Clinical trial results:
An Open Label Phase 2 Trial to Evaluate the Safety, Tolerability and Immunogenicity of the ABNCoV2 Vaccine in SARS-CoV-2 Seronegative and Seropositive Adult Subjects.

Summary

EudraCT number	2021-001393-31
Trial protocol	DE
Global end of trial date	31 October 2023

Results information

Result version number	v1 (current)
This version publication date	19 September 2024
First version publication date	19 September 2024

Trial information

Trial identification

Sponsor protocol code	ABNCoV2-01

Additional study identifiers

ISRCTN number	-
ClinicalTrials.gov id (NCT number)	NCT05077267
WHO universal trial number (UTN)	-

Notes:

Sponsors

Sponsor organisation name	Bavarian Nordic A/S
Sponsor organisation address	Philip Heymans Alle 3, Hellerup, Denmark, 2900
Public contact	clinical-mailbox, Bavarian Nordic GmbH, clinical-mailbox@bavarian-nordic.com
Scientific contact	clinical-mailbox, Bavarian Nordic GmbH, clinical-mailbox@bavarian-nordic.com

Notes:

Paediatric regulatory details

Is trial part of an agreed paediatric investigation plan (PIP)	No
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?	No

Notes:

Results analysis stage

Analysis stage	Final
Date of interim/final analysis	05 December 2023
Is this the analysis of the primary completion data?	Yes
Primary completion date	21 February 2022
Global end of trial reached?	Yes
Global end of trial date	31 October 2023
Was the trial ended prematurely?	Yes

Notes:

General information about the trial

Main objective of the trial:

To assess SARS-CoV-2 specific humoral immune responses of the ABNCoV2 vaccine in initially SARS-CoV-2 seronegative and seropositive subjects.

Protection of trial subjects:

The Data Monitoring Committee (DMC) is an independent board that oversees the safety of subjects participating in the trial. The members of the DMC are independent experts with experience in infectious diseases. The primary responsibility of the DMC is to review and evaluate the accumulated trial safety data and make recommendations to proceed to open enrollment for remaining subjects.
If an event occurs which fulfills the trial halting rules, the DMC will review the event in a timely manner and agree on a recommendation to halt, resume or terminate the trial participation of the affected subject(s) and/or the trial as a whole.
A temporary halting or termination for the trial as a whole can be decided in case of:
• a SAE with an at least reasonable possibility of a causal relationship to the administration of ABNCoV2 vaccine
• an unexpected Grade 3 or higher systemic reaction or lab toxicity with at least a reasonable possibility of a causal relationship to the administration of ABNCoV2 vaccine
These parameters are not all-inclusive. Other AEs could occur that would trigger a DMC review. Any member of the DMC, the Principal Investigator and/or the Bavarian Nordic Medical Monitor or safety physician could request a DMC review based on any observation.

Background therapy: -

Evidence for comparator: -

Actual start date of recruitment	17 August 2021
Long term follow-up planned	Yes
Long term follow-up rationale	Safety, Efficacy
Long term follow-up duration	2 Years
Independent data monitoring committee (IDMC) involvement?	Yes

Notes:

Population of trial subjects

Subjects enrolled per country

Country: Number of subjects enrolled	Germany: 197
Worldwide total number of subjects	197
EEA total number of subjects	197

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)	0
Children (2-11 years)	0
Adolescents (12-17 years)	0
Adults (18-64 years)	165
From 65 to 84 years	32
85 years and over	0

Subject disposition

Recruitment

Recruitment details:

Approximately 210 subjects were to be enrolled at 2 clinical trial sites in Germany.

Pre-assignment

Screening details:

The trial began with a run-in phase of 6 subjects (3 in each of Groups 1 and 2) before enrollment opened to both treatment groups pending positive results from a safety Data Monitoring Committee. Enrollment was based on prior SARS-CoV-2 experience, with Group 1 being seronegative and Groups 2 and 3 being seropositive.

Period 1

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

Arms

Are arms mutually exclusive?	Yes
Arm title	Group 1

Arm description:

Seronegative adult subjects 100ug ABNCoV2 by subcutaneous injection on Day 1 and Day 29

Arm type	Experimental
Investigational medicinal product name	ABNCoV2
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Solution for injection in vial
Routes of administration	Intramuscular use

Dosage and administration details:

ABNCoV2 100ug to doses, Day 1 and Day 29

Arm title	Group 2

Arm description:

Seropositive adult subjects 100ug ABNCoV2 by subcutaneous injection on Day 1

Arm type	Experimental
Investigational medicinal product name	ABNCoV2
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Solution for injection
Routes of administration	Intramuscular use

Dosage and administration details:

ABNCoV2 100ug single dose.

Arm title	Group 3

Arm description:

Seropositive adult subjects 50ug ABNCoV2 by subcutaneous injection on Day 1

Arm type	Experimental
Investigational medicinal product name	ABNCoV2
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Solution for injection in vial
Routes of administration	Intramuscular use

Dosage and administration details:
ABNCoV2 50ug single dose.

Number of subjects in period 1	Group 1	Group 2	Group 3
Started	28	103	66
Completed	28	101	66
Not completed	0	2	0
Consent withdrawn by subject	-	1	-
Lost to follow-up	-	1	-

Period 2	
Period 2 title	Follow-up Period
Is this the baseline period?	No
Allocation method	Not applicable
Blinding used	Not blinded

Arms	
Are arms mutually exclusive?	Yes
Arm title	Group 1

Arm description:
Seronegative adult subjects 100ug ABNCoV2 by subcutaneous injection on Day 1 and Day 29

Arm type	Experimental
Investigational medicinal product name	ABNCoV2
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Solution for injection in vial
Routes of administration	Intramuscular use

Dosage and administration details:
ABNCoV2 100ug to doses, Day 1 and Day 29

Arm title	Group 2

Arm description:
Seropositive adult subjects 100ug ABNCoV2 by subcutaneous injection on Day 1

Arm type	Experimental
Investigational medicinal product name	ABNCoV2
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Solution for injection
Routes of administration	Intramuscular use

Dosage and administration details: ABNCoV2 100ug single dose.

Arm title	Group 3
Arm description: Seropositive adult subjects 50ug ABNCoV2 by subcutaneous injection on Day 1	
Arm type	Experimental
Investigational medicinal product name	ABNCoV2
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Solution for injection
Routes of administration	Intramuscular use
Dosage and administration details: ABNCoV2 100ug single dose.	
Investigational medicinal product name	ABNCoV2
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Solution for injection in vial
Routes of administration	Intramuscular use
Dosage and administration details: ABNCoV2 50ug single dose.	

Number of subjects in period 2	Group 1	Group 2	Group 3
Started	28	101	66
Completed	28	3	0
Not completed	0	98	66
Consent withdrawn by subject	-	1	5
Received COVID-19 booster outside of trial	-	66	30
PATIENT IS BUSY AT WORK AND WITHDRAWS THE IC	-	-	1
Trial Terminated by Sponsor	-	27	23
Lost to follow-up	-	4	7

Baseline characteristics

Reporting groups	
Reporting group title	Group 1
Reporting group description:	
Seronegative adult subjects 100ug ABNCoV2 by subcutaneous injection on Day 1 and Day 29	
Reporting group title	Group 2
Reporting group description:	
Seropositive adult subjects 100ug ABNCoV2 by subcutaneous injection on Day 1	
Reporting group title	Group 3
Reporting group description:	
Seropositive adult subjects 50ug ABNCoV2 by subcutaneous injection on Day 1	

Reporting group values	Group 1	Group 2	Group 3
Number of subjects	28	103	66
Age categorical Units: Subjects			
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)	0	0	0
Adolescents (12-17 years)	0	0	0
Adults (18-64 years)	27	79	59
From 65-84 years	1	24	7
85 years and over	0	0	0
Gender categorical Units: Subjects			
Female	17	42	33
Male	11	61	33

Reporting group values	Total		
Number of subjects	197		
Age categorical Units: Subjects			
In utero	0		
Preterm newborn infants (gestational age < 37 wks)	0		
Newborns (0-27 days)	0		
Infants and toddlers (28 days-23 months)	0		
Children (2-11 years)	0		
Adolescents (12-17 years)	0		
Adults (18-64 years)	165		
From 65-84 years	32		
85 years and over	0		

Gender categorical Units: Subjects			
Female	92		
Male	105		

End points

End points reporting groups

Reporting group title	Group 1
Reporting group description: Seronegative adult subjects 100ug ABNCoV2 by subcutaneous injection on Day 1 and Day 29	
Reporting group title	Group 2
Reporting group description: Seropositive adult subjects 100ug ABNCoV2 by subcutaneous injection on Day 1	
Reporting group title	Group 3
Reporting group description: Seropositive adult subjects 50ug ABNCoV2 by subcutaneous injection on Day 1	
Reporting group title	Group 1
Reporting group description: Seronegative adult subjects 100ug ABNCoV2 by subcutaneous injection on Day 1 and Day 29	
Reporting group title	Group 2
Reporting group description: Seropositive adult subjects 100ug ABNCoV2 by subcutaneous injection on Day 1	
Reporting group title	Group 3
Reporting group description: Seropositive adult subjects 50ug ABNCoV2 by subcutaneous injection on Day 1	

Primary: SARS-CoV-2 Index Virus Neutralizing Antibody Titers at 2 Weeks After the Last Vaccination

End point title	SARS-CoV-2 Index Virus Neutralizing Antibody Titers at 2 Weeks After the Last Vaccination[1]

End point description:

The primary endpoint was SARS-CoV-2 index virus neutralizing antibody titers by pseudovirus assay at 2 weeks after the last vaccination, i.e., after the second vaccination in initially seronegative subjects (Group 1) and after the single boost vaccination in initially seropositive subjects (Groups 2 and 3), for subjects in the Immunogenicity Analysis Set.

End point type	Primary

End point timeframe:

2 weeks after the second vaccination in initially seronegative subjects (Group 1) and after the single boost vaccination in initially seropositive subjects (Groups 2 and 3)

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: There were no planned statistical comparisons between groups for this open-label, phase 2 trial.

End point values	Group 1	Group 2	Group 3	
Subject group type	Reporting group	Reporting group	Reporting group	
Number of subjects analysed	24	99	65	
Units: titer				
geometric mean (confidence interval 95%)	516.7 (309.0 to 864.0)	970.9 (804.1 to 1172.3)	978.9 (781.0 to 1226.8)	

Statistical analyses

No statistical analyses for this end point

Secondary: Subjects Reporting Any SAEs or AESIs Assessed as Related to Trial Vaccine Within 8 Days After Vaccination

End point title	Subjects Reporting Any SAEs or AESIs Assessed as Related to Trial Vaccine Within 8 Days After Vaccination

End point description:

Subjects reporting any serious adverse events (SAEs) or adverse events of special interest (AESIs) assessed as related to trial vaccine within 8 days after vaccination

End point type	Secondary

End point timeframe:

Within 8 days of the Day 1 vaccination for Groups 1, 2, and 3, as well as within 8 days of the Day 29 vaccination for Group 1.

End point values	Group 1	Group 2	Group 3	
Subject group type	Reporting group	Reporting group	Reporting group	
Number of subjects analysed	28	103	66	
Units: Subjects	0	0	0	

Statistical analyses

No statistical analyses for this end point

Secondary: Subjects Reporting Any Grade ≥ 3 AEs Assessed as Related to Trial Vaccine Within 8 Days After Vaccination

End point title	Subjects Reporting Any Grade ≥ 3 AEs Assessed as Related to Trial Vaccine Within 8 Days After Vaccination

End point description:

Subjects reporting any Grade ≥ 3 adverse events (AEs) assessed as related to trial vaccine within 8 days after vaccination

End point type	Secondary

End point timeframe:

Within 8 days of the Day 1 vaccination for Groups 1, 2, and 3, as well as within 8 days of the Day 29 vaccination for Group 1.

End point values	Group 1	Group 2	Group 3	
Subject group type	Reporting group	Reporting group	Reporting group	
Number of subjects analysed	28	103	66	
Units: Subjects	0	0	0	

Statistical analyses

No statistical analyses for this end point

Adverse events

Adverse events information

Timeframe for reporting adverse events:

Overall trial from first vaccination through final follow up visit; i.e., 17 weeks for Group 1 and 2 years for Groups 2 and 3.

Assessment type	Non-systematic

Dictionary used

Dictionary name	MedDRA
Dictionary version	26.0

Reporting groups

Reporting group title	Group 1

Reporting group description:

Seronegative adult subjects 100ug ABNCoV2 by subcutaneous injection on Day 1 and Day 29

Reporting group title	Group 2

Reporting group description:

Seropositive adult subjects 100ug ABNCoV2 by subcutaneous injection on Day 1

Reporting group title	Group 3

Reporting group description:

Seropositive adult subjects 50ug ABNCoV2 by subcutaneous injection on Day 1

Serious adverse events	Group 1	Group 2	Group 3
Total subjects affected by serious adverse events			
subjects affected / exposed	0 / 28 (0.00%)	5 / 103 (4.85%)	1 / 66 (1.52%)
number of deaths (all causes)	0	0	0
number of deaths resulting from adverse events	0	0	0
Neoplasms benign, malignant and unspecified (incl cysts and polyps)			
Breast cancer			
subjects affected / exposed	0 / 28 (0.00%)	0 / 103 (0.00%)	1 / 66 (1.52%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Injury, poisoning and procedural complications			
Foot fracture			
subjects affected / exposed	0 / 28 (0.00%)	2 / 103 (1.94%)	0 / 66 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 2	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Clavicle fracture			

subjects affected / exposed	0 / 28 (0.00%)	1 / 103 (0.97%)	0 / 66 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Concussion			
subjects affected / exposed	0 / 28 (0.00%)	1 / 103 (0.97%)	0 / 66 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Cardiac disorders			
Atrioventricular block complete			
subjects affected / exposed	0 / 28 (0.00%)	1 / 103 (0.97%)	0 / 66 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Cardiac arrest			
subjects affected / exposed	0 / 28 (0.00%)	1 / 103 (0.97%)	0 / 66 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Musculoskeletal and connective tissue disorders			
Intervertebral disc protrusion			
subjects affected / exposed	0 / 28 (0.00%)	1 / 103 (0.97%)	0 / 66 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0

Frequency threshold for reporting non-serious adverse events: 5 %

Non-serious adverse events	Group 1	Group 2	Group 3
Total subjects affected by non-serious adverse events			
subjects affected / exposed	10 / 28 (35.71%)	7 / 103 (6.80%)	3 / 66 (4.55%)
Nervous system disorders			
Headache			
subjects affected / exposed	2 / 28 (7.14%)	0 / 103 (0.00%)	0 / 66 (0.00%)
occurrences (all)	2	0	0
General disorders and administration site conditions			
Pyrexia			

subjects affected / exposed	2 / 28 (7.14%)	0 / 103 (0.00%)	0 / 66 (0.00%)
occurrences (all)	3	0	0
Malaise			
subjects affected / exposed	2 / 28 (7.14%)	0 / 103 (0.00%)	0 / 66 (0.00%)
occurrences (all)	2	0	0
Ear and labyrinth disorders			
Ear pain			
subjects affected / exposed	2 / 28 (7.14%)	0 / 103 (0.00%)	0 / 66 (0.00%)
occurrences (all)	2	0	0
Infections and infestations			
Nasopharyngitis			
subjects affected / exposed	5 / 28 (17.86%)	7 / 103 (6.80%)	3 / 66 (4.55%)
occurrences (all)	6	7	3

More information

Substantial protocol amendments (globally)

Were there any global substantial amendments to the protocol? Yes

Date	Amendment
01 July 2021	The protocol Edition 2.0 has been created to implement and incorporate revisions requested by the Paul Ehrlich Institute on 22-Jun-2021.
15 October 2021	The protocol Edition 3.0 has been created to implement the addition of a further treatment group of seropositive subjects (Group 3) receiving a dose of 50µg of IMP as well as adapting sample sizes of Group1 and 2.

Notes:

Interruptions (globally)

Were there any global interruptions to the trial? No

Limitations and caveats

Limitations of the trial such as small numbers of subjects analysed or technical problems leading to unreliable data.

None

Notes: