Clinical trial results:
National Cohort Study of Effectiveness and Safety of SARS-CoV-2/Covid-19 vaccines (ENFORCE)

Summary

EudraCT number	2020-006003-42
Trial protocol	DK
Global end of trial date	31 December 2023

Results information

Result version number	v1 (current)
This version publication date	28 February 2025
First version publication date	28 February 2025

Trial information

Trial identification

Sponsor protocol code	ENFORCE

Additional study identifiers

ISRCTN number	-
ClinicalTrials.gov id (NCT number)	NCT04760132
WHO universal trial number (UTN)	-

Notes:

Sponsors

Sponsor organisation name	CHIP - Rigshospitalet - University of Copenhagen
Sponsor organisation address	Blegdamsvej 9, Section 2100, COPENHAGEN, Denmark, 2100
Public contact	Jens Lundgren, CHIP - Rigshospitalet, University of Copenhagen, 45 3545 5757, jens.lundgren@regionh.dk
Scientific contact	Jens Lundgren, CHIP - Rigshospitalet, University of Copenhagen, 45 3545 5757, jens.lundgren@regionh.dk

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	31 December 2023
Is this the analysis of the primary completion data?	Yes
Primary completion date	31 December 2023
Global end of trial reached?	Yes
Global end of trial date	31 December 2023
Was the trial ended prematurely?	Yes

Notes:

General information about the trial

Main objective of the trial:

The primary objective of the study is to assess effectiveness of citizens being vaccinated with one of SARS-CoV2 vaccines the government has purchased, and the Danish Medicines Agency has approved for use in Denmark. The study will compare and predict the durability of the minimal protective titre afforded by each of the vaccines against COVID-19 through conducting comprehensive high-throughput SARS-CoV-2 antibody analyses and in-depth characterization of the vaccine-induced cellular immune response.

Protection of trial subjects:

Informed Consent is obtained from the participant before any trial-related procedures were conducted.

Background therapy:

As the study was observing the effect and roll-out of a vaccination programme in the middle of an ongoing epidemic, there were some changes in the study due to changes in the political environment.
1. The intended 4 arms were reduced to 3, as one of the vaccines was stopped by the government due to high risk of unintended and fatal side-effects.
2. ENFORCE set out to monitor the immunological response to the standard recommended COVID-19 vaccine regimens at the time of inception over a two-year period (i.e., two doses). However, the need of additional doses (3 or 4) to further boost/preserve immunity was clarified in the second half 2021 and ENFORCE was approved to observe the evolving use of vaccines during a 5-year follow-up of the cohort.
3. It was also decided, that ENFORCE should continue to assess the impact new vaccine technologies, that would be licensed and used in the cohort as part of the national vaccine program, as well as additional doses of existing vaccines. As an observation study it will not interfere with the participants choice of receiving such doses/types of vaccines.

Evidence for comparator: -

Actual start date of recruitment	08 February 2021
Long term follow-up planned	No
Independent data monitoring committee (IDMC) involvement?	Yes

Notes:

Population of trial subjects

Subjects enrolled per country

Country: Number of subjects enrolled	Denmark: 6941
Worldwide total number of subjects	6941
EEA total number of subjects	6941

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)	3733
From 65 to 84 years	3200
85 years and over	8

Subject disposition

Recruitment

Recruitment details:

The study population consisted of consecutive consenting persons who were invited to be vaccinated at 20- 50 participating units throughout Denmark. A targeted effort was made to enrol a high proportion of participants who was considered at 'high-risk' of COVID-19 (as defined by SST in the national vaccination plan).

Pre-assignment

Screening details:

Subjects to be vaccinated with one of the COVID-19 vaccines given as part of the Danish COVID-19 Vaccine Program.

Period 1

Period 1 title	Entire Trial (overall period)
Is this the baseline period?	Yes
Allocation method	Not applicable
Blinding used	Not blinded

Arms

Are arms mutually exclusive?	Yes
Arm title	Vaccine COMIRNATY

Arm description:

Comirnaty is a vaccine for preventing coronavirus disease 2019 (COVID-19) in people aged 16 years and older.
Comirnaty contains a molecule called messenger RNA (mRNA) with instructions for producing a protein from SARS-CoV-2, the virus that causes COVID-19. Comirnaty does not contain the virus itself and cannot cause COVID-19.
The active substance is a single-stranded, 5′-capped messenger RNA produced using a cell-free in vitro transcription from corresponding DNA templates, encoding the viral spike (S) protein of SARS-CoV-2

Arm type	Strategy
Investigational medicinal product name	Vaccine Comirnaty
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Injection
Routes of administration	Intramuscular use

Dosage and administration details:

The vaccine is not IMP in the trial, but used according to the approved Summary of Product Characteristics - and is given as part of the Danish COVID-19 Vaccine Program.

Arm title	Vaccine Moderna

Arm description:

COVID-19 Vaccine Moderna is a vaccine used to prevent COVID-19 caused by SARS-CoV-2. It is given to adults aged 18 years and older.
The active substance in COVID-19 Vaccine Moderna is mRNA encoding the SARS-CoV-2 Spike protein. The mRNA is embedded in SM-102 lipid nanoparticles.
As COVID-19 Vaccine Moderna does not contain the virus, it cannot cause COVID-19.

Arm type	Strategy
Investigational medicinal product name	Vaccine Moderna
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Injection
Routes of administration	Intramuscular use

Dosage and administration details:

The vaccine is not IMP in the trial, but used according to the approved Summary of Product Characteristics - and is given as part of the Danish COVID-19 Vaccine Program.

Arm title	Vaccine AstraZeneca

Arm description:

COVID-19 Vaccine AstraZeneca is indicated for active immunisation to prevent COVID-19 caused by SARS-CoV-2, in individuals 18 years and older.
One dose (0.5 ml.) contains Chimpanzee Adenovirus encoding the SARS-CoV-2 Spike glycoprotein (ChAdOx1-s), not less than 2.5 x 108 infectious units (Inf.U)
COVID-19 Vaccine AstraZeneca is a monovalent vaccine composed of a single recombinant, replication-deficient chimpanzee adenovirus (ChAdOx1) vector encoding the S glycoprotein of SARS-CoV-2.

Arm type	Strategy
Investigational medicinal product name	Vaccine AstraZeneca
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Injection
Routes of administration	Intramuscular use

Dosage and administration details:

The vaccine is not IMP in the trial, but used according to the approved Summary of Product Characteristics - and is given as part of the Danish COVID-19 Vaccine Program.

Number of subjects in period 1	Vaccine COMIRNATY	Vaccine Moderna	Vaccine AstraZeneca
Started	3823	2620	498
Completed	3823	2620	498

Baseline characteristics

Reporting groups	
Reporting group title	Entire Trial (overall period)

Reporting group description: -

Reporting group values	Entire Trial (overall period)	Total	
Number of subjects	6941	6941	
Age categorical Units: Subjects			
In utero	0	0	
Preterm newborn infants (gestational age < 37 wks)	0	0	
Newborns (0-27 days)	0	0	
Infants and toddlers (28 days-23 months)	0	0	
Children (2-11 years)	0	0	
Adolescents (12-17 years)	0	0	
Adults (18-64 years)	3733	3733	
From 65-84 years	3200	3200	
85 years and over	8	8	
Gender categorical Units: Subjects			
Female	3928	3928	
Male	3013	3013	

End points

End points reporting groups

Reporting group title	Vaccine COMIRNATY

Reporting group description:

Comirnaty is a vaccine for preventing coronavirus disease 2019 (COVID-19) in people aged 16 years and older.
Comirnaty contains a molecule called messenger RNA (mRNA) with instructions for producing a protein from SARS-CoV-2, the virus that causes COVID-19. Comirnaty does not contain the virus itself and cannot cause COVID-19.
The active substance is a single-stranded, 5´-capped messenger RNA produced using a cell-free in vitro transcription from corresponding DNA templates, encoding the viral spike (S) protein of SARS-CoV-2

Reporting group title	Vaccine Moderna

Reporting group description:

COVID-19 Vaccine Moderna is a vaccine used to prevent COVID-19 caused by SARS-CoV-2. It is given to adults aged 18 years and older.
The active substance in COVID-19 Vaccine Moderna is mRNA encoding the SARS-CoV-2 Spike protein. The mRNA is embedded in SM-102 lipid nanoparticles.
As COVID-19 Vaccine Moderna does not contain the virus, it cannot cause COVID-19.

Reporting group title	Vaccine AstraZeneca

Reporting group description:

COVID-19 Vaccine AstraZeneca is indicated for active immunisation to prevent COVID-19 caused by SARS-CoV-2, in individuals 18 years and older.
One dose (0.5 ml.) contains Chimpanzee Adenovirus encoding the SARS-CoV-2 Spike glycoprotein (ChAdOx1-s), not less than 2.5 x 108 infectious units (Inf.U)
COVID-19 Vaccine AstraZeneca is a monovalent vaccine composed of a single recombinant, replication-deficient chimpanzee adenovirus (ChAdOx1) vector encoding the S glycoprotein of SARS-CoV-2.

Primary: Antibody Level

End point title	Antibody Level

End point description:

Primary Outcome: Minimal protective neutralising antibody titre (MPNAT)
i.e. the minimum level of neutralising antibodies sufficient to protect the person from becoming infected.
MPNAT will be measured via profiling of antibodies against SARS-CoV-2 Spike epitopes performed at each visit until month 60.
We will use two different large-scale methods.
1. ELISA detection of total serum Ig to the Receptor Binding Domain (Wantai), this specific method will be stopped after January 2023 as the positive rate has reached 99%.
2. A multiantigen serological test including both the N-terminal Domain (NTD), The Receptor Binding Domain (RBD), the complete Spike (S) protein and the Nucleocapsid (NC) protein as antigens (from Mesoscale).
Additionally, an ACE2 competition assay will be used to score the receptor blocking potential of antibodies raised by vaccination (Mesoscale).

End point type	Primary

End point timeframe:

Antibody level will be measured via profiling of antibodies against SARS-CoV-2 Spike epitopes performed at each visit until month 24.

End point values	Vaccine COMIRNATY	Vaccine Moderna	Vaccine AstraZeneca	
Subject group type	Reporting group	Reporting group	Reporting group	
Number of subjects analysed	3749	2541	481	
Units: Number of participants				
SSI Antibody data 0-14 days before 3rd dose	1395	1165	160	
Wantai result prior to booster - Negative	43	1	0	
Wantai result prior to booster - Positive	1352	1163	160	
Wantai result prior to booster - Inconclusive	0	1	0	
SSI Antibody data 28 days after 3rd dose	2269	1883	269	
Wantai result after booster - Negative	40	7	0	
Wantai result after booster - Positive	2227	1875	269	
Wantai result after booster - Inconclusive	2	1	0	

Statistical analyses

Statistical analysis title	Total spike IgG Geometric Mean

Statistical analysis description:

For antibody response to each of the vaccines and subsequent vaccine dose, we reported the geometric means together with 95% confidence intervals (2-sided).

Comparison groups	Vaccine COMIRNATY v Vaccine Moderna v Vaccine AstraZeneca
Number of subjects included in analysis	6771
Analysis specification	Pre-specified
Analysis type	other[1]
Parameter estimate	Geometric mean
Point estimate	473602
Confidence interval	
level	95 %
sides	2-sided
lower limit	467043
upper limit	480252

Notes:

[1] - There was no formal statistical comparison as the aim of the study was not to compare the response to the different vaccines. The outcome at the 2 yearsstudy visit was presented stratified by the number of doses an individual had received rather than by vaccine type as participants received different vaccine combinations. The geometric mean antibody levels at each study visit were plotted graphically together with the 95% confidence intervals.

Secondary: Breakthrough infections

End point title	Breakthrough infections

End point description:

Breakthrough infection was defined as a positive SARS-CoV-2 PCR test result reported in the KIDS dataset after the date of first vaccination.
The timing of the infection was based on the date of first positive test.

The number of participants experiencing a positive PCR test following their first vaccination 4473 participants remaining in the study.
Overall, half of the cohort had tested positive for SARS-CoV-2 at least once since their first vaccination and prior to the end of the study (31st December 2023).
A higher proportion of younger individuals (< 55 years) had experienced a breakthrough infection

defined by a positive PCR test compared to those aged ≥65 years.

End point type	Secondary

End point timeframe:

Breakthrough infections throughout the 24 month follow-up period

End point values	Vaccine COMIRNATY	Vaccine Moderna	Vaccine AstraZeneca	
Subject group type	Reporting group	Reporting group	Reporting group	
Number of subjects analysed	3823	2620	498	
Units: Number of participants				
Ever tested for SARS-CoV-2 via KIDS	3599	2537	496	
Participants testing positive for SARS-CoV-2	1594	1195	317	
Days from first vaccine dose to positive test	320	268	340	

Statistical analyses

No statistical analyses for this end point

Adverse events

Adverse events information	
Timeframe for reporting adverse events: Timeframe 3 months after vaccination.	
Assessment type	Systematic
Dictionary used	
Dictionary name	MedDRA
Dictionary version	24.1
Reporting groups	
Reporting group title	Vaccine COMIRNATY
Reporting group description: Number of persons with at least one Adverse Event reported	
Reporting group title	Vaccine Moderna
Reporting group description: Number of persons with at least one Adverse Event reported	
Reporting group title	Vaccine AstraZeneca
Reporting group description: Number of persons with at least one Adverse Event reported	

Serious adverse events	Vaccine COMIRNATY	Vaccine Moderna	Vaccine AstraZeneca
Total subjects affected by serious adverse events			
subjects affected / exposed	112 / 3824 (2.93%)	32 / 2620 (1.22%)	6 / 499 (1.20%)
number of deaths (all causes)	41	12	0
number of deaths resulting from adverse events	0	0	0
Neoplasms benign, malignant and unspecified (incl cysts and polyps)			
Benign neoplasm of testis			
subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (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
Bladder cancer			
subjects affected / exposed	2 / 3824 (0.05%)	0 / 2620 (0.00%)	0 / 499 (0.00%)
occurrences causally related to treatment / all	0 / 2	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Breast cancer			
subjects affected / exposed	1 / 3824 (0.03%)	1 / 2620 (0.04%)	0 / 499 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Chronic lymphocytic leukaemia			

subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (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
Colon cancer			
subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (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
Colon cancer metastatic			
subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (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
Diffuse large B-cell lymphoma			
subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (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
Gastric cancer			
subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (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
Intraductal proliferative breast lesion			
subjects affected / exposed	0 / 3824 (0.00%)	1 / 2620 (0.04%)	0 / 499 (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
Lung neoplasm malignant			
subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (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
Malignant neoplasm progression			
subjects affected / exposed	6 / 3824 (0.16%)	1 / 2620 (0.04%)	0 / 499 (0.00%)
occurrences causally related to treatment / all	0 / 6	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Metastases to liver			

subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (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
Tongue neoplasm malignant stage unspecified			
subjects affected / exposed	0 / 3824 (0.00%)	1 / 2620 (0.04%)	0 / 499 (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
Vascular disorders			
Aortic aneurysm			
subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (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
Aortic dissection			
subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (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
Deep vein thrombosis			
subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (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
Orthostatic hypertension			
subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (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
Surgical and medical procedures			
Cardiac resynchronisation therapy			
subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (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
General disorders and administration site conditions			
Adverse drug reaction			

subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (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
Chest pain			
subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (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
Hernia			
subjects affected / exposed	0 / 3824 (0.00%)	1 / 2620 (0.04%)	0 / 499 (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
Multiple organ dysfunction syndrome			
subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (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
Pyrexia			
subjects affected / exposed	5 / 3824 (0.13%)	0 / 2620 (0.00%)	0 / 499 (0.00%)
occurrences causally related to treatment / all	0 / 5	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Withdrawal syndrome			
subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (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
Immune system disorders			
Kidney transplant rejection			
subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (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
Acute allograft nephropathy			
subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (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
Anaphylactic reaction			

subjects affected / exposed	3 / 3824 (0.08%)	0 / 2620 (0.00%)	0 / 499 (0.00%)
occurrences causally related to treatment / all	0 / 3	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Graft versus host disease			
subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (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
Hypersensitivity			
subjects affected / exposed	0 / 3824 (0.00%)	1 / 2620 (0.04%)	0 / 499 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Liver transplant rejection			
subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (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
Solid organ transplant rejection			
subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (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
Respiratory, thoracic and mediastinal disorders			
Acute respiratory distress syndrome			
subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (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
Chronic obstructive pulmonary disease			
subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (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
Epistaxis			
subjects affected / exposed	2 / 3824 (0.05%)	1 / 2620 (0.04%)	0 / 499 (0.00%)
occurrences causally related to treatment / all	0 / 2	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Pulmonary embolism			

subjects affected / exposed	2 / 3824 (0.05%)	0 / 2620 (0.00%)	0 / 499 (0.00%)
occurrences causally related to treatment / all	1 / 2	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Psychiatric disorders			
Completed suicide			
subjects affected / exposed	0 / 3824 (0.00%)	1 / 2620 (0.04%)	0 / 499 (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
Suicidal ideation			
subjects affected / exposed	2 / 3824 (0.05%)	0 / 2620 (0.00%)	0 / 499 (0.00%)
occurrences causally related to treatment / all	0 / 2	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Injury, poisoning and procedural complications			
Fall			
subjects affected / exposed	2 / 3824 (0.05%)	1 / 2620 (0.04%)	0 / 499 (0.00%)
occurrences causally related to treatment / all	0 / 2	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Fracture			
subjects affected / exposed	1 / 3824 (0.03%)	1 / 2620 (0.04%)	1 / 499 (0.20%)
occurrences causally related to treatment / all	0 / 1	0 / 1	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Post procedural complication			
subjects affected / exposed	0 / 3824 (0.00%)	1 / 2620 (0.04%)	0 / 499 (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
Post procedural haemorrhage			
subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (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
Road traffic accident			
subjects affected / exposed	0 / 3824 (0.00%)	1 / 2620 (0.04%)	0 / 499 (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			
Acute myocardial infarction			
subjects affected / exposed	4 / 3824 (0.10%)	1 / 2620 (0.04%)	0 / 499 (0.00%)
occurrences causally related to treatment / all	0 / 4	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Angina pectoris			
subjects affected / exposed	1 / 3824 (0.03%)	1 / 2620 (0.04%)	0 / 499 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Arrhythmia			
subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (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
Atrial fibrillation			
subjects affected / exposed	4 / 3824 (0.10%)	1 / 2620 (0.04%)	0 / 499 (0.00%)
occurrences causally related to treatment / all	1 / 4	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Atrial flutter			
subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (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
Atrioventricular block complete			
subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (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
Cardiac failure congestive			
subjects affected / exposed	3 / 3824 (0.08%)	0 / 2620 (0.00%)	0 / 499 (0.00%)
occurrences causally related to treatment / all	1 / 3	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Coronary artery disease			
subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (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
Extrasystoles			

subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (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
Ventricular tachyarrhythmia			
subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (0.00%)
occurrences causally related to treatment / all	1 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Nervous system disorders			
Cerebellar stroke			
subjects affected / exposed	0 / 3824 (0.00%)	0 / 2620 (0.00%)	1 / 499 (0.20%)
occurrences causally related to treatment / all	0 / 0	0 / 0	1 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Cerebral haemorrhage			
subjects affected / exposed	0 / 3824 (0.00%)	0 / 2620 (0.00%)	1 / 499 (0.20%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Cerebrovascular accident			
subjects affected / exposed	3 / 3824 (0.08%)	2 / 2620 (0.08%)	0 / 499 (0.00%)
occurrences causally related to treatment / all	0 / 3	0 / 2	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Haemorrhage intracranial			
subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (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
Headache			
subjects affected / exposed	0 / 3824 (0.00%)	0 / 2620 (0.00%)	1 / 499 (0.20%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Multiple sclerosis			
subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (0.00%)
occurrences causally related to treatment / all	1 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Normal pressure hydrocephalus			

subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (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
Presyncope			
subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (0.00%)
occurrences causally related to treatment / all	1 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Tension headache			
subjects affected / exposed	0 / 3824 (0.00%)	1 / 2620 (0.04%)	0 / 499 (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
Transient ischaemic attack			
subjects affected / exposed	4 / 3824 (0.10%)	1 / 2620 (0.04%)	0 / 499 (0.00%)
occurrences causally related to treatment / all	0 / 4	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Blood and lymphatic system disorders			
Febrile neutropenia			
subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (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
Lymphadenopathy			
subjects affected / exposed	0 / 3824 (0.00%)	1 / 2620 (0.04%)	0 / 499 (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
Ear and labyrinth disorders			
Cerumen impaction			
subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (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
Vertigo positional			
subjects affected / exposed	0 / 3824 (0.00%)	1 / 2620 (0.04%)	0 / 499 (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
Eye disorders			

Retinal vein thrombosis			
subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (0.00%)
occurrences causally related to treatment / all	1 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Gastrointestinal disorders			
Abdominal pain			
subjects affected / exposed	0 / 3824 (0.00%)	1 / 2620 (0.04%)	0 / 499 (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
Crohn's disease			
subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (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
Diarrhoea			
subjects affected / exposed	2 / 3824 (0.05%)	0 / 2620 (0.00%)	0 / 499 (0.00%)
occurrences causally related to treatment / all	0 / 2	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Dysphagia			
subjects affected / exposed	0 / 3824 (0.00%)	1 / 2620 (0.04%)	0 / 499 (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
Gastritis			
subjects affected / exposed	0 / 3824 (0.00%)	0 / 2620 (0.00%)	1 / 499 (0.20%)
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 haemorrhage			
subjects affected / exposed	2 / 3824 (0.05%)	0 / 2620 (0.00%)	0 / 499 (0.00%)
occurrences causally related to treatment / all	0 / 2	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Gastrooesophageal reflux disease			
subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (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
Ileus			

subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (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
Intestinal ischaemia			
subjects affected / exposed	0 / 3824 (0.00%)	1 / 2620 (0.04%)	0 / 499 (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
Large intestinal haemorrhage			
subjects affected / exposed	0 / 3824 (0.00%)	1 / 2620 (0.04%)	0 / 499 (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
Mechanical ileus			
subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (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
Hepatobiliary disorders			
Autoimmune hepatitis			
subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (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
Cholangitis			
subjects affected / exposed	2 / 3824 (0.05%)	0 / 2620 (0.00%)	0 / 499 (0.00%)
occurrences causally related to treatment / all	0 / 2	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Cholangitis acute			
subjects affected / exposed	4 / 3824 (0.10%)	0 / 2620 (0.00%)	0 / 499 (0.00%)
occurrences causally related to treatment / all	0 / 4	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Cholecystitis acute			
subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (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
Cholelithiasis			

subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (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
Jaundice cholestatic			
subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (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
Portal vein thrombosis			
subjects affected / exposed	2 / 3824 (0.05%)	0 / 2620 (0.00%)	0 / 499 (0.00%)
occurrences causally related to treatment / all	0 / 2	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Skin and subcutaneous tissue disorders			
Pyoderma gangrenosum			
subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (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
Urticaria			
subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (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
Skin ulcer			
subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (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
Renal and urinary disorders			
Acute kidney injury			
subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (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
Nephrolithiasis			
subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (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
Musculoskeletal and connective tissue			

disorders			
Arthralgia			
subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (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
Haemarthrosis			
subjects affected / exposed	0 / 3824 (0.00%)	0 / 2620 (0.00%)	1 / 499 (0.20%)
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			
Orchitis			
subjects affected / exposed	0 / 3824 (0.00%)	1 / 2620 (0.04%)	0 / 499 (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
Anal abscess			
subjects affected / exposed	1 / 3824 (0.03%)	1 / 2620 (0.04%)	0 / 499 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Appendicitis			
subjects affected / exposed	2 / 3824 (0.05%)	0 / 2620 (0.00%)	0 / 499 (0.00%)
occurrences causally related to treatment / all	0 / 2	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
COVID-19			
subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (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
Cellulitis			
subjects affected / exposed	3 / 3824 (0.08%)	0 / 2620 (0.00%)	0 / 499 (0.00%)
occurrences causally related to treatment / all	0 / 3	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Clostridium difficile infection			
subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (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

Cystitis escherichia			
subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (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
Diverticulitis			
subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (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
Gastroenteritis salmonella			
subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (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
Herpes zoster			
subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (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
Peritonitis bacterial			
subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (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
Pneumonia			
subjects affected / exposed	4 / 3824 (0.10%)	3 / 2620 (0.11%)	0 / 499 (0.00%)
occurrences causally related to treatment / all	0 / 4	0 / 3	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Post procedural infection			
subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (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
Psoas abscess			
subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (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
Pyelonephritis			

subjects affected / exposed	1 / 3824 (0.03%)	1 / 2620 (0.04%)	0 / 499 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Respiratory tract infection			
subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (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
Sepsis			
subjects affected / exposed	2 / 3824 (0.05%)	0 / 2620 (0.00%)	0 / 499 (0.00%)
occurrences causally related to treatment / all	0 / 2	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Urinary tract infection			
subjects affected / exposed	3 / 3824 (0.08%)	1 / 2620 (0.04%)	0 / 499 (0.00%)
occurrences causally related to treatment / all	0 / 3	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Urosepsis			
subjects affected / exposed	0 / 3824 (0.00%)	2 / 2620 (0.08%)	0 / 499 (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
Vestibular neuronitis			
subjects affected / exposed	1 / 3824 (0.03%)	0 / 2620 (0.00%)	0 / 499 (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

Frequency threshold for reporting non-serious adverse events: 0 %

Non-serious adverse events	Vaccine COMIRNATY	Vaccine Moderna	Vaccine AstraZeneca
Total subjects affected by non-serious adverse events			
subjects affected / exposed	487 / 3824 (12.74%)	395 / 2620 (15.08%)	94 / 499 (18.84%)
Neoplasms benign, malignant and unspecified (incl cysts and polyps)			
Neoplasm	Additional description: Due to in general the high number of participants in the study, the numbers for this system organ class consists of several different preferred terms. A detailed report is available upon request.		

subjects affected / exposed	1 / 3824 (0.03%)	2 / 2620 (0.08%)	0 / 499 (0.00%)
occurrences (all)	1	2	0
Vascular disorders			
Vascular disorder	Additional description: Due to in general the high number of participants in the study, the numbers for this system organ class consists of several different preferred terms. A detailed report is available upon request.		
subjects affected / exposed	15 / 3824 (0.39%)	11 / 2620 (0.42%)	4 / 499 (0.80%)
occurrences (all)	15	11	4
Surgical and medical procedures			
Surgical procedure	Additional description: Due to in general the high number of participants in the study, the numbers for this system organ class consists of several different preferred terms. A detailed report is available upon request.		
subjects affected / exposed	15 / 3824 (0.39%)	6 / 2620 (0.23%)	1 / 499 (0.20%)
occurrences (all)	15	6	1
Pregnancy, puerperium and perinatal conditions			
Abortion spontaneous			
subjects affected / exposed	0 / 3824 (0.00%)	0 / 2620 (0.00%)	1 / 499 (0.20%)
occurrences (all)	0	0	1
General disorders and administration site conditions			
Administration site discomfort	Additional description: Due to in general the high number of participants in the study, the numbers for this system organ class consists of several different preferred terms. A detailed report is available upon request.		
subjects affected / exposed	127 / 3824 (3.32%)	173 / 2620 (6.60%)	44 / 499 (8.82%)
occurrences (all)	127	173	44
Immune system disorders			
Immune system disorder			
subjects affected / exposed	4 / 3824 (0.10%)	6 / 2620 (0.23%)	1 / 499 (0.20%)
occurrences (all)	4	6	1
Reproductive system and breast disorders			
Reproductive system disorder	Additional description: Due to in general the high number of participants in the study, the numbers for this system organ class consists of several different preferred terms. A detailed report is available upon request.		
subjects affected / exposed	5 / 3824 (0.13%)	1 / 2620 (0.04%)	3 / 499 (0.60%)
occurrences (all)	5	1	3
Respiratory, thoracic and mediastinal disorders			
Respiratory disorder	Additional description: Due to in general the high number of participants in the study, the numbers for this system organ class consists of several different preferred terms. A detailed report is available upon request.		
subjects affected / exposed	46 / 3824 (1.20%)	27 / 2620 (1.03%)	7 / 499 (1.40%)
occurrences (all)	46	27	7
Psychiatric disorders			

Psychiatric disorder	Additional description: Due to in general the high number of participants in the study, the numbers for this system organ class consists of several different preferred terms. A detailed report is available upon request.		
subjects affected / exposed	8 / 3824 (0.21%)	11 / 2620 (0.42%)	5 / 499 (1.00%)
occurrences (all)	8	11	5
Investigations			
Investigation	Additional description: Due to in general the high number of participants in the study, the numbers for this system organ class consists of several different preferred terms. A detailed report is available upon request.		
subjects affected / exposed	6 / 3824 (0.16%)	5 / 2620 (0.19%)	1 / 499 (0.20%)
occurrences (all)	6	5	1
Injury, poisoning and procedural complications			
Complications	Additional description: Due to in general the high number of participants in the study, the numbers for this system organ class consists of several different preferred terms. A detailed report is available upon request.		
subjects affected / exposed	38 / 3824 (0.99%)	21 / 2620 (0.80%)	7 / 499 (1.40%)
occurrences (all)	38	21	7
Cardiac disorders			
Cardiac disorder	Additional description: Due to in general the high number of participants in the study, the numbers for this system organ class consists of several different preferred terms. A detailed report is available upon request.		
subjects affected / exposed	17 / 3824 (0.44%)	8 / 2620 (0.31%)	1 / 499 (0.20%)
occurrences (all)	17	8	1
Nervous system disorders			
Nervous system disorder	Additional description: Due to in general the high number of participants in the study, the numbers for this system organ class consists of several different preferred terms. A detailed report is available upon request.		
subjects affected / exposed	66 / 3824 (1.73%)	45 / 2620 (1.72%)	18 / 499 (3.61%)
occurrences (all)	66	45	18
Blood and lymphatic system disorders			
Blood disorder	Additional description: Due to in general the high number of participants in the study, the numbers for this system organ class consists of several different preferred terms. A detailed report is available upon request.		
subjects affected / exposed	5 / 3824 (0.13%)	1 / 2620 (0.04%)	0 / 499 (0.00%)
occurrences (all)	5	1	0
Ear and labyrinth disorders			
Ear disorder	Additional description: Due to in general the high number of participants in the study, the numbers for this system organ class consists of several different preferred terms. A detailed report is available upon request.		
subjects affected / exposed	3 / 3824 (0.08%)	2 / 2620 (0.08%)	1 / 499 (0.20%)
occurrences (all)	3	2	1
Eye disorders			
Eye disorder	Additional description: Due to the high number of participants participating in the study the numbers for this system organ class consists of several different preferred terms. A detailed report is available upon request.		
subjects affected / exposed	5 / 3824 (0.13%)	7 / 2620 (0.27%)	0 / 499 (0.00%)
occurrences (all)	5	7	0
Gastrointestinal disorders			

Gastrointestinal disorder	Additional description: Due to in general the high number of participants in the study, the numbers for this system organ class consists of several different preferred terms. A detailed report is available upon request.		
subjects affected / exposed	52 / 3824 (1.36%)	27 / 2620 (1.03%)	3 / 499 (0.60%)
occurrences (all)	52	27	3
Hepatobiliary disorders			
Hepatobiliary disease	Additional description: Due to in general the high number of participants in the study, the numbers for this system organ class consists of several different preferred terms. A detailed report is available upon request.		
subjects affected / exposed	2 / 3824 (0.05%)	4 / 2620 (0.15%)	0 / 499 (0.00%)
occurrences (all)	2	4	0
Skin and subcutaneous tissue disorders			
Skin disorder	Additional description: Due to in general the high number of participants in the study, the numbers for this system organ class consists of several different preferred terms. A detailed report is available upon request.		
subjects affected / exposed	12 / 3824 (0.31%)	18 / 2620 (0.69%)	7 / 499 (1.40%)
occurrences (all)	12	18	7
Renal and urinary disorders			
Renal disorder	Additional description: Due to in general the high number of participants in the study, the numbers for this system organ class consists of several different preferred terms. A detailed report is available upon request.		
subjects affected / exposed	6 / 3824 (0.16%)	6 / 2620 (0.23%)	0 / 499 (0.00%)
occurrences (all)	6	6	0
Endocrine disorders			
Endocrine disorder	Additional description: Due to in general the high number of participants in the study, the numbers for this system organ class consists of several different preferred terms. A detailed report is available upon request.		
subjects affected / exposed	4 / 3824 (0.10%)	2 / 2620 (0.08%)	1 / 499 (0.20%)
occurrences (all)	4	2	1
Musculoskeletal and connective tissue disorders			
Musculoskeletal disorder	Additional description: Due to in general the high number of participants in the study, the numbers for this system organ class consists of several different preferred terms. A detailed report is available upon request.		
subjects affected / exposed	82 / 3824 (2.14%)	54 / 2620 (2.06%)	10 / 499 (2.00%)
occurrences (all)	82	54	10
Infections and infestations			
Infection	Additional description: Due to in general the high number of participants in the study, the numbers for this system organ class consists of several different preferred terms. A detailed report is available upon request.		
subjects affected / exposed	78 / 3824 (2.04%)	81 / 2620 (3.09%)	13 / 499 (2.61%)
occurrences (all)	78	81	13
Metabolism and nutrition disorders			
Metabolic disorder	Additional description: Due to in general the high number of participants in the study, the numbers for this system organ class consists of several different preferred terms. A detailed report is available upon request.		
subjects affected / exposed	17 / 3824 (0.44%)	7 / 2620 (0.27%)	1 / 499 (0.20%)
occurrences (all)	17	7	1

More information

Substantial protocol amendments (globally)

Were there any global substantial amendments to the protocol? No

Interruptions (globally)

Were there any global interruptions to the trial? No

Limitations and caveats

None reported