed occurrences (all) | 0 / 17 (0.00%) 0 | 0 / 19 (0.00%) 0 | 2 / 32 (6.25%) 2 |
| Vomiting (VOMITING) alternative assessment type: Systematic subjects affected / exposed occurrences (all) | 0 / 17 (0.00%) 0 | 0 / 19 (0.00%) 0 | 3 / 32 (9.38%) 3 |
| Vomiting subjects affected / exposed occurrences (all) | 0 / 17 (0.00%) 0 | 1 / 19 (5.26%) 1 | 0 / 32 (0.00%) 0 |
| Diarrhoea subjects affected / exposed occurrences (all) | 0 / 17 (0.00%) 0 | 0 / 19 (0.00%) 0 | 0 / 32 (0.00%) 0 |
| Respiratory, thoracic and mediastinal disorders Nasal congestion subjects affected / exposed occurrences (all) | 0 / 17 (0.00%) 0 | 0 / 19 (0.00%) 0 | 0 / 32 (0.00%) 0 |
| Cough subjects affected / exposed occurrences (all) | 0 / 17 (0.00%) 0 | 0 / 19 (0.00%) 0 | 0 / 32 (0.00%) 0 |
| Tachypnoea | | | |

| | | | |
|--|---------------------|---------------------|---------------------|
| subjects affected / exposed occurrences (all) | 0 / 17 (0.00%) 0 | 0 / 19 (0.00%) 0 | 0 / 32 (0.00%) 0 |
| Skin and subcutaneous tissue disorders | | | |
| Urticaria | | | |
| subjects affected / exposed | 0 / 17 (0.00%) | 0 / 19 (0.00%) | 1 / 32 (3.13%) |
| occurrences (all) | 0 | 0 | 1 |
| Erythema | | | |
| subjects affected / exposed | 0 / 17 (0.00%) | 1 / 19 (5.26%) | 0 / 32 (0.00%) |
| occurrences (all) | 0 | 1 | 0 |
| Rash maculo-papular | | | |
| subjects affected / exposed | 0 / 17 (0.00%) | 0 / 19 (0.00%) | 0 / 32 (0.00%) |
| occurrences (all) | 0 | 0 | 0 |
| Psychiatric disorders | | | |
| Anxiety | | | |
| subjects affected / exposed | 0 / 17 (0.00%) | 0 / 19 (0.00%) | 0 / 32 (0.00%) |
| occurrences (all) | 0 | 0 | 0 |
| Irritability | | | |
| alternative assessment type: Systematic | | | |
| subjects affected / exposed | 8 / 17 (47.06%) | 14 / 19 (73.68%) | 0 / 32 (0.00%) |
| occurrences (all) | 8 | 14 | 0 |
| Musculoskeletal and connective tissue disorders | | | |
| Myalgia | | | |
| alternative assessment type: Systematic | | | |
| subjects affected / exposed | 0 / 17 (0.00%) | 0 / 19 (0.00%) | 3 / 32 (9.38%) |
| occurrences (all) | 0 | 0 | 3 |
| Arthralgia | | | |
| alternative assessment type: Systematic | | | |
| subjects affected / exposed | 0 / 17 (0.00%) | 0 / 19 (0.00%) | 0 / 32 (0.00%) |
| occurrences (all) | 0 | 0 | 0 |
| Pain in extremity | | | |
| subjects affected / exposed | 0 / 17 (0.00%) | 0 / 19 (0.00%) | 0 / 32 (0.00%) |
| occurrences (all) | 0 | 0 | 0 |
| Infections and infestations | | | |
| Upper respiratory tract infections | | | |
| subjects affected / exposed | 0 / 17 (0.00%) | 0 / 19 (0.00%) | 0 / 32 (0.00%) |
| occurrences (all) | 0 | 0 | 0 |

| | | | |
|--|-----------------|-----------------|----------------|
| Otitis media | | | |
| subjects affected / exposed | 1 / 17 (5.88%) | 0 / 19 (0.00%) | 0 / 32 (0.00%) |
| occurrences (all) | 1 | 0 | 0 |
| Gastroenteritis | | | |
| subjects affected / exposed | 1 / 17 (5.88%) | 0 / 19 (0.00%) | 0 / 32 (0.00%) |
| occurrences (all) | 1 | 0 | 0 |
| Conjunctivitis | | | |
| subjects affected / exposed | 0 / 17 (0.00%) | 0 / 19 (0.00%) | 0 / 32 (0.00%) |
| occurrences (all) | 0 | 0 | 0 |
| Ear infection | | | |
| subjects affected / exposed | 0 / 17 (0.00%) | 0 / 19 (0.00%) | 0 / 32 (0.00%) |
| occurrences (all) | 0 | 0 | 0 |
| Impetigo | | | |
| subjects affected / exposed | 0 / 17 (0.00%) | 0 / 19 (0.00%) | 0 / 32 (0.00%) |
| occurrences (all) | 0 | 0 | 0 |
| Pharyngitis streptococcal | | | |
| subjects affected / exposed | 0 / 17 (0.00%) | 0 / 19 (0.00%) | 0 / 32 (0.00%) |
| occurrences (all) | 0 | 0 | 0 |
| Metabolism and nutrition disorders | | | |
| Decreased appetite | | | |
| alternative assessment type: Systematic | | | |
| subjects affected / exposed | 4 / 17 (23.53%) | 3 / 19 (15.79%) | 0 / 32 (0.00%) |
| occurrences (all) | 4 | 3 | 0 |

| Non-serious adverse events | SSC: Group 2b: 3 prior doses of BNT162b2 | SSB: Group 1a: 2 prior doses of BNT162b2 (First Vaccination) | SSB: Group 3a: 3 prior doses of BNT162b2 |
|--|--|---|--|
| Total subjects affected by non-serious adverse events | | | |
| subjects affected / exposed | 17 / 30 (56.67%) | 14 / 17 (82.35%) | 44 / 68 (64.71%) |
| Injury, poisoning and procedural complications | | | |
| Animal bite | | | |
| subjects affected / exposed | 0 / 30 (0.00%) | 0 / 17 (0.00%) | 0 / 68 (0.00%) |
| occurrences (all) | 0 | 0 | 0 |
| Arthropod bite | | | |
| subjects affected / exposed | 0 / 30 (0.00%) | 0 / 17 (0.00%) | 0 / 68 (0.00%) |
| occurrences (all) | 0 | 0 | 0 |
| Skin abrasion | | | |

| | | | |
|--|------------------------|----------------------|------------------------|
| subjects affected / exposed occurrences (all) | 0 / 30 (0.00%) 0 | 0 / 17 (0.00%) 0 | 0 / 68 (0.00%) 0 |
| Contusion subjects affected / exposed occurrences (all) | 0 / 30 (0.00%) 0 | 0 / 17 (0.00%) 0 | 1 / 68 (1.47%) 1 |
| Nervous system disorders Headache (HEADACHE) alternative assessment type: Systematic subjects affected / exposed occurrences (all) | 1 / 30 (3.33%) 1 | 0 / 17 (0.00%) 0 | 0 / 68 (0.00%) 0 |
| Somnolence (DROWSINESS) alternative assessment type: Systematic subjects affected / exposed occurrences (all) | 0 / 30 (0.00%) 0 | 7 / 17 (41.18%) 7 | 11 / 68 (16.18%) 11 |
| Somnolence subjects affected / exposed occurrences (all) | 0 / 30 (0.00%) 0 | 0 / 17 (0.00%) 0 | 0 / 68 (0.00%) 0 |
| General disorders and administration site conditions Fatigue (FATIGUE) alternative assessment type: Systematic subjects affected / exposed occurrences (all) | 11 / 30 (36.67%) 11 | 0 / 17 (0.00%) 0 | 0 / 68 (0.00%) 0 |
| Chills (CHILLS) alternative assessment type: Systematic subjects affected / exposed occurrences (all) | 1 / 30 (3.33%) 1 | 0 / 17 (0.00%) 0 | 0 / 68 (0.00%) 0 |
| Injection site swelling alternative assessment type: Systematic subjects affected / exposed occurrences (all) | 0 / 30 (0.00%) 0 | 0 / 17 (0.00%) 0 | 1 / 68 (1.47%) 1 |
| Injection site pain (PAIN) alternative assessment type: Systematic subjects affected / exposed occurrences (all) | 8 / 30 (26.67%) 8 | 0 / 17 (0.00%) 0 | 0 / 68 (0.00%) 0 |
| Injection site erythema (REDNESS) | | | |

| | | | |
|--|-----------------|----------------|-----------------|
| alternative assessment type: Systematic | | | |
| subjects affected / exposed | 1 / 30 (3.33%) | 1 / 17 (5.88%) | 4 / 68 (5.88%) |
| occurrences (all) | 1 | 1 | 4 |
| Pyrexia (FEVER) | | | |
| alternative assessment type: Systematic | | | |
| subjects affected / exposed | 3 / 30 (10.00%) | 0 / 17 (0.00%) | 7 / 68 (10.29%) |
| occurrences (all) | 3 | 0 | 7 |
| Injection site haemorrhage | | | |
| subjects affected / exposed | 0 / 30 (0.00%) | 0 / 17 (0.00%) | 0 / 68 (0.00%) |
| occurrences (all) | 0 | 0 | 0 |
| Pyrexia | | | |
| subjects affected / exposed | 0 / 30 (0.00%) | 1 / 17 (5.88%) | 2 / 68 (2.94%) |
| occurrences (all) | 0 | 1 | 2 |
| Injection site pain | | | |
| subjects affected / exposed | 0 / 30 (0.00%) | 0 / 17 (0.00%) | 0 / 68 (0.00%) |
| occurrences (all) | 0 | 0 | 0 |
| Fatigue | | | |
| subjects affected / exposed | 0 / 30 (0.00%) | 0 / 17 (0.00%) | 1 / 68 (1.47%) |
| occurrences (all) | 0 | 0 | 1 |
| Injection site erythema | | | |
| subjects affected / exposed | 0 / 30 (0.00%) | 0 / 17 (0.00%) | 1 / 68 (1.47%) |
| occurrences (all) | 0 | 0 | 1 |
| Chills | | | |
| subjects affected / exposed | 0 / 30 (0.00%) | 0 / 17 (0.00%) | 1 / 68 (1.47%) |
| occurrences (all) | 0 | 0 | 1 |
| Injection site pain (TENDERNESS) | | | |
| subjects affected / exposed | 0 / 30 (0.00%) | 0 / 17 (0.00%) | 8 / 68 (11.76%) |
| occurrences (all) | 0 | 0 | 8 |
| Gastrointestinal disorders | | | |
| Diarrhea (DIARRHEA) | | | |
| alternative assessment type: Systematic | | | |
| subjects affected / exposed | 1 / 30 (3.33%) | 0 / 17 (0.00%) | 0 / 68 (0.00%) |
| occurrences (all) | 1 | 0 | 0 |
| Vomiting (VOMITING) | | | |
| alternative assessment type: Systematic | | | |

| | | | |
|---|---------------------|------------------------|------------------------|
| subjects affected / exposed occurrences (all) | 2 / 30 (6.67%) 2 | 0 / 17 (0.00%) 0 | 0 / 68 (0.00%) 0 |
| Vomiting subjects affected / exposed occurrences (all) | 0 / 30 (0.00%) 0 | 0 / 17 (0.00%) 0 | 3 / 68 (4.41%) 3 |
| Diarrhoea subjects affected / exposed occurrences (all) | 0 / 30 (0.00%) 0 | 0 / 17 (0.00%) 0 | 0 / 68 (0.00%) 0 |
| Respiratory, thoracic and mediastinal disorders Nasal congestion subjects affected / exposed occurrences (all) | 0 / 30 (0.00%) 0 | 0 / 17 (0.00%) 0 | 1 / 68 (1.47%) 1 |
| Cough subjects affected / exposed occurrences (all) | 0 / 30 (0.00%) 0 | 0 / 17 (0.00%) 0 | 1 / 68 (1.47%) 1 |
| Tachypnoea subjects affected / exposed occurrences (all) | 0 / 30 (0.00%) 0 | 0 / 17 (0.00%) 0 | 1 / 68 (1.47%) 1 |
| Skin and subcutaneous tissue disorders Urticaria subjects affected / exposed occurrences (all) | 0 / 30 (0.00%) 0 | 0 / 17 (0.00%) 0 | 0 / 68 (0.00%) 0 |
| Erythema subjects affected / exposed occurrences (all) | 0 / 30 (0.00%) 0 | 0 / 17 (0.00%) 0 | 1 / 68 (1.47%) 1 |
| Rash maculo-papular subjects affected / exposed occurrences (all) | 0 / 30 (0.00%) 0 | 0 / 17 (0.00%) 0 | 1 / 68 (1.47%) 1 |
| Psychiatric disorders Anxiety subjects affected / exposed occurrences (all) | 0 / 30 (0.00%) 0 | 0 / 17 (0.00%) 0 | 0 / 68 (0.00%) 0 |
| Irritability alternative assessment type: Systematic subjects affected / exposed occurrences (all) | 0 / 30 (0.00%) 0 | 11 / 17 (64.71%) 11 | 29 / 68 (42.65%) 29 |

| | | | |
|---|--|----------------|----------------|
| Musculoskeletal and connective tissue disorders | | | |
| | Myalgia | | |
| | alternative assessment type: Systematic | | |
| | subjects affected / exposed | 2 / 30 (6.67%) | 0 / 17 (0.00%) |
| | occurrences (all) | 2 | 0 |
| | Arthralgia | | |
| | alternative assessment type: Systematic | | |
| | subjects affected / exposed | 0 / 30 (0.00%) | 0 / 17 (0.00%) |
| | occurrences (all) | 0 | 0 |
| | Pain in extremity | | |
| | subjects affected / exposed | 0 / 30 (0.00%) | 0 / 17 (0.00%) |
| | occurrences (all) | 0 | 0 |
| Infections and infestations | | | |
| | Upper respiratory tract infections | | |
| | subjects affected / exposed | 0 / 30 (0.00%) | 0 / 17 (0.00%) |
| | occurrences (all) | 0 | 0 |
| | Otitis media | | |
| | subjects affected / exposed | 1 / 30 (3.33%) | 0 / 17 (0.00%) |
| | occurrences (all) | 1 | 0 |
| | Gastroenteritis | | |
| | subjects affected / exposed | 0 / 30 (0.00%) | 0 / 17 (0.00%) |
| | occurrences (all) | 0 | 0 |
| | Conjunctivitis | | |
| | subjects affected / exposed | 0 / 30 (0.00%) | 0 / 17 (0.00%) |
| | occurrences (all) | 0 | 0 |
| | Ear infection | | |
| | subjects affected / exposed | 0 / 30 (0.00%) | 0 / 17 (0.00%) |
| | occurrences (all) | 0 | 0 |
| | Impetigo | | |
| | subjects affected / exposed | 0 / 30 (0.00%) | 0 / 17 (0.00%) |
| | occurrences (all) | 0 | 0 |
| | Pharyngitis streptococcal | | |
| | subjects affected / exposed | 0 / 30 (0.00%) | 0 / 17 (0.00%) |
| | occurrences (all) | 0 | 0 |
| | | | |
| | | | |
| | | | |
| Metabolism and nutrition disorders | | | |

| | | | |
|--|-------------------------|--------------------------|----------------------------|
| Decreased appetite alternative assessment type: Systematic subjects affected / exposed occurrences (all) | 0 / 30 (0.00%) 0 | 4 / 17 (23.53%) 4 | 13 / 68 (19.12%) 13 |
|--|-------------------------|--------------------------|----------------------------|

| Non-serious adverse events | SSB: Group 2b: 3 prior doses of BNT162b2 | SSB: Group 2a: 3 prior doses of BNT162b2 | SSB: Group 3b: 3 prior doses of BNT162b2 |
|---|--|--|--|
| Total subjects affected by non-serious adverse events subjects affected / exposed | 130 / 218 (59.63%) | 48 / 92 (52.17%) | 532 / 989 (53.79%) |
| Injury, poisoning and procedural complications Animal bite subjects affected / exposed occurrences (all) | 0 / 218 (0.00%) 0 | 0 / 92 (0.00%) 0 | 0 / 989 (0.00%) 0 |
| Arthropod bite subjects affected / exposed occurrences (all) | 0 / 218 (0.00%) 0 | 0 / 92 (0.00%) 0 | 0 / 989 (0.00%) 0 |
| Skin abrasion subjects affected / exposed occurrences (all) | 0 / 218 (0.00%) 0 | 1 / 92 (1.09%) 1 | 0 / 989 (0.00%) 0 |
| Contusion subjects affected / exposed occurrences (all) | 0 / 218 (0.00%) 0 | 0 / 92 (0.00%) 0 | 0 / 989 (0.00%) 0 |
| Nervous system disorders Headache (HEADACHE) alternative assessment type: Systematic subjects affected / exposed occurrences (all) | 9 / 218 (4.13%) 9 | 0 / 92 (0.00%) 0 | 43 / 989 (4.35%) 43 |
| Somnolence (DROWSINESS) alternative assessment type: Systematic subjects affected / exposed occurrences (all) | 0 / 218 (0.00%) 0 | 18 / 92 (19.57%) 18 | 0 / 989 (0.00%) 0 |
| Somnolence subjects affected / exposed occurrences (all) | 0 / 218 (0.00%) 0 | 0 / 92 (0.00%) 0 | 0 / 989 (0.00%) 0 |
| General disorders and administration site conditions | | | |

| | | | |
|--|-------------------|----------------|--------------------|
| Fatigue (FATIGUE) | | | |
| alternative assessment type: Systematic | | | |
| subjects affected / exposed | 68 / 218 (31.19%) | 0 / 92 (0.00%) | 283 / 989 (28.61%) |
| occurrences (all) | 68 | 0 | 283 |
| Chills (CHILLS) | | | |
| alternative assessment type: Systematic | | | |
| subjects affected / exposed | 10 / 218 (4.59%) | 0 / 92 (0.00%) | 24 / 989 (2.43%) |
| occurrences (all) | 10 | 0 | 24 |
| Injection site swelling | | | |
| alternative assessment type: Systematic | | | |
| subjects affected / exposed | 9 / 218 (4.13%) | 5 / 92 (5.43%) | 39 / 989 (3.94%) |
| occurrences (all) | 9 | 5 | 39 |
| Injection site pain (PAIN) | | | |
| alternative assessment type: Systematic | | | |
| subjects affected / exposed | 0 / 218 (0.00%) | 0 / 92 (0.00%) | 0 / 989 (0.00%) |
| occurrences (all) | 0 | 0 | 0 |
| Injection site erythema (REDNESS) | | | |
| alternative assessment type: Systematic | | | |
| subjects affected / exposed | 14 / 218 (6.42%) | 7 / 92 (7.61%) | 100 / 989 (10.11%) |
| occurrences (all) | 14 | 7 | 100 |
| Pyrexia (FEVER) | | | |
| alternative assessment type: Systematic | | | |
| subjects affected / exposed | 15 / 218 (6.88%) | 8 / 92 (8.70%) | 51 / 989 (5.16%) |
| occurrences (all) | 15 | 8 | 51 |
| Injection site haemorrhage | | | |
| subjects affected / exposed | 0 / 218 (0.00%) | 0 / 92 (0.00%) | 0 / 989 (0.00%) |
| occurrences (all) | 0 | 0 | 0 |
| Pyrexia | | | |
| subjects affected / exposed | 3 / 218 (1.38%) | 1 / 92 (1.09%) | 8 / 989 (0.81%) |
| occurrences (all) | 3 | 2 | 8 |
| Injection site pain | | | |
| subjects affected / exposed | 1 / 218 (0.46%) | 1 / 92 (1.09%) | 0 / 989 (0.00%) |
| occurrences (all) | 1 | 1 | 0 |
| Fatigue | | | |

| | | | |
|---|------------------------|------------------------|------------------------|
| subjects affected / exposed occurrences (all) | 0 / 218 (0.00%) 0 | 1 / 92 (1.09%) 1 | 2 / 989 (0.20%) 2 |
| Injection site erythema subjects affected / exposed occurrences (all) | 0 / 218 (0.00%) 0 | 0 / 92 (0.00%) 0 | 0 / 989 (0.00%) 0 |
| Chills subjects affected / exposed occurrences (all) | 0 / 218 (0.00%) 0 | 0 / 92 (0.00%) 0 | 0 / 989 (0.00%) 0 |
| Injection site pain (TENDERNESS) subjects affected / exposed occurrences (all) | 0 / 218 (0.00%) 0 | 10 / 92 (10.87%) 10 | 0 / 989 (0.00%) 0 |
| Gastrointestinal disorders Diarrhea (DIARRHEA) alternative assessment type: Systematic subjects affected / exposed occurrences (all) | 11 / 218 (5.05%) 11 | 0 / 92 (0.00%) 0 | 68 / 989 (6.88%) 68 |
| Vomiting (VOMITING) alternative assessment type: Systematic subjects affected / exposed occurrences (all) | 11 / 218 (5.05%) 11 | 0 / 92 (0.00%) 0 | 47 / 989 (4.75%) 47 |
| Vomiting subjects affected / exposed occurrences (all) | 1 / 218 (0.46%) 1 | 2 / 92 (2.17%) 2 | 7 / 989 (0.71%) 7 |
| Diarrhoea subjects affected / exposed occurrences (all) | 0 / 218 (0.00%) 0 | 2 / 92 (2.17%) 2 | 0 / 989 (0.00%) 0 |
| Respiratory, thoracic and mediastinal disorders Nasal congestion subjects affected / exposed occurrences (all) | 0 / 218 (0.00%) 0 | 0 / 92 (0.00%) 0 | 1 / 989 (0.10%) 1 |
| Cough subjects affected / exposed occurrences (all) | 0 / 218 (0.00%) 0 | 0 / 92 (0.00%) 0 | 2 / 989 (0.20%) 2 |
| Tachypnoea | | | |

| | | | |
|--|----------------------|---------------------|----------------------|
| subjects affected / exposed occurrences (all) | 0 / 218 (0.00%) 0 | 0 / 92 (0.00%) 0 | 0 / 989 (0.00%) 0 |
| Skin and subcutaneous tissue disorders | | | |
| Urticaria | | | |
| subjects affected / exposed | 0 / 218 (0.00%) | 0 / 92 (0.00%) | 0 / 989 (0.00%) |
| occurrences (all) | 0 | 0 | 0 |
| Erythema | | | |
| subjects affected / exposed | 1 / 218 (0.46%) | 1 / 92 (1.09%) | 0 / 989 (0.00%) |
| occurrences (all) | 1 | 1 | 0 |
| Rash maculo-papular | | | |
| subjects affected / exposed | 0 / 218 (0.00%) | 0 / 92 (0.00%) | 0 / 989 (0.00%) |
| occurrences (all) | 0 | 0 | 0 |
| Psychiatric disorders | | | |
| Anxiety | | | |
| subjects affected / exposed | 0 / 218 (0.00%) | 0 / 92 (0.00%) | 0 / 989 (0.00%) |
| occurrences (all) | 0 | 0 | 0 |
| Irritability | | | |
| alternative assessment type: Systematic | | | |
| subjects affected / exposed | 0 / 218 (0.00%) | 32 / 92 (34.78%) | 0 / 989 (0.00%) |
| occurrences (all) | 0 | 32 | 0 |
| Musculoskeletal and connective tissue disorders | | | |
| Myalgia | | | |
| alternative assessment type: Systematic | | | |
| subjects affected / exposed | 7 / 218 (3.21%) | 0 / 92 (0.00%) | 20 / 989 (2.02%) |
| occurrences (all) | 7 | 0 | 20 |
| Arthralgia | | | |
| alternative assessment type: Systematic | | | |
| subjects affected / exposed | 0 / 218 (0.00%) | 0 / 92 (0.00%) | 0 / 989 (0.00%) |
| occurrences (all) | 0 | 0 | 0 |
| Pain in extremity | | | |
| subjects affected / exposed | 0 / 218 (0.00%) | 0 / 92 (0.00%) | 0 / 989 (0.00%) |
| occurrences (all) | 0 | 0 | 0 |
| Infections and infestations | | | |
| Upper respiratory tract infections | | | |
| subjects affected / exposed | 0 / 218 (0.00%) | 0 / 92 (0.00%) | 0 / 989 (0.00%) |
| occurrences (all) | 0 | 0 | 0 |

| | | | |
|--|-----------------|------------------|-----------------|
| Otitis media | | | |
| subjects affected / exposed | 0 / 218 (0.00%) | 0 / 92 (0.00%) | 3 / 989 (0.30%) |
| occurrences (all) | 0 | 0 | 3 |
| Gastroenteritis | | | |
| subjects affected / exposed | 0 / 218 (0.00%) | 0 / 92 (0.00%) | 0 / 989 (0.00%) |
| occurrences (all) | 0 | 0 | 0 |
| Conjunctivitis | | | |
| subjects affected / exposed | 0 / 218 (0.00%) | 1 / 92 (1.09%) | 0 / 989 (0.00%) |
| occurrences (all) | 0 | 1 | 0 |
| Ear infection | | | |
| subjects affected / exposed | 0 / 218 (0.00%) | 1 / 92 (1.09%) | 0 / 989 (0.00%) |
| occurrences (all) | 0 | 1 | 0 |
| Impetigo | | | |
| subjects affected / exposed | 0 / 218 (0.00%) | 1 / 92 (1.09%) | 0 / 989 (0.00%) |
| occurrences (all) | 0 | 1 | 0 |
| Pharyngitis streptococcal | | | |
| subjects affected / exposed | 0 / 218 (0.00%) | 0 / 92 (0.00%) | 2 / 989 (0.20%) |
| occurrences (all) | 0 | 0 | 2 |
| Metabolism and nutrition disorders | | | |
| Decreased appetite | | | |
| alternative assessment type: Systematic | | | |
| subjects affected / exposed | 0 / 218 (0.00%) | 18 / 92 (19.57%) | 0 / 989 (0.00%) |
| occurrences (all) | 0 | 18 | 0 |

More information

Substantial protocol amendments (globally)

Were there any global substantial amendments to the protocol? Yes

| Date | Amendment |
|-------------------|---|
| 21 October 2022 | Amendment 1: SSB: Updated section 1.1 Increased samples size in Group 2 to 300 and Group 3 to 3600; Decreased the number of days since last dose prior to enrollment in Group 3 to 60 days;Removed restriction on Group 3 that only participants from the C4591007 study in Phase 1 could participate; Updated section 10.8.3: Updated and added objectives, estimands, and endpoints to demonstrate noninferiority with respect to the level of neutralizing titers and the seroresponse rate of the anti-reference-strain immune response;Updated Section 10.8.9.1.2: Added multiplicity adjustment method for evaluating superiority and noninferiority with respect to level of neutralizing titer for GMR and seroresponse rate; Updated Section 10.8.9.3.2:Clarified immunogenicity endpoint analysis and success criterion for newly added superiority and noninferiority of anti-Omicron BA.4/BA.5 immune response objective;Updated Section 10.8.9.5 Added sample size and power calculation for the newly added superiority and noninferiority of anti- Omicron and anti-reference-strain immune response objectives SSD: Updated section 1.1 :Decreased the number of days since last dose prior to enrollment in Group 3 to 90 days. Updated Sections 10.7.5.2, 10.8.5.2, 10.9.5.2, 10.10.5.2 Exclusion Criteria Substudy A, B,C, D: Added radiotherapy,within 60 days before enrollment. Updated section 10.10.3 Clarified that the primary immunogenicity comparison would be between the SSD Group 1 to C4591007 Phase 2/3 participants and made editorial change to the estimands. Updated section 10.10.1.2: Removed 1-month postdose blood draw group 3 only. Updated section 10.10.1.3.2: Added the group numbers to rows specific to blood sample collection. Updated section 10.10.1.3.2: Added row specific to Group 3 blood draw to be collected at baseline only. |
| 01 August 2023 | Amendment 3: SSB: Updated Section 10.8.3: Added a secondary immunogenicity endpoint for SARS-CoV-2 reference-strain– neutralizing titers(previously omitted) SSC: Updated Section 10.9 Removed all references to the Phase 2/3 portion of Substudy C;Updated Section 10.9.1 Updated expanded enrollment numbers in Substudy C Phase 1 to reflect actual enrollment figures SSD: Updated section: 10.10.3: Added “at 1 month after Dose 4” to the second primary immunogenicity objective. |
| 01 September 2023 | Amendment 4:SSB: Updated Section 10.8.3 and Section 10.8.9.3.2 Removed objectives for immunogenicity comparisons related to Group 1. Section 10.8.9.2 Corrected the description of the all-available immunogenicity population to reflect all assigned participants instead of all randomized participants.SSC: Updated Section 10.9.3 and Section 10.9.9.3. Removed the analysis across both age groups combined. 2SSD: Updated section 10.10.3 and 10.10.9.3.2: Removed objectives for immunogenicity comparisons and descriptive summaries related to Group 1. |

Notes:

Interruptions (globally)

Were there any global interruptions to the trial? No

Limitations and caveats

None reported