Clinical trial results:
A Phase IV Multicenter, Open-Label Study Evaluating B Cell Levels in Infants of Lactating Women With CIS or MS Receiving Ocrelizumab

Summary

EudraCT number	2021-000063-79
Trial protocol	ES DE
Global end of trial date	13 January 2025

Results information

Result version number	v3 (current)
This version publication date	07 January 2026
First version publication date	12 April 2025
Version creation reason	

Trial information

Trial identification

Sponsor protocol code	MN42989

Additional study identifiers

ISRCTN number	-
ClinicalTrials.gov id (NCT number)	NCT04998851
WHO universal trial number (UTN)	-

Notes:

Sponsors

Sponsor organisation name	F. Hoffmann-La Roche AG
Sponsor organisation address	Grenzacherstrasse 124, Basel, Switzerland, CH-4058
Public contact	F. Hoffmann-La Roche AG, F. Hoffmann-La Roche AG, +41 616878333, global.trial_information@roche.com
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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	13 January 2025
Is this the analysis of the primary completion data?	No

Global end of trial reached?	Yes
Global end of trial date	13 January 2025
Was the trial ended prematurely?	No

Notes:

General information about the trial

Main objective of the trial:

This study will evaluate the pharmacokinetics of ocrelizumab in the breastmilk of lactating women with clinically isolated syndrome (CIS) or multiple sclerosis (MS) (in line with the locally approved indications) treated with ocrelizumab, by assessing the concentration of ocrelizumab in mature breastmilk, as well as the corresponding exposure and pharmacodynamic effects (blood B-cell levels) in the infants.

Protection of trial subjects:

All study participants were required to read and sign an Informed Consent Form.

Background therapy: -

Evidence for comparator: -

Actual start date of recruitment	16 September 2021
Long term follow-up planned	No
Independent data monitoring committee (IDMC) involvement?	No

Notes:

Population of trial subjects

Subjects enrolled per country

Country: Number of subjects enrolled	Spain: 2
Country: Number of subjects enrolled	United Kingdom: 4
Country: Number of subjects enrolled	United States: 20
Worldwide total number of subjects	26
EEA total number of subjects	2

Notes:

Subjects enrolled per age group

In utero	0
Preterm newborn - gestational age < 37 wk	0
Newborns (0-27 days)	8
Infants and toddlers (28 days-23 months)	5
Children (2-11 years)	0
Adolescents (12-17 years)	0
Adults (18-64 years)	13
From 65 to 84 years	0

85 years and over	0

Subject disposition

Recruitment

Recruitment details:

A total of 13 mother-infant pairs took part in the study across 7 sites in the United States, Spain, and the United Kingdom from 16 September 2021 to 13 January 2025.

Pre-assignment

Screening details:

Lactating mothers with CIS or MS who, in consultation with their treating physician, chose to continue or start postpartum treatment with commercial ocrelizumab were enrolled in this study. This study included a 60-day treatment and sampling period followed by an 11-month vaccination period.

Period 1

Period 1 title	Treatment and Sampling Period (60 days)
Is this the baseline period?	Yes
Allocation method	Not applicable
Blinding used	Not blinded

Arms

Are arms mutually exclusive?	Yes
Arm title	Mothers

Arm description:

Lactating mothers initiating ocrelizumab received two doses of 300 milligrams (mg), as an intravenous (IV) infusion on Day 1 and Day 14, and mothers resuming ocrelizumab received a single dose of 600 mg, as an IV infusion on Day 1 at the discretion of the physicians, in accordance with local prescribing information.

Arm type	Experimental
Investigational medicinal product name	Ocrelizumab
Investigational medicinal product code	RO4964913
Other name	
Pharmaceutical forms	Infusion
Routes of administration	Intravenous use

Dosage and administration details:

Mothers initiating, administered ocrelizumab 300 mg, as an IV infusion on Day 1 and Day 14, and mothers resuming ocrelizumab received a single dose of 600 mg, as an IV infusion on Day 1.

Arm title	Infants

Arm description:

Infants of mothers who received commercial IV ocrelizumab at the discretion of the physicians, in accordance with local prescribing information were observed until 1 month (+30 days) after the first dose of measles, mumps, and rubella (MMR) vaccine (if first dose is administered at 11 months of age or later) or 1 month (+ 30 days) after second dose of MMR vaccine (if first dose is administered before 11 months of age), or at Month 13 of chronological age (+30 days) if MMR vaccine is not planned to be administered.

Arm type	No intervention

No investigational medicinal product assigned in this arm

Number of subjects in period 1	Mothers	Infants
Started	13	13
Completed	12	12
Not completed	1	1
Consent withdrawn by subject	1	1

Period 2

Period 2 title	Vaccination Period (11 Months)
Is this the baseline period?	No
Allocation method	Not applicable
Blinding used	Not blinded

Arms

Are arms mutually exclusive?	Yes
Arm title	Mothers

Arm description:

Lactating mothers initiating ocrelizumab received two doses of 300 milligrams (mg), as an intravenous (IV) infusion on Day 1 and Day 14, and mothers resuming ocrelizumab received a single dose of 600 mg, as an IV infusion on Day 1 at the discretion of the physicians, in accordance with local prescribing information.

Arm type	Experimental
Investigational medicinal product name	Ocrelizumab
Investigational medicinal product code	RO4964913
Other name	
Pharmaceutical forms	Infusion
Routes of administration	Intravenous use

Dosage and administration details:

Mothers initiating, administered ocrelizumab, 300 mg, as an IV infusion on Day 1 and Day 14, and mothers resuming ocrelizumab received a single dose of 600 mg, as an IV infusion on Day 1.

Arm title	Infants

Arm description:

Infants of mothers who received commercial IV ocrelizumab at the discretion of the physicians, in accordance with local prescribing information were observed until 1 month (+30 days) after the first dose of MMR vaccine (if first dose is administered at 11 months of age or later) or 1 month (+ 30 days) after second dose of MMR vaccine (if first dose is administered before 11 months of age), or at Month 13 of chronological age (+30 days) if MMR vaccine is not planned to be administered.

Arm type	No intervention

No investigational medicinal product assigned in this arm

Number of subjects in period 2	Mothers	Infants
Started	12	12
Completed	11	11
Not completed	1	1
Consent withdrawn by subject	1	1

Baseline characteristics

Reporting groups	
Reporting group title	Mothers
Reporting group description:	
Lactating mothers initiating ocrelizumab received two doses of 300 milligrams (mg), as an intravenous (IV) infusion on Day 1 and Day 14, and mothers resuming ocrelizumab received a single dose of 600 mg, as an IV infusion on Day 1 at the discretion of the physicians, in accordance with local prescribing information.	
Reporting group title	Infants
Reporting group description:	
Infants of mothers who received commercial IV ocrelizumab at the discretion of the physicians, in accordance with local prescribing information were observed until 1 month (+30 days) after the first dose of measles, mumps, and rubella (MMR) vaccine (if first dose is administered at 11 months of age or later) or 1 month (+ 30 days) after second dose of MMR vaccine (if first dose is administered before 11 months of age), or at Month 13 of chronological age (+30 days) if MMR vaccine is not planned to be administered.	

Reporting group values	Mothers	Infants	Total
Number of subjects	13	13	26
Age categorical Units: Subjects			
Pre-term newborn - gestational age < 37 wk	0	0	0
Newborns (0-27 days)	0	8	8
Infants and toddlers (28 days-23 months)	0	5	5
Children (2-11 years)	0	0	0
Adolescents (12-17 years)	0	0	0
Adults (18-64 years)	13	0	13
From 65-84 years	0	0	0
85 years and over	0	0	0
Age Continuous Units: years			
median	35.0	0.02	
full range (min-max)	30 to 40	0.00 to 0.33	-
Sex: Female, Male Units: participants			
Female	13	6	19
Male	0	7	7

End points

End points reporting groups

Reporting group title	Mothers

Reporting group description:

Lactating mothers initiating ocrelizumab received two doses of 300 milligrams (mg), as an intravenous (IV) infusion on Day 1 and Day 14, and mothers resuming ocrelizumab received a single dose of 600 mg, as an IV infusion on Day 1 at the discretion of the physicians, in accordance with local prescribing information.

Reporting group title	Infants

Reporting group description:

Infants of mothers who received commercial IV ocrelizumab at the discretion of the physicians, in accordance with local prescribing information were observed until 1 month (+30 days) after the first dose of measles, mumps, and rubella (MMR) vaccine (if first dose is administered at 11 months of age or later) or 1 month (+ 30 days) after second dose of MMR vaccine (if first dose is administered before 11 months of age), or at Month 13 of chronological age (+30 days) if MMR vaccine is not planned to be administered.

Reporting group title	Mothers

Reporting group description:

Lactating mothers initiating ocrelizumab received two doses of 300 milligrams (mg), as an intravenous (IV) infusion on Day 1 and Day 14, and mothers resuming ocrelizumab received a single dose of 600 mg, as an IV infusion on Day 1 at the discretion of the physicians, in accordance with local prescribing information.

Reporting group title	Infants

Reporting group description:

Infants of mothers who received commercial IV ocrelizumab at the discretion of the physicians, in accordance with local prescribing information were observed until 1 month (+30 days) after the first dose of MMR vaccine (if first dose is administered at 11 months of age or later) or 1 month (+ 30 days) after second dose of MMR vaccine (if first dose is administered before 11 months of age), or at Month 13 of chronological age (+30 days) if MMR vaccine is not planned to be administered.

Subject analysis set title	Infants
Subject analysis set type	Safety analysis

Subject analysis set description:

Infants of mothers who received commercial IV ocrelizumab at the discretion of the physicians, in accordance with local prescribing information were observed until 1 month (+30 days) after the first dose of MMR vaccine (if first dose is administered at 11 months of age or later) or 1 month (+ 30 days) after second dose of MMR vaccine (if first dose is administered before 11 months of age), or at Month 13 of chronological age (+30 days) if MMR vaccine is not planned to be administered.

Subject analysis set title	Mothers
Subject analysis set type	Safety analysis

Subject analysis set description:

Lactating mothers initiating ocrelizumab received two doses of 300 mg, as an IV infusion on Day 1 and Day 14, and mothers resuming ocrelizumab received a single dose of 600 mg, as an IV infusion on Day 1 at the discretion of the physicians, in accordance with local prescribing information.

Primary: Percentage of Infants with B Cell Levels (Cluster of Differentiation 19 [CD19+] Cells) Below the Lower Limit of Normal (LLN) Measured at Day 30 After the Mother's First Ocrelizumab Postpartum Infusion

End point title	Percentage of Infants with B Cell Levels (Cluster of Differentiation 19 [CD19+] Cells) Below the Lower Limit of Normal (LLN) Measured at Day 30 After the Mother's First Ocrelizumab Postpartum Infusion[1][2]

End point description:

Infant blood samples were collected at Day 30 after the mothers received their first postpartum ocrelizumab infusion (regardless of whether women receive a 600 mg or a 2x300 mg dose). The percentage of infants with B cell levels below LLN are reported with the two-sided Clopper Pearson 95% confidence interval (CI). B-cell reference ranges by week of life (absolute and percentage counts) are defined by Borriello et al. 2022. Full Analysis Set Infants (FASI) included all the infants of women in the Full Analysis Set Mothers (FASM) population. Number analyzed is the number of participants with data

available for analyses.

End point type	Primary

End point timeframe:

At Day 30

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: This endpoint reports data for the infants only.

[2] - The end point is not reporting statistics for all the arms in the baseline period. It is expected all the baseline period arms will be reported on when providing values for an end point on the baseline period.
Justification: This endpoint reports data for the infants only.

End point values	Infants			
Subject group type	Reporting group			
Number of subjects analysed	10			
Units: percentage of participants				
number (confidence interval 95%)	0 (0 to 30.85)			

Statistical analyses

No statistical analyses for this end point

Primary: Estimated Average Oral Daily Infant Dosage (ADID)

End point title	Estimated Average Oral Daily Infant Dosage (ADID)[3][4]

End point description:

ADID was calculated as the arithmetic mean of the mother's daily ocrelizumab milk concentration (micrograms/milliliters [µg/mL]) over 60 days post-ocrelizumab infusion 1 multiplied by an estimated infant milk intake of 150 milliliters/kilograms/day (mL/kg/day) and based on the weight [kilograms (kg)] recorded at the Day 30 visit. Ocrelizumab concentrations reported as below the lower limit of quantification [LLQ=160 nanograms/millilitres (ng/mL)] are imputed to zero for the calculation ADID. Pharmacokinetic Analysis Set Mothers (PASM) included all mothers in the FASM with a breastmilk sample to allow measurement of ocrelizumab concentration.

End point type	Primary

End point timeframe:

Up to Day 60

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: This endpoint reports data for the infants only.

[4] - The end point is not reporting statistics for all the arms in the baseline period. It is expected all the baseline period arms will be reported on when providing values for an end point on the baseline period.
Justification: This endpoint reports data for the infants only.

End point values	Mothers			
Subject group type	Reporting group			
Number of subjects analysed	12			
Units: micrograms (µg)				
arithmetic mean (confidence interval 95%)	64.50 (21.415 to 107.587)			

Statistical analyses

No statistical analyses for this end point

Secondary: Absolute CD19+ B Cell Count in the Infant

End point title	Absolute CD19+ B Cell Count in the Infant[5]

End point description:

Infant blood samples were collected at Day 30 after the mothers received their first postpartum ocrelizumab infusion (regardless of whether women receive a 600 mg or a 2x300 mg dose). FASI included all the infants of women in the FASM population. Number analyzed is the number of participants with data available for analyses.

End point type	Secondary

End point timeframe:

At Day 30

Notes:

[5] - The end point is not reporting statistics for all the arms in the baseline period. It is expected all the baseline period arms will be reported on when providing values for an end point on the baseline period.
Justification: This endpoint reports data for the infants only.

End point values	Infants			
Subject group type	Reporting group			
Number of subjects analysed	10			
Units: cells per microliter (cells/µL)				
median (full range (min-max))	1431.50 (869.0 to 2241.0)			

Statistical analyses

No statistical analyses for this end point

Secondary: Percentage of CD19+ B Cell in the Infant

End point title	Percentage of CD19+ B Cell in the Infant[6]

End point description:

Infant blood samples were collected at Day 30 after the mothers received their first postpartum ocrelizumab infusion (regardless of whether women receive a 600 mg or a 2x300 mg dose). FASI included all the infants of women in the FASM population. Number analyzed is the number of participants with data available for analyses.

End point type	Secondary

End point timeframe:

At Day 30

Notes:

[6] - The end point is not reporting statistics for all the arms in the baseline period. It is expected all the baseline period arms will be reported on when providing values for an end point on the baseline period.
Justification: This endpoint reports data for the infants only.

End point values	Infants			
Subject group type	Reporting group			
Number of subjects analysed	10			
Units: percentage of cells				
median (full range (min-max))	21.80 (10.0 to 31.7)			

Statistical analyses

No statistical analyses for this end point

Secondary: Time of Maximum Concentration (Tmax) of Ocrelizumab in Breastmilk

End point title	Time of Maximum Concentration (Tmax) of Ocrelizumab in Breastmilk[7]

End point description:

PASM included all mothers in the FASM with a breastmilk sample to allow measurement of ocrelizumab concentration.

End point type	Secondary

End point timeframe:

One 600 mg infusion: before infusion and at 24 hours (Day 1), Days 7, 30 and 60 post-infusion; Two 300 mg infusions: before infusion 1 and at 24 hours (Day 1), Days 7, 14, 15 (24 hours after infusion 2), 21, 30 and 60 post-infusion 1

Notes:

[7] - The end point is not reporting statistics for all the arms in the baseline period. It is expected all the baseline period arms will be reported on when providing values for an end point on the baseline period.
Justification: This endpoint reports data for the mothers only.

End point values	Mothers			
Subject group type	Reporting group			
Number of subjects analysed	12			
Units: days				
median (full range (min-max))	3.97 (0.00 to 59.9)			

Statistical analyses

No statistical analyses for this end point

Secondary: Estimated Maximum Oral Daily Infant Dosage (MDID)

End point title	Estimated Maximum Oral Daily Infant Dosage (MDID)[8]

End point description:

MDID was calculated at the subject level as the peak ocrelizumab milk concentration (µg/mL) multiplied by an estimated infant milk intake of 150 mL/kg/day measured over 60 days after the mother’s first postpartum ocrelizumab infusion. PASM included all mothers in the FASM with a breastmilk sample to allow measurement of ocrelizumab concentration.

End point type	Secondary

End point timeframe:

Up to Day 60

Notes:

[8] - The end point is not reporting statistics for all the arms in the baseline period. It is expected all the baseline period arms will be reported on when providing values for an end point on the baseline period.
Justification: This endpoint reports data for the infants only.

End point values	Mothers			
Subject group type	Reporting group			
Number of subjects analysed	12			
Units: µg				
arithmetic mean (standard deviation)	153.20 (± 137.15)			

Statistical analyses

No statistical analyses for this end point

Secondary: Maximum Concentration (Cmax) of Ocrelizumab in Breastmilk

End point title	Maximum Concentration (Cmax) of Ocrelizumab in Breastmilk[9]

End point description:

PASM included all mothers in the FASM with a breastmilk sample to allow measurement of ocrelizumab concentration.

End point type	Secondary

End point timeframe:

One 600 mg infusion: before infusion and at 24 hours (Day 1), Days 7, 30 and 60 post-infusion; Two 300 mg infusions: before infusion 1 and at 24 hours (Day 1), Days 7, 14, 15 (24 hours after infusion 2), 21, 30 and 60 post-infusion 1

Notes:

[9] - The end point is not reporting statistics for all the arms in the baseline period. It is expected all the baseline period arms will be reported on when providing values for an end point on the baseline period.
Justification: This endpoint reports data for the mothers only.

End point values	Mothers			
Subject group type	Reporting group			
Number of subjects analysed	12			
Units: µg/mL				
arithmetic mean (standard deviation)	0.18 (± 0.15)			

Statistical analyses

No statistical analyses for this end point

Secondary: Average Concentration of Ocrelizumab in Breastmilk (Cmean)

End point title	Average Concentration of Ocrelizumab in Breastmilk

End point description:

PASM included all mothers in the FASM with a breastmilk sample to allow measurement of ocrelizumab concentration.

End point type	Secondary

End point timeframe:

One 600 mg infusion: before infusion and at 24 hours (Day 1), Days 7, 30 and 60 post-infusion; Two 300 mg infusions: before infusion 1 and at 24 hours (Day 1), Days 7, 14, 15 (24 hours after infusion 2), 21, 30 and 60 post-infusion 1

Notes:

[10] - The end point is not reporting statistics for all the arms in the baseline period. It is expected all the baseline period arms will be reported on when providing values for an end point on the baseline period.
Justification: This endpoint reports data for the mothers only.

End point values	Mothers			
Subject group type	Reporting group			
Number of subjects analysed	12			
Units: µg/mL				
arithmetic mean (standard deviation)	0.074 (± 0.077)			

Statistical analyses

No statistical analyses for this end point

Secondary: Area Under the Milk Concentration-Time Curve (AUC) of Ocrelizumab in Mature Breastmilk

End point title	Area Under the Milk Concentration-Time Curve (AUC) of Ocrelizumab in Mature Breastmilk[11]

End point description:

PASM included all mothers in the FASM with a breastmilk sample to allow measurement of ocrelizumab concentration.

End point type	Secondary

End point timeframe:

One 600 mg infusion: before infusion and at 24 hours (Day 1), Days 7, 30 and 60 post-infusion; Two 300 mg infusions: before infusion 1 and at 24 hours (Day 1), Days 7, 14, 15 (24 hours after infusion 2), 21, 30 and 60 post-infusion 1

Notes:

[11] - The end point is not reporting statistics for all the arms in the baseline period. It is expected all the baseline period arms will be reported on when providing values for an end point on the baseline period.
Justification: This endpoint reports data for the mothers only.

End point values	Mothers			
Subject group type	Reporting group			
Number of subjects analysed	12			
Units: micrograms/millilitres*day (µg/mL*day)				
arithmetic mean (standard deviation)	3.98 (± 4.93)			

Statistical analyses

No statistical analyses for this end point

Secondary: Percentage of Infants With AEs

End point title	Percentage of Infants With AEs

End point description:

An AE is any untoward medical occurrence in a participant administered a pharmaceutical product and regardless of causal relationship with this treatment. An AE can therefore be any unfavorable and unintended sign (including an abnormal laboratory finding), symptom, or disease temporally associated with the use of a medicinal (investigational) product, whether or not considered related to the medicinal (investigational) product. Safety Analysis Set Infants (SAFI) included all the infants of women in the FASM population.

End point type	Secondary

End point timeframe:

Up to approximately 73.3 weeks after first ocrelizumab dose administered to mother

End point values	Infants			
Subject group type	Subject analysis set			
Number of subjects analysed	13			
Units: percentage of infants				
number (not applicable)	92.3			

Statistical analyses

No statistical analyses for this end point

Secondary: Serum Concentration of Ocrelizumab in the Infant at Day 30

End point title	Serum Concentration of Ocrelizumab in the Infant at Day 30[12]

End point description:

Serum concentration of ocrelizumab in the infant measured at Day 30 after the mother's first ocrelizumab postpartum infusion. Concentrations reported as below the lower limit of quantification (LLQ=156 ng/mL) are set to zero for calculation of summary statistics. Pharmacokinetic Analysis Set Infants (PASI) included all infants in the FASI with a serum sample to allow measurement of ocrelizumab concentration. 9999 indicates that the mean and SD were not evaluable as samples were below the limit of quantification (BLQ).

End point type	Secondary

End point timeframe:

At Day 30

Notes:

[12] - The end point is not reporting statistics for all the arms in the baseline period. It is expected all the baseline period arms will be reported on when providing values for an end point on the baseline period.
Justification: This endpoint reports data for the infants only.

End point values	Infants			
Subject group type	Reporting group			
Number of subjects analysed	9			
Units: µg/mL				
arithmetic mean (standard deviation)	9999 (± 9999)			

Statistical analyses

No statistical analyses for this end point

Secondary: Average Relative Infant Dose (RID)

End point title	Average Relative Infant Dose (RID)[13]

End point description:

Average RID over 60 days was calculated as the ADID (mg/kg/day) divided by the maternal dosage (mg/kg/day) over 60 days multiplied by 100. PASM included all mothers in the FASM with a breastmilk sample to allow measurement of ocrelizumab concentration.

End point type	Secondary

End point timeframe:

Up to Day 60

Notes:

[13] - The end point is not reporting statistics for all the arms in the baseline period. It is expected all the baseline period arms will be reported on when providing values for an end point on the baseline period.
Justification: This endpoint reports data for the infants only.

End point values	Mothers			
Subject group type	Reporting group			
Number of subjects analysed	12			
Units: percentage				
arithmetic mean (standard deviation)	0.50 (± 0.58)			

Statistical analyses

No statistical analyses for this end point

Secondary: Percentage of Mothers With Adverse Events (AEs)

End point title	Percentage of Mothers With Adverse Events (AEs)

End point description:

An AE is any untoward medical occurrence in a participant administered a pharmaceutical product and regardless of causal relationship with this treatment. An AE can therefore be any unfavorable and unintended sign (including an abnormal laboratory finding), symptom, or disease temporally associated with the use of a medicinal (investigational) product, whether or not considered related to the medicinal (investigational) product. Safety Analysis Set Mothers (SAFM) included all mothers who met the eligibility criteria and received any post-partum dose of ocrelizumab.

End point type	Secondary

End point timeframe:

Up to approximately 73.3 weeks after first ocrelizumab dose

End point values	Mothers			
Subject group type	Subject analysis set			
Number of subjects analysed	13			
Units: percentage of participants				
number (not applicable)	76.9			

Statistical analyses

No statistical analyses for this end point

Secondary: Mean Titers of Rubella, IgG Antibody in Response to MMR Vaccination

End point title	Mean Titers of Rubella, IgG Antibody in Response to MMR Vaccination

End point description:

The immune response to MMR vaccine was assessed 1 month after the first dose of MMR vaccine (if the first dose is administered at 11 months of age or later) or 1 month after the second dose of MMR vaccine (if the first dose is administered before 11 months of age), or at Month 13 of chronological age if MMR vaccine was not planned to be administered. This was to evaluate whether infants can mount humoral immune responses to clinically relevant vaccines. AIRI included all infants in the SAFI for whom any serum titers of antibody immune response to vaccinations were available. Number analyzed are the number of infants with data available for analysis. IU/mL=international units per milliliter.

End point type	Secondary

End point timeframe:

Up to 1 month after the first or second dose of MMR vaccine (at approximately Month 13)

End point values	Infants			
Subject group type	Reporting group			
Number of subjects analysed	10			
Units: IU/mL				
arithmetic mean (standard deviation)	94.21 (± 51.39)			

Statistical analyses

No statistical analyses for this end point

Secondary: Percentage of Infants With Positive Humoral Response to MMR Vaccination

End point title	Percentage of Infants With Positive Humoral Response to MMR Vaccination

End point description:

Percentage of infants with positive humoral response (seroprotective titers as defined for the individual vaccine) was presented for each IgG antibody titer. Seroprotective titer based on vaccine tests for MMR vaccine are as follows: Anti-Measles Vir IgG(-70)CL: ≥ 120 mIU/mL; Anti-MumpsAT Vir iGG(-70)CL: ≥ 17 RU/mL; Anti-Rub Vir IgG(-70)RUOCL: ≥ 10 IU/mL. AIRI included all infants in the SAFI for whom any serum titers of antibody immune response to vaccinations were available. n = infants with data available for the specified IgG antibody titer.

End point type	Secondary

End point timeframe:

Up to 1 month after the first or second dose of MMR vaccine (at approximately Month 13)

End point values	Infants			
Subject group type	Reporting group			
Number of subjects analysed	11			
Units: percentage of infants				
number (not applicable)				
Measles, IgG (n=11) Mumps, IgG (n=9) Rubella, IgG (n=10)	100 77.8 100			

Statistical analyses

No statistical analyses for this end point

Secondary: Mean Titers of Mumps, IgG Antibody in Response to MMR Vaccination

End point title	Mean Titers of Mumps, IgG Antibody in Response to MMR Vaccination

End point description:

The immune response to MMR vaccine was assessed 1 month after the first dose of MMR vaccine (if the first dose is administered at 11 months of age or later) or 1 month after the second dose of MMR vaccine (if the first dose is administered before 11 months of age), or at Month 13 of chronological age if MMR vaccine was not planned to be administered. This was to evaluate whether infants can mount humoral immune responses to clinically relevant vaccines. AIRI included all infants in the SAFI for whom any serum titers of antibody immune response to vaccinations were available. Number analyzed are the number of infants with data available for analysis. RU/mL=relative units per milliliter.

End point type	Secondary

End point timeframe:

Up to 1 month after the first or second dose of MMR vaccine (at approximately Month 13)

End point values	Infants			
Subject group type	Reporting group			
Number of subjects analysed	9			
Units: RU/mL				
arithmetic mean (standard deviation)	54.19 (± 34.72)			

Statistical analyses

No statistical analyses for this end point

Secondary: Mean Titers of Measles, Immunoglobulin G (IgG) Antibody in Response to Measles, Mumps, and Rubella (MMR) Vaccination

End point title	Mean Titers of Measles, Immunoglobulin G (IgG) Antibody in Response to Measles, Mumps, and Rubella (MMR) Vaccination

End point description:

The immune response to measles, mumps, and rubella (MMR) vaccine was assessed 1 month after the first dose of MMR vaccine (if the first dose is administered at 11 months of age or later) or 1 month after the second dose of MMR vaccine (if the first dose is administered before 11 months of age), or at Month 13 of chronological age if MMR vaccine was not planned to be administered. This was to evaluate whether infants can mount humoral immune responses to clinically relevant vaccines. Antibody Immune Response Analysis Set of Infants (AIRI) included all infants in the SAFI for whom any serum titers of antibody immune response to vaccinations were available. mIU/mL=milli-international units per milliliter.

End point type	Secondary

End point timeframe:

Up to 1 month after the first or second dose of MMR vaccine (at approximately Month 13)

End point values	Infants			
Subject group type	Reporting group			
Number of subjects analysed	11			
Units: mIU/mL				
arithmetic mean (standard deviation)	2590.91 (± 2210.74)			

Statistical analyses

No statistical analyses for this end point

Secondary: Mean Titers of Corynebacterium Diphtheriae, IgG Antibody in Response to Diphtheria-Tetanus-Pertussis (DTP) Vaccine

End point title	Mean Titers of Corynebacterium Diphtheriae, IgG Antibody in Response to Diphtheria-Tetanus-Pertussis (DTP) Vaccine

End point description:

The immune response to DTP vaccine was assessed 1 month after the first dose of MMR vaccine (if the first dose is administered at 11 months of age or later) or 1 month after the second dose of MMR vaccine (if the first dose is administered before 11 months of age), or at Month 13 of chronological age if MMR vaccine was not planned to be administered. This was to evaluate whether infants can mount humoral immune responses to clinically relevant vaccines. AIRI included all infants in the SAFI for whom any serum titers of antibody immune response to vaccinations were available. Number analyzed are the number of infants with data available for analysis.

End point type	Secondary

End point timeframe:

Up to 1 month after the first or second dose of MMR vaccine (at approximately Month 13)

End point values	Infants			
Subject group type	Reporting group			
Number of subjects analysed	10			
Units: IU/mL				
arithmetic mean (standard deviation)	1.94 (± 3.13)			

Statistical analyses

No statistical analyses for this end point

Secondary: Mean Titers of Bordetella Pertussis, IgG Antibody in Response to DTP Vaccine

End point title	Mean Titers of Bordetella Pertussis, IgG Antibody in Response to DTP Vaccine

End point description:

Immune response to DTP vaccine was assessed 1 month after 1st dose of MMR vaccine (if first dose is administered at 11 months of age or later) or 1 month after second dose of MMR vaccine (if first dose is administered before 11 months of age), or at Month 13 of chronological age if MMR vaccine was not planned to be administered. Cut-off Index (COI)=unitless ratio calculated as the signal intensity of the sample divided by the signal of the assay's cut-off calibrator. It is interpreted as follows: COI <0.95: Negative; COI 0.95–1.04: Equivocal; COI >1.04: The assay used has not been standardized against WHO International Units (IU/mL) for Bordetella pertussis IgG and therefore, cannot be converted to IU/mL. Higher COI values = a stronger antibody signal, but are not directly correlated with clinical protection. Positivity was defined using the manufacturer's COI cut-off (>1.04). AIRI set. Number analyzed=number of infants with data available for analysis.

End point type	Secondary

End point timeframe:

Up to 1 month after the first or second dose of MMR vaccine (at approximately Month 13)

End point values	Infants			
Subject group type	Reporting group			
Number of subjects analysed	10			
Units: COI				
arithmetic mean (standard deviation)	1.12 (± 0.82)			

Statistical analyses

No statistical analyses for this end point

Secondary: Mean Titers of Haemophilus Influenzae Type B (Hib), IgG Antibody in Response to Hib Vaccine

End point title	Mean Titers of Haemophilus Influenzae Type B (Hib), IgG Antibody in Response to Hib Vaccine

End point description:

The immune response to Hib vaccine was assessed 1 month after the first dose of MMR vaccine (if the first dose is administered at 11 months of age or later) or 1 month after the second dose of MMR vaccine (if the first dose is administered before 11 months of age), or at Month 13 of chronological age

if MMR vaccine was not planned to be administered. This was to evaluate whether infants can mount humoral immune responses to clinically relevant vaccines. AIRI included all infants in the SAFI for whom any serum titers of antibody immune response to vaccinations were available. Number analyzed are the number of infants with data available for analysis.

End point type	Secondary

End point timeframe:

Up to 1 month after the first or second dose of MMR vaccine (at approximately Month 13)

End point values	Infants			
Subject group type	Reporting group			
Number of subjects analysed	9			
Units: micrograms per milliliter (ug/mL)				
arithmetic mean (standard deviation)	3.45 (± 4.21)			

Statistical analyses

No statistical analyses for this end point

Secondary: Mean Titers of Tetanus Toxoid, IgG Antibody in Response to DTP Vaccine

End point title	Mean Titers of Tetanus Toxoid, IgG Antibody in Response to DTP Vaccine

End point description:

The immune response to DTP vaccine was assessed 1 month after the first dose of MMR vaccine (if the first dose is administered at 11 months of age or later) or 1 month after the second dose of MMR vaccine (if the first dose is administered before 11 months of age), or at Month 13 of chronological age if MMR vaccine was not planned to be administered. This was to evaluate whether infants can mount humoral immune responses to clinically relevant vaccines. AIRI included all infants in the SAFI for whom any serum titers of antibody immune response to vaccinations were available. Number analyzed are the number of infants with data available for analysis.

End point type	Secondary

End point timeframe:

Up to 1 month after the first or second dose of MMR vaccine (at approximately Month 13)

End point values	Infants			
Subject group type	Reporting group			
Number of subjects analysed	6			
Units: IU/mL				
arithmetic mean (standard deviation)	1.23 (± 0.43)			

Statistical analyses

No statistical analyses for this end point

Secondary: Percentage of Infants With Positive Humoral Response to DTP Vaccine

End point title	Percentage of Infants With Positive Humoral Response to DTP Vaccine

End point description:

Immune response to DTP vaccine was assessed 1 month after 1st dose of MMR vaccine (if 1st dose is administered at 11 months of age/later) /1 month after 2nd dose of MMR vaccine (if first dose is administered before 11 months of age)/at Month 13 of chronological age if MMR vaccine was not planned to be given. Cut-off Index (COI)=unitless ratio calculated as the signal intensity of the sample divided by the signal of the assay's cut-off calibrator. It is interpreted as follows: COI <0.95: Negative; COI 0.95–1.04: Equivocal; COI >1.04: The assay used has not been standardized against WHO International Units (IU/mL) for Bordetella pertussis IgG hence, cannot be converted to IU/mL. Higher COI values = a stronger antibody signal, but are not directly correlated with clinical protection. Positivity was defined using the manufacturer's COI cut-off (>1.04). AIRI set. Number analyzed= infants with data available for analysis. n = infants with data available for the specified IgG antibody.

End point type	Secondary

End point timeframe:

Up to 1 month after the first or second dose of MMR vaccine (at approximately Month 13)

End point values	Infants			
Subject group type	Reporting group			
Number of subjects analysed	10			
Units: percentage of infants				
number (not applicable)				
Corynebacterium Diphtheriae, IgG (n=10)	100			
Bordetella Pertussis, IgG (n=10)	50			
Tetanus Toxoid, IgG (n=6)	100			

Statistical analyses

No statistical analyses for this end point

Secondary: Mean Titers of Anti-Hepatitis B Surface Antibody in Response to Hepatitis B Virus (HBV) Vaccine

End point title	Mean Titers of Anti-Hepatitis B Surface Antibody in Response to Hepatitis B Virus (HBV) Vaccine

End point description:

The immune response to HBV vaccine was assessed 1 month after the first dose of MMR vaccine (if the first dose is administered at 11 months of age or later) or 1 month after the second dose of MMR vaccine (if the first dose is administered before 11 months of age), or at Month 13 of chronological age if MMR vaccine was not planned to be administered. This was to evaluate whether infants can mount humoral immune responses to clinically relevant vaccines. AIRI included all infants in the SAFI for whom any serum titers of antibody immune response to vaccinations were available. Number analyzed are the number of infants with data available for analysis.

End point type	Secondary

End point timeframe:

Up to 1 month after the first or second dose of MMR vaccine (at approximately Month 13)

End point values	Infants			
Subject group type	Reporting group			
Number of subjects analysed	7			
Units: mIU/mL				
arithmetic mean (standard deviation)	1158.01 (± 1263.32)			

Statistical analyses

No statistical analyses for this end point

Secondary: Percentage of Infants With Positive Humoral Response to HBV Vaccine

End point title	Percentage of Infants With Positive Humoral Response to HBV Vaccine

End point description:

Percentage of infants with positive humoral response (seroprotective titers as defined for the individual vaccine) was presented for eachthe IgG antibody titer. Seroprotective titer based on vaccine tests for HBV vaccine are as follows: Anti-HBs: ≥ 10 mIU/mL. AIRI included all infants in the SAFI for whom any serum titers of antibody immune response to vaccinations were available. Number analyzed are the number of infants with data available for analysis.

End point type	Secondary

End point timeframe:

Up to 1 month after the first or second dose of MMR vaccine (at approximately Month 13)

End point values	Infants			
Subject group type	Reporting group			
Number of subjects analysed	7			
Units: percentage of infants				
number (not applicable)	100			

Statistical analyses

No statistical analyses for this end point

Secondary: Percentage of Infants With Positive Humoral Response to Hib Vaccine

End point title	Percentage of Infants With Positive Humoral Response to Hib Vaccine

End point description:

Percentage of infants with positive humoral response (seroprotective titers as defined for the individual vaccine) was presented for the IgG antibody titer. Seroprotective titer based on vaccine tests for Hib vaccine are as follows: Hib, IgG: ≥ 0.15 µg/mL. AIRI included all infants in the SAFI for whom any serum titers of antibody immune response to vaccinations were available. Number analyzed are the number of infants with data available for analysis.

End point type	Secondary

End point timeframe:

Up to 1 month after the first or second dose of MMR vaccine (at approximately Month 13)

End point values	Infants			
Subject group type	Reporting group			
Number of subjects analysed	10			
Units: percentage of infants				
number (not applicable)	88.9			

Statistical analyses

No statistical analyses for this end point

Secondary: Mean Titers of Pneumococcal Capsular Polysaccharide (CPS), Serotypes, IgG Antibody in Response to 13-valent Pneumococcal Conjugate Vaccine (PCV-13)

End point title	Mean Titers of Pneumococcal Capsular Polysaccharide (CPS), Serotypes, IgG Antibody in Response to 13-valent Pneumococcal Conjugate Vaccine (PCV-13)

End point description:

The immune response to PCV-13 vaccine was assessed 1 month after the first dose of MMR vaccine (if the first dose is administered at 11 months of age or later) or 1 month after the second dose of MMR vaccine (if the first dose is administered before 11 months of age), or at Month 13 of chronological age if MMR vaccine was not planned to be administered. This was to evaluate whether infants can mount humoral immune responses to clinically relevant vaccines. AIRI included all infants in the SAFI for whom any serum titers of antibody immune response to vaccinations were available. Number analyzed are the number of infants with data available for analysis.

End point type	Secondary

End point timeframe:

Up to 1 month after the first or second dose of MMR vaccine (at approximately Month 13)

End point values	Infants			
Subject group type	Reporting group			
Number of subjects analysed	10			
Units: ug/mL				
arithmetic mean (standard deviation)				
Pneumococcal Capsular Polysaccharide, Serotype 1,	4.80 (± 6.38)			
Pneumococcal Capsular Polysaccharide, Serotype 3	2.56 (± 3.16)			
Pneumococcal Capsular Polysaccharide, Serotype 4	8.28 (± 9.18)			
Pneumococcal Capsular Polysaccharide, Serotype 5	9.98 (± 15.72)			
Pneumococcal Capsular Polysaccharide, Serotype 6A	27.28 (± 34.50)			
Pneumococcal Capsular Polysaccharide, Serotype 6B	27.02 (± 70.85)			
Pneumococcal Capsular Polysaccharide, Serotype 7F	9.44 (± 14.11)			

Pneumococcal Capsular Polysaccharide, Serotype 9V	4.21 (± 3.66)			
Pneumococcal Capsular Polysaccharide, Serotype 14	14.93 (± 14.49)			
Pneumococcal Capsular Polysaccharide, Serotype 18C	9.62 (± 11.47)			
Pneumococcal Capsular Polysaccharide, Serotype 19A	1.70 (± 1.41)			
Pneumococcal Capsular Polysaccharide, Serotype 19F	45.83 (± 80.11)			
Pneumococcal Capsular Polysaccharide, Serotype 23F	10.50 (± 13.17)			

Statistical analyses

No statistical analyses for this end point

Secondary: Percentage of Infants With Positive Humoral Response to PCV-13

End point title	Percentage of Infants With Positive Humoral Response to PCV-13

End point description:

Percentage of infants with positive humoral response (seroprotective titers as defined for the individual vaccine) was presented for each IgG antibody titer. Seroprotective titer based on vaccine tests for PCV-13 vaccine are as follows: 13 Valent anti-pneumococcal antibody panel: ≥ 0.35 µg/ml. AIRI included all infants in the SAFI for whom any serum titers of antibody immune response to vaccinations were available. Number analyzed are the number of infants with data available for analysis.

End point type	Secondary

End point timeframe:

Up to 1 month after the first or second dose of MMR vaccine (at approximately Month 13)

End point values	Infants			
Subject group type	Reporting group			
Number of subjects analysed	10			
Units: percentage of infants				
number (not applicable)				
Pneumococcal Capsular Polysaccharide, Serotype 1	80			
Pneumococcal Capsular Polysaccharide, Serotype 3	70			
Pneumococcal Capsular Polysaccharide, Serotype 4	80			
Pneumococcal Capsular Polysaccharide, Serotype 5	90			
Pneumococcal Capsular Polysaccharide, Serotype 6A	100			
Pneumococcal Capsular Polysaccharide, Serotype 6B	80			
Pneumococcal Capsular Polysaccharide, Serotype 7F	100			
Pneumococcal Capsular Polysaccharide, Serotype 9V	90			

Pneumococcal Capsular Polysaccharide, Serotype 14	100			
Pneumococcal Capsular Polysaccharide, Serotype 18C	80			
Pneumococcal Capsular Polysaccharide, Serotype 19A	60			
Pneumococcal Capsular Polysaccharide, Serotype 19F	100			
Pneumococcal Capsular Polysaccharide, Serotype 23F	80			

Statistical analyses

No statistical analyses for this end point

Adverse events

Adverse events information

Timeframe for reporting adverse events:

Mothers and Infants: Up to approximately 73.3 weeks

Adverse event reporting additional description:

SAFM included all mothers who met the eligibility criteria and received any post-partum dose of ocrelizumab. SAFI included all the infants of women in the FASM population.

Assessment type	Systematic

Dictionary used

Dictionary name	MedDRA
Dictionary version	26.1

Reporting groups

Reporting group title	Mothers

Reporting group description:

Lactating mothers initiating ocrelizumab received two doses of 300 mg, as an IV infusion on Day 1 and Day 14, and mothers resuming ocrelizumab received a single dose of 600 mg, as an IV infusion on Day 1 at the discretion of the physicians, in accordance with local prescribing information.

Reporting group title	Infants

Reporting group description:

Infants of mothers who received commercial IV ocrelizumab at the discretion of the physicians, in accordance with local prescribing information were observed until the last visit which was at 1 month (+ 30 days) after the first dose of MMR vaccine (if first dose is administered at 11 months of age or later) or 1 month (+ 30 days) after second dose of MMR vaccine (if first dose is administered before 11 months of age), or at Month 13 of chronological age (+ 30 days) if MMR vaccine is not planned to be administered.

Serious adverse events	Mothers	Infants	
Total subjects affected by serious adverse events			
subjects affected / exposed	0 / 13 (0.00%)	0 / 13 (0.00%)	
number of deaths (all causes)	0	0	
number of deaths resulting from adverse events	0	0	

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

Non-serious adverse events	Mothers	Infants	
Total subjects affected by non-serious adverse events			
subjects affected / exposed	10 / 13 (76.92%)	12 / 13 (92.31%)	
Neoplasms benign, malignant and unspecified (incl cysts and polyps)			
Basal cell carcinoma			
subjects affected / exposed	1 / 13 (7.69%)	0 / 13 (0.00%)	
occurrences (all)	1	0	

Haemangioma			
subjects affected / exposed	0 / 13 (0.00%)	1 / 13 (7.69%)	
occurrences (all)	0	1	
General disorders and administration site conditions			
Pain			
subjects affected / exposed	2 / 13 (15.38%)	1 / 13 (7.69%)	
occurrences (all)	2	1	
Pyrexia			
subjects affected / exposed	1 / 13 (7.69%)	3 / 13 (23.08%)	
occurrences (all)	1	3	
Immune system disorders			
Drug hypersensitivity			
subjects affected / exposed	0 / 13 (0.00%)	1 / 13 (7.69%)	
occurrences (all)	0	1	
Reproductive system and breast disorders			
Dysmenorrhoea			
subjects affected / exposed	1 / 13 (7.69%)	0 / 13 (0.00%)	
occurrences (all)	1	0	
Respiratory, thoracic and mediastinal disorders			
Upper respiratory tract congestion			
subjects affected / exposed	1 / 13 (7.69%)	0 / 13 (0.00%)	
occurrences (all)	1	0	
Throat irritation			
subjects affected / exposed	1 / 13 (7.69%)	0 / 13 (0.00%)	
occurrences (all)	1	0	
Nasal congestion			
subjects affected / exposed	1 / 13 (7.69%)	2 / 13 (15.38%)	
occurrences (all)	1	3	
Investigations			
Weight decreased			
subjects affected / exposed	0 / 13 (0.00%)	1 / 13 (7.69%)	
occurrences (all)	0	1	
Injury, poisoning and procedural complications			
Infusion related reaction			
subjects affected / exposed	3 / 13 (23.08%)	0 / 13 (0.00%)	
occurrences (all)	3	0	

Nervous system disorders			
Headache			
subjects affected / exposed	1 / 13 (7.69%)	0 / 13 (0.00%)	
occurrences (all)	1	0	
Paraesthesia			
subjects affected / exposed	2 / 13 (15.38%)	0 / 13 (0.00%)	
occurrences (all)	2	0	
Multiple sclerosis pseudo relapse			
subjects affected / exposed	1 / 13 (7.69%)	0 / 13 (0.00%)	
occurrences (all)	1	0	
Ear and labyrinth disorders			
Vertigo positional			
subjects affected / exposed	1 / 13 (7.69%)	0 / 13 (0.00%)	
occurrences (all)	1	0	
Eye disorders			
Strabismus			
subjects affected / exposed	0 / 13 (0.00%)	1 / 13 (7.69%)	
occurrences (all)	0	2	
Gastrointestinal disorders			
Oral pruritus			
subjects affected / exposed	1 / 13 (7.69%)	0 / 13 (0.00%)	
occurrences (all)	1	0	
Teething			
subjects affected / exposed	0 / 13 (0.00%)	1 / 13 (7.69%)	
occurrences (all)	0	1	
Vomiting			
subjects affected / exposed	1 / 13 (7.69%)	1 / 13 (7.69%)	
occurrences (all)	1	1	
Skin and subcutaneous tissue disorders			
Eczema			
subjects affected / exposed	0 / 13 (0.00%)	2 / 13 (15.38%)	
occurrences (all)	0	2	
Dermatitis diaper			
subjects affected / exposed	0 / 13 (0.00%)	1 / 13 (7.69%)	
occurrences (all)	0	1	
Dermatitis contact			

subjects affected / exposed	1 / 13 (7.69%)	0 / 13 (0.00%)	
occurrences (all)	1	0	
Rash			
subjects affected / exposed	0 / 13 (0.00%)	1 / 13 (7.69%)	
occurrences (all)	0	1	
Skin fissures			
subjects affected / exposed	1 / 13 (7.69%)	0 / 13 (0.00%)	
occurrences (all)	1	0	
Musculoskeletal and connective tissue disorders			
Myalgia			
subjects affected / exposed	1 / 13 (7.69%)	0 / 13 (0.00%)	
occurrences (all)	1	0	
Neck pain			
subjects affected / exposed	1 / 13 (7.69%)	0 / 13 (0.00%)	
occurrences (all)	1	0	
Pain in extremity			
subjects affected / exposed	1 / 13 (7.69%)	0 / 13 (0.00%)	
occurrences (all)	1	0	
Tenosynovitis stenosans			
subjects affected / exposed	1 / 13 (7.69%)	0 / 13 (0.00%)	
occurrences (all)	1	0	
Infections and infestations			
Bronchiolitis			
subjects affected / exposed	0 / 13 (0.00%)	2 / 13 (15.38%)	
occurrences (all)	0	2	
Hand-foot-and-mouth disease			
subjects affected / exposed	0 / 13 (0.00%)	2 / 13 (15.38%)	
occurrences (all)	0	2	
Gastroenteritis			
subjects affected / exposed	0 / 13 (0.00%)	1 / 13 (7.69%)	
occurrences (all)	0	2	
Ear infection			
subjects affected / exposed	0 / 13 (0.00%)	3 / 13 (23.08%)	
occurrences (all)	0	3	
Conjunctivitis			

subjects affected / exposed	0 / 13 (0.00%)	1 / 13 (7.69%)		
occurrences (all)	0	1		
COVID-19				
subjects affected / exposed	6 / 13 (46.15%)	4 / 13 (30.77%)		
occurrences (all)	6	5		
Suspected COVID-19				
subjects affected / exposed	0 / 13 (0.00%)	1 / 13 (7.69%)		
occurrences (all)	0	1		
Upper respiratory tract infection				
subjects affected / exposed	2 / 13 (15.38%)	2 / 13 (15.38%)		
occurrences (all)	3	2		
Urinary tract infection				
subjects affected / exposed	1 / 13 (7.69%)	0 / 13 (0.00%)		
occurrences (all)	1	0		
Vaginal infection				
subjects affected / exposed	1 / 13 (7.69%)	0 / 13 (0.00%)		
occurrences (all)	1	0		
Varicella				
subjects affected / exposed	0 / 13 (0.00%)	1 / 13 (7.69%)		
occurrences (all)	0	1		
Influenza				
subjects affected / exposed	0 / 13 (0.00%)	1 / 13 (7.69%)		
occurrences (all)	0	1		
Rhinovirus infection				
subjects affected / exposed	0 / 13 (0.00%)	1 / 13 (7.69%)		
occurrences (all)	0	1		
Respiratory syncytial virus infection				
subjects affected / exposed	0 / 13 (0.00%)	1 / 13 (7.69%)		
occurrences (all)	0	1		
Parainfluenzae virus infection				
subjects affected / exposed	0 / 13 (0.00%)	1 / 13 (7.69%)		
occurrences (all)	0	1		
Otitis media				
subjects affected / exposed	0 / 13 (0.00%)	1 / 13 (7.69%)		
occurrences (all)	0	1		
Oral herpes				

subjects affected / exposed	0 / 13 (0.00%)	1 / 13 (7.69%)	
occurrences (all)	0	1	
Nasopharyngitis			
subjects affected / exposed	3 / 13 (23.08%)	3 / 13 (23.08%)	
occurrences (all)	4	4	
Mastitis			
subjects affected / exposed	2 / 13 (15.38%)	0 / 13 (0.00%)	
occurrences (all)	2	0	
Vulvovaginal mycotic infection			
subjects affected / exposed	1 / 13 (7.69%)	0 / 13 (0.00%)	
occurrences (all)	2	0	
Gastroenteritis viral			
subjects affected / exposed	1 / 13 (7.69%)	0 / 13 (0.00%)	
occurrences (all)	1	0	
Infected dermal cyst			
subjects affected / exposed	1 / 13 (7.69%)	0 / 13 (0.00%)	
occurrences (all)	1	0	
Tonsillitis			
subjects affected / exposed	1 / 13 (7.69%)	0 / 13 (0.00%)	
occurrences (all)	1	0	
Vulvovaginal candidiasis			
subjects affected / exposed	1 / 13 (7.69%)	0 / 13 (0.00%)	
occurrences (all)	1	0	

More information

Substantial protocol amendments (globally)

Were there any global substantial amendments to the protocol? Yes

Date	Amendment
01 April 2022	1. A note on referral to sites was added, to allow referral of potentially eligible women to study sites. Women could be referred to study sites; and the possibility of home-based study visits was extended to all visits (conducted by a mobile nurse, and by the investigator using telemedicine [i.e., remotely]). 2. Woman agreed to use acceptable contraceptive methods or alternative methods during the study as described below and, if applicable, upon study treatment discontinuation, as defined by the local prescribing information.
05 June 2023	1. The secondary objectives were amended to include the evaluation of the relative exposure as measured by the RID to ocrelizumab in infants of lactating women with CIS or MS receiving ocrelizumab postpartum. 2. The sample size was reduced from at least 20 to at least 10 women with CIS or MS. 3. The total length of the study was increased from approximately 2 years to approximately 3 years, due to the extension of the enrolment period from approximately 8 months to approximately 21 months. 4. The list of antibody (Ab) titers of responses to vaccines administered as per local practice, had been updated to detail that the following were included: antimeasles Ab IgG, anti-rubella Ab IgG, anti-mumps Ab IgG, PCV-13 Ab (all serotypes), anti-tetanus toxoid IgG, anti-diphtheria IgG, Bordetella pertussis Ab IgG, hepatitis B surface Ab, Hemophilus influenza B IgG.

Notes:

Interruptions (globally)

Were there any global interruptions to the trial? No

Limitations and caveats

None reported