Clinical trial results:
A Randomized, Double-blind Study to Compare Pharmacokinetics and Pharmacodynamics, Efficacy and Safety of ABP 798 With Rituximab in Subjects With Moderate to Severe Rheumatoid Arthritis

Summary

EudraCT number	2013-005543-90
Trial protocol	HU DE PL BG EE
Global end of trial date	08 October 2018

Results information

Result version number	v1 (current)
This version publication date	24 October 2019
First version publication date	24 October 2019

Trial information

Trial identification

Sponsor protocol code	20130108

Additional study identifiers

ISRCTN number	-
ClinicalTrials.gov id (NCT number)	NCT02792699
WHO universal trial number (UTN)	-

Notes:

Sponsors

Sponsor organisation name	Amgen Inc.
Sponsor organisation address	One Amgen Center Drive, Thousand Oaks, United States, 91320
Public contact	IHQ Medical Info-Clinical Trials, Amgen (EUROPE) GmbH, MedInfoInternational@amgen.com
Scientific contact	IHQ Medical Info-Clinical Trials, Amgen (EUROPE) GmbH, MedInfoInternational@amgen.com

Notes:

Paediatric regulatory details

Is trial part of an agreed paediatric investigation plan (PIP)	No
Does article 45 of REGULATION (EC) No 1901/2006 apply to this trial?	No
Does article 46 of REGULATION (EC) No 1901/2006 apply to this trial?	No

Notes:

Results analysis stage

Analysis stage	Final
Date of interim/final analysis	08 October 2018
Is this the analysis of the primary completion data?	No

Global end of trial reached?	Yes
Global end of trial date	08 October 2018
Was the trial ended prematurely?	No

Notes:

General information about the trial

Main objective of the trial:

The primary objective was to demonstrate pharmacokinetic (PK) similarity of ABP 798 relative to that of US-licensed rituximab (rituximab [US]) and of EU-authorized rituximab (rituximab [EU]). The secondary objectives were to demonstrate PK similarity between rituximab (US) and rituximab (EU); and to assess the clinical efficacy, safety, and immunogenicity of ABP 798 compared with rituximab.

Protection of trial subjects:

This study was conducted in accordance with International Conference on Harmonisation (ICH) Good Clinical Practice (GCP) regulations/guidelines, the general principles indicated in the Declaration of Helsinki, and all applicable regulatory requirements. Prior to initiation at each study center, the study protocol was reviewed by an Institutional Review Board (IRB) or Independent Ethics Committee (IEC). All subjects were to provide written informed consent prior to entering the study and before initiation of any study-related procedure (including administration of investigational product). The investigator was responsible for explaining the benefits and risks of participation in the study to each subject or the subject's legally acceptable representative and for obtaining written informed consent.

Background therapy: -

Evidence for comparator: -

Actual start date of recruitment	17 May 2016
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	Poland: 115
Country: Number of subjects enrolled	Bulgaria: 30
Country: Number of subjects enrolled	Hungary: 23
Country: Number of subjects enrolled	Estonia: 8
Country: Number of subjects enrolled	United States: 117
Country: Number of subjects enrolled	Germany: 18
Worldwide total number of subjects	311
EEA total number of subjects	194

Notes:

Subjects enrolled per age group

In utero	0
Preterm newborn - gestational age < 37	0

wk	
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)	239
From 65 to 84 years	72
85 years and over	0

Subject disposition

Recruitment

Recruitment details:

This study was conducted at 57 centers in Bulgaria, Estonia, Germany, Hungary, Poland, and the United States (US). Eligible participants were men and women aged 18 to 80 years, inclusive, with a diagnosis of rheumatoid arthritis (RA) for at least 6 months.

Pre-assignment

Screening details:

Participants were randomized in a 1:1:1 ratio to 1 of 3 groups, stratified by geographic region (North America vs Eastern Europe vs Western Europe), seropositivity (rheumatoid factor [RF]-positive and/or cyclic citrullinated peptide [CCP]-positive vs RF-negative and CCP-negative), and number of prior biologic therapies used for RA (1 vs > 1).

Period 1

Period 1 title	Overall Study (overall period)
Is this the baseline period?	Yes
Allocation method	Randomised - controlled
Blinding used	Double blind
Roles blinded	Subject, Investigator, Monitor, Data analyst, Assessor

Arms

Are arms mutually exclusive?	Yes
Arm title	ABP 798 / ABP 798

Arm description:

Participants received ABP 798 on days 1 and 15 (dose 1) and a second dose of ABP 798 at weeks 24 and 26 (dose 2). Each dose consisted of two 1000 mg intravenous infusions 2 weeks apart.

Arm type	Experimental
Investigational medicinal product name	ABP 798
Investigational medicinal product code	ABP 798
Other name	
Pharmaceutical forms	Concentrate for solution for infusion
Routes of administration	Intravenous use

Dosage and administration details:

Supplied as a 10 mg/mL liquid concentrate for intravenous (IV) administration.

Arm title	Rituximab (EU) / Rituximab (EU)

Arm description:

Participants received rituximab (EU formulation) on days 1 and 15 (dose 1) and a second dose of rituximab (EU formulation) at weeks 24 and 26 (dose 2). Each dose consisted of two 1000 mg intravenous infusions 2 weeks apart.

Arm type	Active comparator
Investigational medicinal product name	Rituximab (EU formulation)
Investigational medicinal product code	
Other name	MabThera®
Pharmaceutical forms	Concentrate for solution for infusion
Routes of administration	Intravenous use

Dosage and administration details:

Supplied as a 10 mg/mL liquid concentrate for intravenous (IV) administration.

Arm title	Rituximab (US) / ABP 798

Arm description:

Participants received rituximab (US formulation) on days 1 and 15 (dose 1) and transitioned to receive ABP 798 at weeks 24 and 26 (dose 2). Each dose consisted of two 1000 mg intravenous infusions 2 weeks apart.

Arm type	Active comparator
Investigational medicinal product name	Rituximab (US formulation)
Investigational medicinal product code	
Other name	Rituxan®
Pharmaceutical forms	Concentrate for solution for infusion
Routes of administration	Intravenous use

Dosage and administration details:

Supplied as a 10 mg/mL liquid concentrate for intravenous (IV) administration.

Investigational medicinal product name	ABP 798
Investigational medicinal product code	ABP 798
Other name	
Pharmaceutical forms	Concentrate for solution for infusion
Routes of administration	Intravenous use

Dosage and administration details:

Supplied as a 10 mg/mL liquid concentrate for intravenous (IV) administration.

Number of subjects in period 1	ABP 798 / ABP 798	Rituximab (EU) / Rituximab (EU)	Rituximab (US) / ABP 798
Started	104	104	103
Received First Infusion of First Dose	104	104	103
Received Second Infusion of First Dose	102	103	99
Received First Infusion of Second Dose	97	99	95
Received Second Infusion of Second Dose	97	99	93
Completed	95	94	93
Not completed	9	10	10
Consent withdrawn by subject	4	4	3
Physician decision	2	-	-
Adverse event, non-fatal	1	2	4
Other	1	-	-
Dissatisfaction with Treatment Efficacy	1	3	1
Lost to follow-up	-	1	2

Baseline characteristics

Reporting groups	
Reporting group title	ABP 798 / ABP 798
Reporting group description:	
Participants received ABP 798 on days 1 and 15 (dose 1) and a second dose of ABP 798 at weeks 24 and 26 (dose 2). Each dose consisted of two 1000 mg intravenous infusions 2 weeks apart.	
Reporting group title	Rituximab (EU) / Rituximab (EU)
Reporting group description:	
Participants received rituximab (EU formulation) on days 1 and 15 (dose 1) and a second dose of rituximab (EU formulation) at weeks 24 and 26 (dose 2). Each dose consisted of two 1000 mg intravenous infusions 2 weeks apart.	
Reporting group title	Rituximab (US) / ABP 798
Reporting group description:	
Participants received rituximab (US formulation) on days 1 and 15 (dose 1) and transitioned to receive ABP 798 at weeks 24 and 26 (dose 2). Each dose consisted of two 1000 mg intravenous infusions 2 weeks apart.	

Reporting group values	ABP 798 / ABP 798	Rituximab (EU) / Rituximab (EU)	Rituximab (US) / ABP 798
Number of subjects	104	104	103
Age, Customized Units: Subjects			
< 65 years	87	74	78
≥ 65 years	17	30	25
Age Continuous Units: years			
arithmetic mean	54.6	56.8	56.4
standard deviation	± 10.70	± 11.34	± 10.66
Sex: Female, Male Units: Subjects			
Female	90	91	83
Male	14	13	20
Race/Ethnicity, Customized Units: Subjects			
White	97	99	91
Black or African American	5	3	10
Asian	0	2	1
American Indian or Alaska Native	2	0	0
Native Hawaiian or other Pacific Islander	0	0	0
Other	0	0	1
Ethnicity (NIH/OMB) Units: Subjects			
Hispanic or Latino	8	10	11
Not Hispanic or Latino	96	94	92
Unknown or Not Reported	0	0	0
Geographic Region Units: Subjects			
North America	38	40	39
Eastern Europe	59	58	59

Western Europe	7	6	5
Seropositivity			
Seropositivity defined as rheumatoid factor [RF]-positive and/or cyclic citrullinated peptide [CCP]-positive vs RF-negative and CCP-negative).			
Units: Subjects			
RF positive and/or CCP positive	86	88	89
RF negative and CCP negative	18	16	14
Prior Biologic Use for RA			
Units: Subjects			
One	62	61	63
More than one	42	43	40
Duration of RA			
Units: years			
arithmetic mean	11.37	11.69	12.48
standard deviation	± 7.400	± 7.945	± 9.186
Disease Activity Score 28 – C-Reactive Protein (DAS28[CRP])			
DAS28 measures the severity of disease at a specific time and is derived from the following variables: • 28 tender joint count • 28 swollen joint count • C-reactive protein (CRP) • Patient's global health assessment measured on a 100 mm visual analog scale. DAS28(CRP) scores range from 0 to approximately 10, with the upper bound dependent on the highest possible level of CRP. A DAS28 score higher than 5.1 indicates high disease activity, a DAS28 score less than 3.2 indicates low disease activity, and a DAS28 score less than 2.6 indicates clinical remission.			
Units: scores on a scale			
arithmetic mean	6.09	5.84	6.03
standard deviation	± 1.035	± 1.006	± 0.997

Reporting group values	Total		
Number of subjects	311		
Age, Customized			
Units: Subjects			
< 65 years	239		
≥ 65 years	72		
Age Continuous			
Units: years			
arithmetic mean			
standard deviation	-		
Sex: Female, Male			
Units: Subjects			
Female	264		
Male	47		
Race/Ethnicity, Customized			
Units: Subjects			
White	287		
Black or African American	18		
Asian	3		
American Indian or Alaska Native	2		
Native Hawaiian or other Pacific Islander	0		
Other	1		
Ethnicity (NIH/OMB)			
Units: Subjects			

Hispanic or Latino	29		
Not Hispanic or Latino	282		
Unknown or Not Reported	0		
Geographic Region Units: Subjects			
North America	117		
Eastern Europe	176		
Western Europe	18		
Seropositivity			
Seropositivity defined as rheumatoid factor [RF]-positive and/or cyclic citrullinated peptide [CCP]-positive vs RF-negative and CCP-negative).			
Units: Subjects			
RF positive and/or CCP positive	263		
RF negative and CCP negative	48		
Prior Biologic Use for RA Units: Subjects			
One	186		
More than one	125		
Duration of RA Units: years arithmetic mean standard deviation	 -		
Disease Activity Score 28 – C-Reactive Protein (DAS28[CRP])			
DAS28 measures the severity of disease at a specific time and is derived from the following variables: • 28 tender joint count • 28 swollen joint count • C-reactive protein (CRP) • Patient's global health assessment measured on a 100 mm visual analog scale. DAS28(CRP) scores range from 0 to approximately 10, with the upper bound dependent on the highest possible level of CRP. A DAS28 score higher than 5.1 indicates high disease activity, a DAS28 score less than 3.2 indicates low disease activity, and a DAS28 score less than 2.6 indicates clinical remission.			
Units: scores on a scale arithmetic mean standard deviation	 -		

End points

End points reporting groups

Reporting group title	ABP 798 / ABP 798
Reporting group description:	
Participants received ABP 798 on days 1 and 15 (dose 1) and a second dose of ABP 798 at weeks 24 and 26 (dose 2). Each dose consisted of two 1000 mg intravenous infusions 2 weeks apart.	
Reporting group title	Rituximab (EU) / Rituximab (EU)
Reporting group description:	
Participants received rituximab (EU formulation) on days 1 and 15 (dose 1) and a second dose of rituximab (EU formulation) at weeks 24 and 26 (dose 2). Each dose consisted of two 1000 mg intravenous infusions 2 weeks apart.	
Reporting group title	Rituximab (US) / ABP 798
Reporting group description:	
Participants received rituximab (US formulation) on days 1 and 15 (dose 1) and transitioned to receive ABP 798 at weeks 24 and 26 (dose 2). Each dose consisted of two 1000 mg intravenous infusions 2 weeks apart.	
Subject analysis set title	ABP 798
Subject analysis set type	Full analysis
Subject analysis set description:	
Participants received 1000 mg ABP 798 by intravenous infusion on days 1 and 15 (dose 1).	
Subject analysis set title	Rituximab (EU)
Subject analysis set type	Full analysis
Subject analysis set description:	
Participants received 1000 mg rituximab (EU formulation) by intravenous infusion on days 1 and 15 (dose 1).	
Subject analysis set title	Rituximab (US)
Subject analysis set type	Full analysis
Subject analysis set description:	
Participants received 1000 mg rituximab (US formulation) by intravenous infusion on days 1 and 15 (dose 1).	
Subject analysis set title	Rituximab (US + EU)
Subject analysis set type	Full analysis
Subject analysis set description:	
Participants received 1000 mg rituximab (US or EU formulation) on days 1 and 15 (dose 1) by intravenous infusion.	

Primary: Area Under the Serum Concentration-time Curve From Time 0 to Infinity (AUCinf) After the Second Infusion of the First Dose

End point title	Area Under the Serum Concentration-time Curve From Time 0 to Infinity (AUCinf) After the Second Infusion of the First Dose
End point description:	
Area under the serum concentration-time curve from time 0 extrapolated to infinity (AUCinf) following the second infusion of the first dose (day 15). Concentrations of ABP-798 and rituximab were quantified using a validated electrochemiluminescent method. AUCinf was estimated using the linear trapezoidal rule. The analysis includes participants in the pharmacokinetic (PK) parameter analysis set (randomized participants who received the full protocol-specified infusion on day 1 and had an evaluable ABP 798 or rituximab serum concentration-time profile) with available AUCinf data. Participants with unreliable terminal elimination rate constant values were excluded.	
End point type	Primary
End point timeframe:	
Day 15, pre-dose, end of infusion, and 3, 6, 24, and 48 hours, and 2, 6, and 10 weeks postdose.	

End point values	ABP 798	Rituximab (EU)	Rituximab (US)	
Subject group type	Subject analysis set	Subject analysis set	Subject analysis set	
Number of subjects analysed	94	96	94	
Units: h*µg/mL				
geometric mean (geometric coefficient of variation)	149398 (± 36.2)	172463 (± 32.9)	158529 (± 34.9)	

Statistical analyses

Statistical analysis title	PK Similarity Between ABP 798 and Rituximab (US)

Statistical analysis description:

The geometric mean ratio (GMR) and confidence interval (CI) was estimated from an analysis of covariance (ANCOVA) model adjusted for weight and geographic region. The GMR was obtained by exponentiating the difference of the means on the natural log scale. The CI was obtained by exponentiating the CI for the difference between the means on the log scale.

Comparison groups	ABP 798 v Rituximab (US)
Number of subjects included in analysis	188
Analysis specification	Pre-specified
Analysis type	equivalence[1]
Parameter estimate	Geometric Mean Ratio
Point estimate	0.9569
Confidence interval	
level	90 %
sides	2-sided
lower limit	0.887
upper limit	1.0323

Notes:

[1] - PK similarity between the test (ABP 798) and reference (rituximab [US]) for AUCinf was demonstrated if the 90% CI for the GMR following the second infusion of the first dose was within the bioequivalence criteria of 0.8 to 1.25.

Statistical analysis title	PK Similarity Between ABP 798 and Rituximab (EU)

Statistical analysis description:

The geometric mean ratio (GMR) and confidence interval (CI) was estimated from an analysis of covariance (ANCOVA) model adjusted for weight and geographic region. The GMR was obtained by exponentiating the difference of the means on the natural log scale. The CI was obtained by exponentiating the CI for the difference between the means on the log scale.

Comparison groups	ABP 798 v Rituximab (EU)
Number of subjects included in analysis	190
Analysis specification	Pre-specified
Analysis type	equivalence[2]
Parameter estimate	Geometric Mean Ratio
Point estimate	0.8848
Confidence interval	
level	90 %
sides	2-sided
lower limit	0.8204
upper limit	0.9542

Notes:

[2] - PK similarity between the test (ABP 798) and reference (rituximab [EU]) for AUCinf was demonstrated if the 90% CI for the GMR following the second infusion of the first dose was within the bioequivalence criteria of 0.8 to 1.25.

Statistical analysis title	PK Similarity of Rituximab (US) and Rituximab (EU)

Statistical analysis description:

The geometric mean ratio (GMR) and confidence interval (CI) was estimated from an analysis of covariance (ANCOVA) model adjusted for weight and geographic region. The GMR was obtained by exponentiating the difference of the means on the natural log scale. The CI was obtained by exponentiating the CI for the difference between the means on the log scale.

Comparison groups	Rituximab (EU) v Rituximab (US)
Number of subjects included in analysis	190
Analysis specification	Pre-specified
Analysis type	equivalence[3]
Parameter estimate	Geometric Mean Ratio
Point estimate	0.9246
Confidence interval	
level	90 %
sides	2-sided
lower limit	0.8575
upper limit	0.997

Notes:

[3] - PK similarity between the test (rituximab [US]) and reference (rituximab [EU]) for AUCinf was demonstrated if the 90% CI for the GMR following the second infusion of the first dose was within the bioequivalence criteria of 0.8 to 1.25.

Primary: Maximum Observed Drug Concentration (Cmax) After the Second Infusion of the First Dose

End point title	Maximum Observed Drug Concentration (Cmax) After the Second Infusion of the First Dose

End point description:

Maximum observed concentration following the second infusion of the first dose (day 15). Concentrations of ABP-798 and rituximab were quantified using a validated electrochemiluminescent method. The analysis includes participants in the pharmacokinetic (PK) parameter analysis set (randomized participants who received the full protocol-specified infusion on day 1 and had an evaluable ABP 798 or rituximab serum concentration-time profile) with available Cmax data on day 15.

End point type	Primary

End point timeframe:

Day 15, pre-dose, end of infusion, and 3, 6, 24, and 48 hours, and 2, 6, and 10 weeks postdose.

End point values	ABP 798	Rituximab (EU)	Rituximab (US)	
Subject group type	Subject analysis set	Subject analysis set	Subject analysis set	
Number of subjects analysed	96	97	93	
Units: µg/mL				
geometric mean (geometric coefficient of variation)	361 (± 23.5)	394 (± 22.0)	372 (± 24.7)	

Statistical analyses

Statistical analysis title	PK Similarity of ABP 798 and Rituximab (US)

Statistical analysis description:

The geometric mean ratio (GMR) and confidence interval (CI) was estimated from an analysis of covariance (ANCOVA) model adjusted for weight and geographic region. The GMR was obtained by exponentiating the difference of the means on the natural log scale. The CI was obtained by exponentiating the CI for the difference between the means on the log scale.

Comparison groups	ABP 798 v Rituximab (US)
Number of subjects included in analysis	189
Analysis specification	Pre-specified
Analysis type	equivalence[4]
Parameter estimate	Geometric Mean Ratio
Point estimate	0.984
Confidence interval	
level	90 %
sides	2-sided
lower limit	0.9356
upper limit	1.0348

Notes:

[4] - PK similarity between the test (ABP 798) and reference (rituximab [US]) for Cmax was demonstrated if the 90% CI for the GMR following the second infusion of the first dose was within the bioequivalence criteria of 0.8 to 1.25.

Statistical analysis title	PK Similarity of ABP 798 and Rituximab (EU)

Statistical analysis description:

The geometric mean ratio (GMR) and confidence interval (CI) was estimated from an analysis of covariance (ANCOVA) model adjusted for weight and geographic region. The GMR was obtained by exponentiating the difference of the means on the natural log scale. The CI was obtained by exponentiating the CI for the difference between the means on the log scale.

Comparison groups	ABP 798 v Rituximab (EU)
Number of subjects included in analysis	193
Analysis specification	Pre-specified
Analysis type	equivalence[5]
Parameter estimate	Geometric Mean Ratio
Point estimate	0.9368
Confidence interval	
level	90 %
sides	2-sided
lower limit	0.8912
upper limit	0.9848

Notes:

[5] - PK similarity between the test (ABP 798) and reference (rituximab [EU]) for Cmax was demonstrated if the 90% CI for the GMR following the second infusion of the first dose was within the bioequivalence criteria of 0.8 to 1.25.

Statistical analysis title	PK Similarity of Rituximab (US) and Rituximab (EU)

Statistical analysis description:

The geometric mean ratio (GMR) and confidence interval (CI) was estimated from an analysis of covariance (ANCOVA) model adjusted for weight and geographic region. The GMR was obtained by exponentiating the difference of the means on the natural log scale. The CI was obtained by exponentiating the CI for the difference between the means on the log scale.

Comparison groups	Rituximab (EU) v Rituximab (US)

Number of subjects included in analysis	190
Analysis specification	Pre-specified
Analysis type	equivalence[6]
Parameter estimate	Geometric Mean Ratio
Point estimate	0.9521
Confidence interval	
level	90 %
sides	2-sided
lower limit	0.9055
upper limit	1.001

Notes:

[6] - PK similarity between the test (rituximab [US]) and reference (rituximab [EU]) for Cmax was demonstrated if the 90% CI for the GMR following the second infusion of the first dose was within the bioequivalence criteria of 0.8 to 1.25.

Secondary: Area Under the Serum Concentration-time Curve From Predose on Day 1 to 14 days Postdose (AUC0-14day)

End point title	Area Under the Serum Concentration-time Curve From Predose on Day 1 to 14 days Postdose (AUC0-14day)

End point description:

Area under the serum concentration-time curve from time 0 on day 1 prior to the first infusion of the first dose to 14 days postdose. Concentrations of ABP-798 and rituximab were quantified using a validated electrochemiluminescent method. AUC0-14day was estimated using the linear trapezoidal rule. The analysis includes participants in the pharmacokinetic (PK) parameter analysis set with available AUC0-14day data.

End point type	Secondary

End point timeframe:

Day 1, predose, at end of infusion, 3, 6, 24, and 48 hours postdose and day 15, predose.

End point values	ABP 798	Rituximab (EU)	Rituximab (US)	
Subject group type	Subject analysis set	Subject analysis set	Subject analysis set	
Number of subjects analysed	98	97	93	
Units: h*µg/mL				
geometric mean (geometric coefficient of variation)	41445 (± 28.8)	45161 (± 24.7)	43291 (± 29.6)	

Statistical analyses

Statistical analysis title	PK Similarity of ABP 798 and Rituximab (US)

Statistical analysis description:

The geometric mean ratio (GMR) and confidence interval (CI) was estimated from an analysis of covariance (ANCOVA) model adjusted for weight and geographic region. The GMR was obtained by exponentiating the difference of the means on the natural log scale. The CI was obtained by exponentiating the CI for the difference between the means on the log scale.

Comparison groups	ABP 798 v Rituximab (US)

Number of subjects included in analysis	191
Analysis specification	Pre-specified
Analysis type	equivalence[7]
Parameter estimate	Geometric Mean Ratio
Point estimate	0.9729
Confidence interval	
level	90 %
sides	2-sided
lower limit	0.9174
upper limit	1.0318

Notes:

[7] - PK similarity between the test (ABP 798) and reference (rituximab [US]) for AUC0-14day was demonstrated if the 90% CI for the GMR following the second infusion of the first dose was within the bioequivalence criteria of 0.8 to 1.25.

Statistical analysis title	PK Similarity of ABP 798 and Rituximab (EU)

Statistical analysis description:

The geometric mean ratio (GMR) and confidence interval (CI) was estimated from an analysis of covariance ANCOVA model adjusted for weight and geographic region. The GMR was obtained by exponentiating the difference of the means on the natural log scale. The CI was obtained by exponentiating the CI for the difference between the means on the log scale.

Comparison groups	ABP 798 v Rituximab (EU)
Number of subjects included in analysis	195
Analysis specification	Pre-specified
Analysis type	equivalence[8]
Parameter estimate	Geometric Mean Ratio
Point estimate	0.9394
Confidence interval	
level	90 %
sides	2-sided
lower limit	0.8863
upper limit	0.9958

Notes:

[8] - PK similarity between the test (ABP 798) and reference (rituximab [EU]) for AUC0-14day was demonstrated if the 90% CI for the GMR following the second infusion of the first dose was within the bioequivalence criteria of 0.8 to 1.25.

Statistical analysis title	PK Similarity of Rituximab (US) and Rituximab (EU)

Statistical analysis description:

The geometric mean ratio (GMR) and confidence interval (CI) was estimated from an ANCOVA model adjusted for weight and geographic region. The GMR was obtained by exponentiating the difference of the means on the natural log scale. The CI was obtained by exponentiating the CI for the difference between the means on the log scale.

Comparison groups	Rituximab (EU) v Rituximab (US)
Number of subjects included in analysis	190
Analysis specification	Pre-specified
Analysis type	equivalence[9]
Parameter estimate	Geometric Mean Ratio
Point estimate	0.9656
Confidence interval	
level	90 %
sides	2-sided
lower limit	0.9104
upper limit	1.024

Notes:

[9] - PK similarity between the test (rituximab [US]) and reference (rituximab [EU]) for AUC0-14day was demonstrated if the 90% CI for the GMR following the second infusion of the first dose was within the bioequivalence criteria of 0.8 to 1.25.

Secondary: Area Under the Serum Concentration-time Curve From Predose on Day 1 to Week 12 (AUC0-12wk)

End point title	Area Under the Serum Concentration-time Curve From Predose on Day 1 to Week 12 (AUC0-12wk)

End point description:

Area under the serum concentration-time curve from time 0 on day 1 prior to the first infusion of the first dose to week 12. Concentrations of ABP-798 and rituximab were quantified using a validated electrochemiluminescent method. AUC0-12wk was estimated using the linear trapezoidal rule. The analysis includes participants in the pharmacokinetic (PK) parameter analysis set with available AUC0-12wk data.

End point type	Secondary

End point timeframe:

Day 1, predose, at end of infusion, 3, 6, 24, and 48 hours postdose; day 15, predose, end of infusion, 3, 6, 24, and 48 hour postdose, and at days 29, 57, and 85 (week 12).

End point values	ABP 798	Rituximab (EU)	Rituximab (US)	
Subject group type	Subject analysis set	Subject analysis set	Subject analysis set	
Number of subjects analysed	99	100	96	
Units: h*µg/mL				
geometric mean (geometric coefficient of variation)	146369 (± 34.3)	166995 (± 30.5)	155240 (± 33.7)	

Statistical analyses

Statistical analysis title	PK Similarity of ABP 798 and Rituximab (US)

Statistical analysis description:

The geometric mean ratio (GMR) and confidence interval (CI) was estimated from an analysis of covariance (ANCOVA) model adjusted for weight and geographic region. The GMR was obtained by exponentiating the difference of the means on the natural log scale. The CI was obtained by exponentiating the CI for the difference between the means on the log scale.

Comparison groups	ABP 798 v Rituximab (US)
Number of subjects included in analysis	195
Analysis specification	Pre-specified
Analysis type	equivalence[10]
Parameter estimate	Geometric Mean Ratio
Point estimate	0.9603
Confidence interval	
level	90 %
sides	2-sided
lower limit	0.895
upper limit	1.0303

Notes:

[10] - PK similarity between the test (ABP 798) and reference (rituximab [US]) for AUC0-12wk was demonstrated if the 90% CI for the GMR following the second infusion of the first dose was within the bioequivalence criteria of 0.8 to 1.25.

Statistical analysis title	PK Similarity of ABP 798 and Rituximab (EU)

Statistical analysis description:

The geometric mean ratio (GMR) and confidence interval (CI) was estimated from an analysis of covariance ANCOVA model adjusted for weight and geographic region. The GMR was obtained by exponentiating the difference of the means on the natural log scale. The CI was obtained by exponentiating the CI for the difference between the means on the log scale.

Comparison groups	ABP 798 v Rituximab (EU)
Number of subjects included in analysis	199
Analysis specification	Pre-specified
Analysis type	equivalence[11]
Parameter estimate	Geometric Mean Ratio
Point estimate	0.8968
Confidence interval	
level	90 %
sides	2-sided
lower limit	0.8363
upper limit	0.9616

Notes:

[11] - PK similarity between the test (ABP 798) and reference (rituximab [EU]) for AUC0-12wk was demonstrated if the 90% CI for the GMR following the second infusion of the first dose was within the bioequivalence criteria of 0.8 to 1.25.

Statistical analysis title	PK Similarity of Rituximab (US) and Rituximab (EU)

Statistical analysis description:

The geometric mean ratio (GMR) and confidence interval (CI) was estimated from an ANCOVA model adjusted for weight and geographic region. The GMR was obtained by exponentiating the difference of the means on the natural log scale. The CI was obtained by exponentiating the CI for the difference between the means on the log scale.

Comparison groups	Rituximab (EU) v Rituximab (US)
Number of subjects included in analysis	196
Analysis specification	Pre-specified
Analysis type	equivalence[12]
Parameter estimate	Geometric Mean Ratio
Point estimate	0.9339
Confidence interval	
level	90 %
sides	2-sided
lower limit	0.8707
upper limit	1.0016

Notes:

[12] - PK similarity between the test (rituximab [US]) and reference (rituximab [EU]) for AUC0-12wk was demonstrated if the 90% CI for the GMR following the second infusion of the first dose was within the bioequivalence criteria of 0.8 to 1.25.

Secondary: Maximum Observed Drug Concentration (Cmax) After the First Infusion of the First Dose

End point title	Maximum Observed Drug Concentration (Cmax) After the First Infusion of the First Dose

End point description:

Concentrations of ABP-798 and rituximab were quantified using a validated electrochemiluminescent method. The analysis includes participants in the pharmacokinetic parameter analysis set with available Cmax data.

End point type	Secondary

End point timeframe:

Day 1, predose, at end of infusion, 3, 6, 24, and 48 hours postdose and day 15, predose.

End point values	ABP 798	Rituximab (EU)	Rituximab (US)	
Subject group type	Subject analysis set	Subject analysis set	Subject analysis set	
Number of subjects analysed	103	103	99	
Units: µg/mL				
geometric mean (geometric coefficient of variation)	298 (± 26.1)	321 (± 21.2)	304 (± 25.5)	

Statistical analyses

Statistical analysis title	PK Similarity of ABP 798 and Rituximab (US)

Statistical analysis description:

The geometric mean ratio (GMR) and confidence interval (CI) was estimated from an ANCOVA model adjusted for weight and geographic region. The GMR was obtained by exponentiating the difference of the means on the natural log scale. The CI was obtained by exponentiating the CI for the difference between the means on the log scale.

Comparison groups	ABP 798 v Rituximab (US)
Number of subjects included in analysis	202
Analysis specification	Pre-specified
Analysis type	equivalence[13]
Parameter estimate	Geometric Mean Ratio
Point estimate	0.9942
Confidence interval	
level	90 %
sides	2-sided
lower limit	0.9461
upper limit	1.0448

Notes:

[13] - PK similarity between the test (ABP 798) and reference (rituximab [US]) for Cmax was demonstrated if the 90% CI for the GMR following the second infusion of the first dose was within the bioequivalence criteria of 0.8 to 1.25.

Statistical analysis title	PK Similarity of ABP 798 and Rituximab (EU)

Statistical analysis description:

The geometric mean ratio (GMR) and confidence interval (CI) was estimated from an ANCOVA model adjusted for weight and geographic region. The GMR was obtained by exponentiating the difference of the means on the natural log scale. The CI was obtained by exponentiating the CI for the difference between the means on the log scale.

Comparison groups	ABP 798 v Rituximab (EU)
Number of subjects included in analysis	206
Analysis specification	Pre-specified
Analysis type	equivalence[14]
Parameter estimate	Geometric Mean Ratio
Point estimate	0.9475
Confidence interval	
level	90 %
sides	2-sided
lower limit	0.9021
upper limit	0.9953

Notes:

[14] - PK similarity between the test (ABP 798) and reference (rituximab [EU]) for Cmax was demonstrated if the 90% CI for the GMR following the second infusion of the first dose was within the bioequivalence criteria of 0.8 to 1.25.

Statistical analysis title	PK Similarity of Rituximab (US) and Rituximab (EU)

Statistical analysis description:

The geometric mean ratio (GMR) and confidence interval (CI) was estimated from an ANCOVA model adjusted for weight and geographic region. The GMR was obtained by exponentiating the difference of the means on the natural log scale. The CI was obtained by exponentiating the CI for the difference between the means on the log scale.

Comparison groups	Rituximab (EU) v Rituximab (US)
Number of subjects included in analysis	202
Analysis specification	Pre-specified
Analysis type	equivalence[15]
Parameter estimate	Geometric Mean Ratio
Point estimate	0.9531
Confidence interval	
level	90 %
sides	2-sided
lower limit	0.907
upper limit	1.0015

Notes:

[15] - PK similarity between the test (rituximab [US]) and reference (rituximab [EU]) for Cmax was demonstrated if the 90% CI for the GMR following the second infusion of the first dose was within the bioequivalence criteria of 0.8 to 1.25.

Secondary: Time of Maximum Observed Drug Concentration (Tmax) After the First and Second Infusions of the First Dose

End point title	Time of Maximum Observed Drug Concentration (Tmax) After the First and Second Infusions of the First Dose

End point description:

Concentrations of ABP-798 and rituximab were quantified using a validated electrochemiluminescent method. The analysis included participants in the pharmacokinetic parameter analysis set with available Tmax data at each time point.

End point type	Secondary

End point timeframe:

Day 1, predose, at end of infusion, 3, 6, 24, and 48 hours postdose; day 15, predose, end of infusion, 3, 6, 24, and 48 hours postdose, and at days 29, 57, and 85 (week 12).

End point values	ABP 798	Rituximab (EU)	Rituximab (US)	
Subject group type	Subject analysis set	Subject analysis set	Subject analysis set	
Number of subjects analysed	103[16]	103[17]	99[18]	
Units: hours				
median (inter-quartile range (Q1-Q3))				
After First Infusion (Day 1)	4.50 (4.35 to 7.18)	4.67 (4.38 to 7.30)	4.68 (4.38 to 7.50)	
After Second Infusion (Day 15)	3.57 (3.42 to 6.03)	3.67 (3.40 to 5.50)	4.12 (3.42 to 6.55)	

Notes:

[16] - N = 96 after second infusion

[17] - N = 97 after second infusion

[18] - N = 93 after second infusion

Statistical analyses

No statistical analyses for this end point

Secondary: Last Measurable Serum Concentration After the Second Infusion up to Week 12 (Clast)

End point title	Last Measurable Serum Concentration After the Second Infusion up to Week 12 (Clast)

End point description:

Concentrations of ABP-798 and rituximab were quantified using a validated electrochemiluminescent method. The analysis included participants in the pharmacokinetic parameter analysis set with available Clast data.

End point type	Secondary

End point timeframe:

Day 15, predose, end of infusion, 3, 6, 24, and 48 hours postdose, and at days 29, 57, and 85 (week 12).

End point values	ABP 798	Rituximab (EU)	Rituximab (US)	
Subject group type	Subject analysis set	Subject analysis set	Subject analysis set	
Number of subjects analysed	101	103	98	
Units: µg/mL				
geometric mean (geometric coefficient of variation)	5.95 (± 154)	8.52 (± 145)	6.76 (± 143)	

Statistical analyses

No statistical analyses for this end point

Secondary: Terminal Elimination Half-life (t1/2)

End point title	Terminal Elimination Half-life (t1/2)

End point description:

Concentrations of ABP-798 and rituximab were quantified using a validated electrochemiluminescent method. The analysis included participants in the pharmacokinetic parameter analysis set with available T1/2 data.

End point type	Secondary

End point timeframe:

Day 1, predose, at end of infusion, 3, 6, 24, and 48 hours postdose; day 15, predose, end of infusion, 3, 6, 24, and 48 hours postdose, and at days 29, 57, and 85 (week 12).

End point values	ABP 798	Rituximab (EU)	Rituximab (US)	
Subject group type	Subject analysis set	Subject analysis set	Subject analysis set	
Number of subjects analysed	96	98	96	
Units: hours				
geometric mean (geometric coefficient of variation)	335.62 (± 38)	375.26 (± 32)	334.57 (± 40)	

Statistical analyses

No statistical analyses for this end point

Secondary: Terminal Elimination Rate Constant (λz)

End point title	Terminal Elimination Rate Constant (λz)

End point description:

Concentrations of ABP-798 and rituximab were quantified using a validated electrochemiluminescent method. The analysis included participants in the pharmacokinetic (PK) parameter analysis set with available λz data.

End point type	Secondary

End point timeframe:

Day 1, predose, at end of infusion, 3, 6, 24, and 48 hours postdose; day 15, predose, end of infusion, 3, 6, 24, and 48 hours postdose, and at days 29, 57 and 85 (week 12).

End point values	ABP 798	Rituximab (EU)	Rituximab (US)	
Subject group type	Subject analysis set	Subject analysis set	Subject analysis set	
Number of subjects analysed	101	103	98	
Units: 1/h				
geometric mean (geometric coefficient of variation)	0.00205 (± 38.61018)	0.00187 (± 33.44044)	0.00205 (± 40.15779)	

Statistical analyses

No statistical analyses for this end point

Secondary: Clearance (CL)

End point title	Clearance (CL)

End point description:

Concentrations of ABP-798 and rituximab were quantified using a validated electrochemiluminescent method. The analysis included participants in the pharmacokinetic parameter analysis set with available CL data.

End point type	Secondary

End point timeframe:

Day 1, predose, at end of infusion, 3, 6, 24, and 48 hours postdose; day 15, predose, end of infusion, 3, 6, 24, and 48 hours postdose, and at days 29, 57, and 85 (week 12).

End point values	ABP 798	Rituximab (EU)	Rituximab (US)	
Subject group type	Subject analysis set	Subject analysis set	Subject analysis set	
Number of subjects analysed	94	96	94	
Units: L/h				
geometric mean (geometric coefficient of variation)	0.01339 (± 36.22558)	0.01160 (± 32.94524)	0.01262 (± 34.93316)	

Statistical analyses

No statistical analyses for this end point

Secondary: Mean Residence Time (MRT)

End point title	Mean Residence Time (MRT)

End point description:

Concentrations of ABP-798 and rituximab were quantified using a validated electrochemiluminescent method. The analysis included participants in the pharmacokinetic parameter analysis set with available MRT data.

End point type	Secondary

End point timeframe:

Day 1, predose, at end of infusion, 3, 6, 24, and 48 hours postdose; day 15, predose, end of infusion, 3, 6, 24, and 48 hours postdose, and at days 29, 57, and 85 (week 12).

End point values	ABP 798	Rituximab (EU)	Rituximab (US)	
Subject group type	Subject analysis set	Subject analysis set	Subject analysis set	
Number of subjects analysed	94	96	94	
Units: hours				
geometric mean (geometric coefficient of variation)	549 (± 26.7)	592 (± 26.5)	557 (± 26.8)	

Statistical analyses

No statistical analyses for this end point

Secondary: Percent of AUC Extrapolation (AUC%extrap)

End point title	Percent of AUC Extrapolation (AUC%extrap)

End point description:

Percent of AUC extrapolated to infinity in AUCinf. Concentrations of ABP-798 and rituximab were quantified using a validated electrochemiluminescent method. The analysis included participants in the pharmacokinetic parameter analysis set with available AUC%extrap data.

End point type	Secondary

End point timeframe:

Day 15, predose, end of infusion, 3, 6, 24, and 48 hours postdose, and at days 29, 57, and 85 (week 12).

End point values	ABP 798	Rituximab (EU)	Rituximab (US)	
Subject group type	Subject analysis set	Subject analysis set	Subject analysis set	
Number of subjects analysed	101	103	98	
Units: percent extrapolation				
geometric mean (geometric coefficient of variation)	1.91 (± 161)	2.62 (± 146)	2.06 (± 148)	

Statistical analyses

No statistical analyses for this end point

Secondary: AUC0-12 wk/AUCinf

End point title	AUC0-12 wk/AUCinf

End point description:

Concentrations of ABP-798 and rituximab were quantified using a validated electrochemiluminescent method. The analysis included participants in the pharmacokinetic parameter analysis set with available data.

End point type	Secondary

End point timeframe:

Day 1, predose, at end of infusion, 3, 6, 24, and 48 hours postdose; day 15, predose, end of infusion, 3, 6, 24, and 48 hours postdose, and at days 29, 57, and 85 (week 12).

End point values	ABP 798	Rituximab (EU)	Rituximab (US)	
Subject group type	Subject analysis set	Subject analysis set	Subject analysis set	
Number of subjects analysed	96	98	96	
Units: ratio				
geometric mean (geometric coefficient of variation)	0.97 (± 3)	0.96 (± 4)	0.97 (± 3)	

Statistical analyses

No statistical analyses for this end point

Secondary: Change from Baseline in Disease Activity Score 28-CRP at Week 24

End point title	Change from Baseline in Disease Activity Score 28-CRP at Week 24

End point description:

The DAS28 measures the severity of disease at a specific time and is derived from the following variables:

• 28 tender joint count
• 28 swollen joint count
• C-reactive protein (CRP)
• Patient's global health assessment measured on a 100 mm VAS, where 0 mm = no RA activity and 100 mm = worst RA activity imaginable.
DAS28(CRP) scores range from 0 to approximately 10, with the upper bound dependent on the highest possible level of CRP. A DAS28 score higher than 5.1 indicates high disease activity, a DAS28 score less than 3.2 indicates low disease activity, and a DAS28 score less than 2.6 indicates clinical remission.
The analysis included participants in the full analysis set (all randomized participants) using observed data and a repeated measures analysis in which data from all assessed postbaseline time points were included.

End point type	Secondary

End point timeframe:

Baseline and Week 24

End point values	ABP 798	Rituximab (EU)	Rituximab (US)	Rituximab (US + EU)
Subject group type	Subject analysis set	Subject analysis set	Subject analysis set	Subject analysis set
Number of subjects analysed	104	104	103	207
Units: units on a scale				
least squares mean (standard error)	-2.006 (± 0.1313)	-2.116 (± 0.1339)	-1.936 (± 0.1349)	-2.026 (± 0.1039)

Statistical analyses

Statistical analysis title	Clinical Equivalence of ABP 798 and Rituximab

Statistical analysis description:

If PK similarity was established between rituximab (US) and rituximab (EU), the 2 rituximab arms were to be combined into a single reference group for the primary assessment of clinical equivalence of DAS28-CRP change from baseline at week 24 using a repeated measures analysis with DAS28-CRP change from baseline as the response and the stratification variables, visit, treatment, treatment-by-visit interaction and baseline DAS28-CRP as predictors, and unstructured covariance matrix in the model.

Comparison groups	ABP 798 v Rituximab (US + EU)
Number of subjects included in analysis	311
Analysis specification	Pre-specified
Analysis type	equivalence[19]
Parameter estimate	LS Mean Difference
Point estimate	0.02
Confidence interval	
level	90 %
sides	2-sided
lower limit	-0.225
upper limit	0.264

Notes:

[19] - Clinical equivalence was tested by comparing the 2-sided 90% CI of the change from baseline at week 24 of DAS28-CRP between ABP 798 and rituximab with an equivalence margin of (-0.6, 0.6).

Statistical analysis title	Comparison of ABP 798 and Rituximab (US)
Comparison groups	ABP 798 v Rituximab (US)

Number of subjects included in analysis	207
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	LS Mean Difference
Point estimate	-0.07
Confidence interval	
level	90 %
sides	2-sided
lower limit	-0.353
upper limit	0.213

Statistical analysis title	Comparison of ABP 798 and Rituximab (EU)
Comparison groups	ABP 798 v Rituximab (EU)
Number of subjects included in analysis	208
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	LS Mean Difference
Point estimate	0.11
Confidence interval	
level	90 %
sides	2-sided
lower limit	-0.171
upper limit	0.392

Secondary: Change from Baseline in Disease Activity Score 28-CRP at Weeks 8, 12, 40, and 48

End point title	Change from Baseline in Disease Activity Score 28-CRP at Weeks 8, 12, 40, and 48

End point description:

The DAS28 measures the severity of disease at a specific time and is derived from the following variables:
- 28 tender joint count
- 28 swollen joint count
- C-reactive protein (CRP)
- Patient's global health assessment measured on a 100 mm VAS, where 0 mm = no RA activity and 100 mm = worst RA activity imaginable.

DAS28(CRP) scores range from 0 to approximately 10, with the upper bound dependent on the highest possible level of CRP. A DAS28 score higher than 5.1 indicates high disease activity, a DAS28 score less than 3.2 indicates low disease activity, and a DAS28 score less than 2.6 indicates clinical remission.
The analysis included participants in the full analysis set with observed data.

End point type	Secondary

End point timeframe:

Baseline and weeks 8, 12, 40, and 48

End point values	ABP 798 / ABP 798	Rituximab (EU) / Rituximab (EU)	Rituximab (US) / ABP 798	
Subject group type	Reporting group	Reporting group	Reporting group	
Number of subjects analysed	104	104	103	
Units: units on a scale				
least squares mean (standard error)				
Week 8 (n = 98, 94, 96)	-1.674 (± 0.1259)	-1.738 (± 0.1335)	-1.527 (± 0.1330)	
Week 12 (n = 95, 98, 95)	-1.746 (± 0.1302)	-2.248 (± 0.1357)	-2.016 (± 0.1367)	
Week 40 (n = 93, 93, 92)	-2.038 (± 0.1440)	-2.293 (± 0.1494)	-2.198 (± 0.1489)	
Week 48 (n = 86, 83, 89)	-2.243 (± 0.1473)	-2.505 (± 0.1553)	-2.323 (± 0.1486)	

Statistical analyses

Statistical analysis title	Analysis of Change from Baseline at Week 8

Statistical analysis description:

Analysis of change from baseline at week 8, based on an ANCOVA model adjusted for baseline DAS28-CRP and the stratification variables geographic region, seropositivity, and number of prior biologic therapies used for RA.

Comparison groups	ABP 798 / ABP 798 v Rituximab (EU) / Rituximab (EU)
Number of subjects included in analysis	208
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	LS Mean Difference
Point estimate	0.064
Confidence interval	
level	90 %
sides	2-sided
lower limit	-0.203
upper limit	0.33

Statistical analysis title	Analysis of Change from Baseline at Week 8

Statistical analysis description:

Analysis of change from baseline at week 8, based on an ANCOVA model adjusted for baseline DAS28-CRP and the stratification variables geographic region, seropositivity, and number of prior biologic therapies used for RA.

Comparison groups	ABP 798 / ABP 798 v Rituximab (US) / ABP 798
Number of subjects included in analysis	207
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	LS Mean Difference
Point estimate	-0.147

Confidence interval	
level	90 %
sides	2-sided
lower limit	-0.411
upper limit	0.117

Statistical analysis title	Analysis of Change from Baseline at Week 12

Statistical analysis description:

Analysis of change from baseline at week 12, based on an ANCOVA model adjusted for baseline DAS28-CRP and the stratification variables geographic region, seropositivity, and number of prior biologic therapies used for RA.

Comparison groups	ABP 798 / ABP 798 v Rituximab (EU) / Rituximab (EU)
Number of subjects included in analysis	208
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	LS Mean Difference
Point estimate	0.502
Confidence interval	
level	90 %
sides	2-sided
lower limit	0.233
upper limit	0.772

Statistical analysis title	Analysis of Change from Baseline at Week 12

Statistical analysis description:

Analysis of change from baseline at week 12, based on an ANCOVA model adjusted for baseline DAS28-CRP and the stratification variables geographic region, seropositivity, and number of prior biologic therapies used for RA.

Comparison groups	ABP 798 / ABP 798 v Rituximab (US) / ABP 798
Number of subjects included in analysis	207
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	LS Mean Difference
Point estimate	0.27
Confidence interval	
level	90 %
sides	2-sided
lower limit	0
upper limit	0.539

Statistical analysis title	Analysis of Change from Baseline at Week 40

Statistical analysis description:

Analysis of change from baseline at week 40, based on an ANCOVA model adjusted for baseline DAS28-CRP and the stratification variables geographic region, seropositivity, and number of prior biologic therapies used for RA.

Comparison groups	ABP 798 / ABP 798 v Rituximab (EU) / Rituximab (EU)
Number of subjects included in analysis	208
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	LS Mean Difference
Point estimate	0.255
Confidence interval	
level	90 %
sides	2-sided
lower limit	-0.04
upper limit	0.55

Statistical analysis title	Analysis of Change from Baseline at Week 40

Statistical analysis description:

Analysis of change from baseline at week 40, based on an ANCOVA model adjusted for baseline DAS28-CRP and the stratification variables geographic region, seropositivity, and number of prior biologic therapies used for RA.

Comparison groups	ABP 798 / ABP 798 v Rituximab (US) / ABP 798
Number of subjects included in analysis	207
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	LS Mean Difference
Point estimate	0.16
Confidence interval	
level	90 %
sides	2-sided
lower limit	-0.135
upper limit	0.455

Statistical analysis title	Analysis of Change from Baseline at Week 48

Statistical analysis description:

Analysis of change from baseline at week 48, based on an ANCOVA model adjusted for baseline DAS28-CRP and the stratification variables geographic region, seropositivity, and number of prior biologic therapies used for RA.

Comparison groups	ABP 798 / ABP 798 v Rituximab (EU) / Rituximab (EU)
Number of subjects included in analysis	208
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	LS Mean Difference
Point estimate	0.262
Confidence interval	
level	90 %
sides	2-sided
lower limit	-0.04
upper limit	0.564

Statistical analysis title	Analysis of Change from Baseline at Week 48

Statistical analysis description:

Analysis of change from baseline at week 48, based on an ANCOVA model adjusted for baseline DAS28-CRP and the stratification variables geographic region, seropositivity, and number of prior biologic therapies used for RA.

Comparison groups	ABP 798 / ABP 798 v Rituximab (US) / ABP 798
Number of subjects included in analysis	207
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	LS Mean Difference
Point estimate	0.08
Confidence interval	
level	90 %
sides	2-sided
lower limit	-0.216
upper limit	0.376

Secondary: Percentage of Participants with an ACR20 Response

End point title	Percentage of Participants with an ACR20 Response

End point description:

A positive ACR20 response is defined if the following 3 criteria for improvement from baseline were met:
- ≥ 20% improvement in 68 tender joint count;
- ≥ 20% improvement in 66 swollen joint count; and
- ≥ 20% improvement in at least 3 of the 5 following parameters:
  - Patient's assessment of disease-related pain (measured on a 100 mm visual analog scale [VAS]);
  - Patient's global health assessment (measured on a 100 mm VAS);
  - Investigator's global health assessment (measured on a 100 mm VAS);
  - Patient's self-assessment of physical function (Health Assessment Questionnaire - Disability Index [HAQ-DI]);
  - C-reactive protein concentration.

The analysis included participants in the full analysis set with observed data.

End point type	Secondary

End point timeframe:

Baseline and Weeks 8, 12, 24, 40, and 48

End point values	ABP 798 / ABP 798	Rituximab (EU) / Rituximab (EU)	Rituximab (US) / ABP 798	
Subject group type	Reporting group	Reporting group	Reporting group	
Number of subjects analysed	104	104	103	
Units: percentage of participants				
number (not applicable)				
Week 8 (n = 101, 100, 97)	56.4	60.0	54.6	
Week 12 (n = 102, 101, 98)	67.6	73.3	63.3	
Week 24 (n = 99, 102, 95)	70.7	66.7	64.2	
Week 40 (n = 93, 95, 91)	68.8	73.7	68.1	

Week 48 (n = 87, 84, 88)	63.2	79.8	75.0	

Statistical analyses

Statistical analysis title	Risk Ratio Analysis of ACR 20 at Week 8
Statistical analysis description:	
Risk ratio (ABP 798/ABP 798 versus Rituximab [EU]/Rituximab [EU]) at week 8, based on a generalized linear model adjusted for the stratification factors geographic region, seropositivity, and number of prior biologic therapies used for RA as covariates.	
Comparison groups	ABP 798 / ABP 798 v Rituximab (EU) / Rituximab (EU)
Number of subjects included in analysis	208
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk ratio (RR)
Point estimate	0.9339
Confidence interval	
level	90 %
sides	2-sided
lower limit	0.7696
upper limit	1.1332

Statistical analysis title	Risk Difference Analysis of ACR 20 at Week 8
Statistical analysis description:	
Risk difference (ABP 798/ABP 798 - Rituximab [EU]/Rituximab [EU]) at week 8, based on a generalized linear model adjusted for the stratification factors geographic region, seropositivity, and number of prior biologic therapies used for RA as covariates.	
Comparison groups	ABP 798 / ABP 798 v Rituximab (EU) / Rituximab (EU)
Number of subjects included in analysis	208
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk difference (RD)
Point estimate	-0.036
Confidence interval	
level	90 %
sides	2-sided
lower limit	-0.1495
upper limit	0.0775

Statistical analysis title	Risk Ratio Analysis of ACR 20 at Week 8
Statistical analysis description:	
Risk ratio (ABP 798/ABP 798 versus Rituximab [US]/ABP 798]) at week 8, based on a generalized linear model adjusted for the stratification factors geographic region, seropositivity, and number of prior biologic therapies used for RA as covariates.	
Comparison groups	ABP 798 / ABP 798 v Rituximab (US) / ABP 798

Number of subjects included in analysis	207
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk ratio (RR)
Point estimate	1.0392
Confidence interval	
level	90 %
sides	2-sided
lower limit	0.8436
upper limit	1.2801

Statistical analysis title	Risk Difference Analysis of ACR 20 at Week 8

Statistical analysis description:

Risk difference (ABP 798/ABP 798 - Rituximab [US]/ABP 798) at week 8, based on a generalized linear model adjusted for the stratification factors geographic region, seropositivity, and number of prior biologic therapies used for RA as covariates.

Comparison groups	ABP 798 / ABP 798 v Rituximab (US) / ABP 798
Number of subjects included in analysis	207
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk difference (RD)
Point estimate	0.0246
Confidence interval	
level	90 %
sides	2-sided
lower limit	-0.091
upper limit	0.1402

Statistical analysis title	Risk Ratio Analysis of ACR 20 at Week 12

Statistical analysis description:

Risk ratio (ABP 798/ABP 798 versus Rituximab [EU]/Rituximab [EU]) at week 12, based on a generalized linear model adjusted for the stratification factors geographic region, seropositivity, and number of prior biologic therapies used for RA as covariates.

Comparison groups	ABP 798 / ABP 798 v Rituximab (EU) / Rituximab (EU)
Number of subjects included in analysis	208
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk ratio (RR)
Point estimate	0.878
Confidence interval	
level	90 %
sides	2-sided
lower limit	0.7573
upper limit	1.0179

Statistical analysis title	Risk Difference Analysis of ACR 20 at Week 12

Statistical analysis description:

Risk difference (ABP 798/ABP 798 - Rituximab [EU]/Rituximab [EU]) at week 12, based on a generalized linear model adjusted for the stratification factors geographic region, seropositivity, and number of prior biologic therapies used for RA as covariates.

Comparison groups	ABP 798 / ABP 798 v Rituximab (EU) / Rituximab (EU)
Number of subjects included in analysis	208
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk difference (RD)
Point estimate	-0.0794
Confidence interval	
level	90 %
sides	2-sided
lower limit	-0.1834
upper limit	0.0247

Statistical analysis title	Risk Ratio Analysis of ACR 20 at Week 12

Statistical analysis description:

Risk ratio (ABP 798/ABP 798 versus Rituximab [US]/ABP 798]) at week 12, based on a generalized linear model adjusted for the stratification factors geographic region, seropositivity, and number of prior biologic therapies used for RA as covariates.

Comparison groups	ABP 798 / ABP 798 v Rituximab (US) / ABP 798
Number of subjects included in analysis	207
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk ratio (RR)
Point estimate	1.0426
Confidence interval	
level	90 %
sides	2-sided
lower limit	0.877
upper limit	1.2394

Statistical analysis title	Risk Difference Analysis of ACR 20 at Week 12

Statistical analysis description:

Risk difference (ABP 798/ABP 798 - Rituximab [US]/ABP 798) at week 12, based on a generalized linear model adjusted for the stratification factors geographic region, seropositivity, and number of prior biologic therapies used for RA as covariates.

Comparison groups	ABP 798 / ABP 798 v Rituximab (US) / ABP 798
Number of subjects included in analysis	207
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk difference (RD)
Point estimate	0.0348

Confidence interval	
level	90 %
sides	2-sided
lower limit	-0.0758
upper limit	0.1454

Statistical analysis title	Risk Ratio Analysis of ACR 20 at Week 24

Statistical analysis description:

Risk ratio (ABP 798/ABP 798 versus Rituximab [EU]/Rituximab [EU]) at week 24, based on a generalized linear model adjusted for the stratification factors geographic region, seropositivity, and number of prior biologic therapies used for RA as covariates.

Comparison groups	ABP 798 / ABP 798 v Rituximab (EU) / Rituximab (EU)
Number of subjects included in analysis	208
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk ratio (RR)
Point estimate	1.0102
Confidence interval	
level	90 %
sides	2-sided
lower limit	0.8743
upper limit	1.1671

Statistical analysis title	Risk Difference Analysis of ACR 20 at Week 24

Statistical analysis description:

Risk difference (ABP 798/ABP 798 - Rituximab [EU]/Rituximab [EU]) at week 24, based on a generalized linear model adjusted for the stratification factors geographic region, seropositivity, and number of prior biologic therapies used for RA as covariates.

Comparison groups	ABP 798 / ABP 798 v Rituximab (EU) / Rituximab (EU)
Number of subjects included in analysis	208
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk difference (RD)
Point estimate	0.0199
Confidence interval	
level	90 %
sides	2-sided
lower limit	-0.0835
upper limit	0.1234

Statistical analysis title	Risk Ratio Analysis of ACR 20 at Week 24

Statistical analysis description:

Risk ratio (ABP 798/ABP 798 versus Rituximab [US]/ABP 798]) at week 24, based on a generalized linear model adjusted for the stratification factors geographic region, seropositivity, and number of prior biologic therapies used for RA as covariates.

Comparison groups	ABP 798 / ABP 798 v Rituximab (US) / ABP 798
Number of subjects included in analysis	207
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk ratio (RR)
Point estimate	1.0793
Confidence interval	
level	90 %
sides	2-sided
lower limit	0.9244
upper limit	1.2601

Statistical analysis title	Risk Difference Analysis of ACR 20 at Week 24

Statistical analysis description:

Risk difference (ABP 798/ABP 798 - Rituximab [US]/ABP 798) at week 24, based on a generalized linear model adjusted for the stratification factors geographic region, seropositivity, and number of prior biologic therapies used for RA as covariates.

Comparison groups	ABP 798 / ABP 798 v Rituximab (US) / ABP 798
Number of subjects included in analysis	207
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk difference (RD)
Point estimate	0.0561
Confidence interval	
level	90 %
sides	2-sided
lower limit	-0.0493
upper limit	0.1615

Statistical analysis title	Risk Ratio Analysis of ACR 20 at Week 40

Statistical analysis description:

Risk ratio (ABP 798/ABP 798 versus Rituximab [EU]/Rituximab [EU]) at week 40, based on a generalized linear model adjusted for the stratification factors geographic region, seropositivity, and number of prior biologic therapies used for RA as covariates.

Comparison groups	ABP 798 / ABP 798 v Rituximab (EU) / Rituximab (EU)
Number of subjects included in analysis	208
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk ratio (RR)
Point estimate	0.8848
Confidence interval	
level	90 %
sides	2-sided
lower limit	0.7759
upper limit	1.0091

Statistical analysis title	Risk Difference Analysis of ACR 20 at Week 40

Statistical analysis description:

Risk difference (ABP 798/ABP 798 - Rituximab [EU]/Rituximab [EU]) at week 40, based on a generalized linear model adjusted for the stratification factors geographic region, seropositivity, and number of prior biologic therapies used for RA as covariates.

Comparison groups	ABP 798 / ABP 798 v Rituximab (EU) / Rituximab (EU)
Number of subjects included in analysis	208
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk difference (RD)
Point estimate	-0.0776
Confidence interval	
level	90 %
sides	2-sided
lower limit	-0.1789
upper limit	0.0237

Statistical analysis title	Risk Ratio Analysis of ACR 20 at Week 40

Statistical analysis description:

Risk ratio (ABP 798/ABP 798 versus Rituximab [US]/ABP 798]) at week 40, based on a generalized linear model adjusted for the stratification factors geographic region, seropositivity, and number of prior biologic therapies used for RA as covariates.

Comparison groups	ABP 798 / ABP 798 v Rituximab (US) / ABP 798
Number of subjects included in analysis	207
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk ratio (RR)
Point estimate	0.9982
Confidence interval	
level	90 %
sides	2-sided
lower limit	0.8585
upper limit	1.1605

Statistical analysis title	Risk Difference Analysis of ACR 20 at Week 40

Statistical analysis description:

Risk difference (ABP 798/ABP 798 - Rituximab [US]/ABP 798) at week 40, based on a generalized linear model adjusted for the stratification factors geographic region, seropositivity, and number of prior biologic therapies used for RA as covariates.

Comparison groups	ABP 798 / ABP 798 v Rituximab (US) / ABP 798

Number of subjects included in analysis	207
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk difference (RD)
Point estimate	0.0008
Confidence interval	
level	90 %
sides	2-sided
lower limit	-0.1038
upper limit	0.1054

Statistical analysis title	Risk Ratio Analysis of ACR 20 at Week 48

Statistical analysis description:

Risk ratio (ABP 798/ABP 798 versus Rituximab [EU]/Rituximab [EU]) at week 48, based on a generalized linear model adjusted for the stratification factors geographic region, seropositivity, and number of prior biologic therapies used for RA as covariates.

Comparison groups	ABP 798 / ABP 798 v Rituximab (EU) / Rituximab (EU)
Number of subjects included in analysis	208
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk ratio (RR)
Point estimate	0.7862
Confidence interval	
level	90 %
sides	2-sided
lower limit	0.6722
upper limit	0.9196

Statistical analysis title	Risk Difference Analysis of ACR 20 at Week 48

Statistical analysis description:

Risk difference (ABP 798/ABP 798 - Rituximab [EU]/Rituximab [EU]) at week 48, based on a generalized linear model adjusted for the stratification factors geographic region, seropositivity, and number of prior biologic therapies used for RA as covariates.

Comparison groups	ABP 798 / ABP 798 v Rituximab (EU) / Rituximab (EU)
Number of subjects included in analysis	208
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk difference (RD)
Point estimate	-0.2004
Confidence interval	
level	90 %
sides	2-sided
lower limit	-0.3066
upper limit	-0.0941

Statistical analysis title	Risk Ratio Analysis of ACR 20 at Week 48

Statistical analysis description:

Risk ratio (ABP 798/ABP 798 versus Rituximab [US]/ABP 798]) at week 48, based on a generalized linear model adjusted for the stratification factors geographic region, seropositivity, and number of prior biologic therapies used for RA as covariates.

Comparison groups	ABP 798 / ABP 798 v Rituximab (US) / ABP 798
Number of subjects included in analysis	207
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk ratio (RR)
Point estimate	0.8804
Confidence interval	
level	90 %
sides	2-sided
lower limit	0.7587
upper limit	1.0215

Statistical analysis title	Risk Difference Analysis of ACR 20 at Week 48

Statistical analysis description:

Risk difference (ABP 798/ABP 798 - Rituximab [US]/ABP 798) at week 48, based on a generalized linear model adjusted for the stratification factors geographic region, seropositivity, and number of prior biologic therapies used for RA as covariates.

Comparison groups	ABP 798 / ABP 798 v Rituximab (US) / ABP 798
Number of subjects included in analysis	207
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk difference (RD)
Point estimate	-0.1037
Confidence interval	
level	90 %
sides	2-sided
lower limit	-0.2066
upper limit	-0.0007

Secondary: Percentage of Participants with an ACR50 Response

End point title	Percentage of Participants with an ACR50 Response

End point description:

A positive ACR50 response is defined if the following 3 criteria for improvement from baseline were met:
- ≥ 50% improvement in 68 tender joint count;
- ≥ 50% improvement in 66 swollen joint count; and
- ≥ 50% improvement in at least 3 of the 5 following parameters:
  - Patient's assessment of disease-related pain (measured on a 100 mm visual analog scale [VAS]);
  - Patient's global health assessment (measured on a 100 mm VAS);
  - Investigator's global health assessment (measured on a 100 mm VAS);
  - Patient's self-assessment of physical function (Health Assessment Questionnaire - Disability Index [HAQ-DI]);
  - C-reactive protein concentration.

The analysis included participants in the full analysis set with observed data.

End point type	Secondary

End point timeframe:

Baseline and Weeks 8, 12, 24, 40, and 48

End point values	ABP 798 / ABP 798	Rituximab (EU) / Rituximab (EU)	Rituximab (US) / ABP 798	
Subject group type	Reporting group	Reporting group	Reporting group	
Number of subjects analysed	104	104	103	
Units: percentage of participants				
number (not applicable)				
Week 8 (n = 101, 99, 97)	26.7	29.3	24.7	
Week 12 (n = 102, 101, 98)	36.3	47.5	32.7	
Week 24 (n = 98, 102, 96)	39.8	39.2	38.5	
Week 40 (n = 94, 95, 92)	48.9	57.9	45.7	
Week 48 (n = 86, 84, 88)	51.2	58.3	48.9	

Statistical analyses

Statistical analysis title	Risk Ratio Analysis of ACR 50 at Week 8

Statistical analysis description:

Risk ratio (ABP 798/ABP 798 versus Rituximab [EU]/Rituximab [EU]) at week 8, based on a generalized linear model adjusted for the stratification factors geographic region, seropositivity, and number of prior biologic therapies used for RA as covariates.

Comparison groups	ABP 798 / ABP 798 v Rituximab (EU) / Rituximab (EU)
Number of subjects included in analysis	208
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk ratio (RR)
Point estimate	0.9256
Confidence interval	
level	90 %
sides	2-sided
lower limit	0.64
upper limit	1.3388

Statistical analysis title	Risk Difference Analysis of ACR 50 at Week 8

Statistical analysis description:

Risk difference (ABP 798/ABP 798 - Rituximab [EU]/Rituximab [EU]) at week 8, based on a generalized linear model adjusted for the stratification factors geographic region, seropositivity, and number of prior biologic therapies used for RA as covariates.

Comparison groups	ABP 798 / ABP 798 v Rituximab (EU) / Rituximab (EU)

Number of subjects included in analysis	208
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk difference (RD)
Point estimate	-0.0181
Confidence interval	
level	90 %
sides	2-sided
lower limit	-0.1209
upper limit	0.0847

Statistical analysis title	Risk Ratio Analysis of ACR 50 at Week 8

Statistical analysis description:

Risk ratio (ABP 798/ABP 798 versus Rituximab [US]/ABP 798]) at week 8, based on a generalized linear model adjusted for the stratification factors geographic region, seropositivity, and number of prior biologic therapies used for RA as covariates.

Comparison groups	ABP 798 / ABP 798 v Rituximab (US) / ABP 798
Number of subjects included in analysis	207
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk ratio (RR)
Point estimate	1.0868
Confidence interval	
level	90 %
sides	2-sided
lower limit	0.7328
upper limit	1.6119

Statistical analysis title	Risk Difference Analysis of ACR 50 at Week 8

Statistical analysis description:

Risk difference (ABP 798/ABP 798 - Rituximab [US]/ABP 798) at week 8, based on a generalized linear model adjusted for the stratification factors geographic region, seropositivity, and number of prior biologic therapies used for RA as covariates.

Comparison groups	ABP 798 / ABP 798 v Rituximab (US) / ABP 798
Number of subjects included in analysis	207
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk difference (RD)
Point estimate	0.0201
Confidence interval	
level	90 %
sides	2-sided
lower limit	-0.0803
upper limit	0.1205

Statistical analysis title	Risk Ratio Analysis of ACR 50 at Week 12

Statistical analysis description:

Risk ratio (ABP 798/ABP 798 versus Rituximab [EU]/Rituximab [EU]) at week 12, based on a generalized linear model adjusted for the stratification factors geographic region, seropositivity, and number of prior biologic therapies used for RA as covariates.

Comparison groups	ABP 798 / ABP 798 v Rituximab (EU) / Rituximab (EU)
Number of subjects included in analysis	208
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk ratio (RR)
Point estimate	0.7095
Confidence interval	
level	90 %
sides	2-sided
lower limit	0.5387
upper limit	0.9346

Statistical analysis title	Risk Difference Analysis of ACR 50 at Week 12

Statistical analysis description:

Risk difference (ABP 798/ABP 798 - Rituximab [EU]/Rituximab [EU]) at week 12, based on a generalized linear model adjusted for the stratification factors geographic region, seropositivity, and number of prior biologic therapies used for RA as covariates.

Comparison groups	ABP 798 / ABP 798 v Rituximab (EU) / Rituximab (EU)
Number of subjects included in analysis	208
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk difference (RD)
Point estimate	-0.1109
Confidence interval	
level	90 %
sides	2-sided
lower limit	-0.2231
upper limit	0.0013

Statistical analysis title	Risk Ratio Analysis of ACR 50 at Week 12

Statistical analysis description:

Risk ratio (ABP 798/ABP 798 versus Rituximab [US]/ABP 798]) at week 12, based on a generalized linear model adjusted for the stratification factors geographic region, seropositivity, and number of prior biologic therapies used for RA as covariates.

Comparison groups	ABP 798 / ABP 798 v Rituximab (US) / ABP 798
Number of subjects included in analysis	207
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk ratio (RR)
Point estimate	1.0882

Confidence interval	
level	90 %
sides	2-sided
lower limit	0.7829
upper limit	1.5127

Statistical analysis title	Risk Difference Analysis of ACR 50 at Week 12

Statistical analysis description:

Risk difference (ABP 798/ABP 798 - Rituximab [US]/ABP 798) at week 12, based on a generalized linear model adjusted for the stratification factors geographic region, seropositivity, and number of prior biologic therapies used for RA as covariates.

Comparison groups	ABP 798 / ABP 798 v Rituximab (US) / ABP 798
Number of subjects included in analysis	207
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk difference (RD)
Point estimate	0.0441
Confidence interval	
level	90 %
sides	2-sided
lower limit	-0.0626
upper limit	0.1508

Statistical analysis title	Risk Ratio Analysis of ACR 50 at Week 24

Statistical analysis description:

Risk ratio (ABP 798/ABP 798 versus Rituximab [EU]/Rituximab [EU]) at week 24, based on a generalized linear model adjusted for the stratification factors geographic region, seropositivity, and number of prior biologic therapies used for RA as covariates.

Comparison groups	ABP 798 / ABP 798 v Rituximab (EU) / Rituximab (EU)
Number of subjects included in analysis	208
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk ratio (RR)
Point estimate	0.9612
Confidence interval	
level	90 %
sides	2-sided
lower limit	0.7273
upper limit	1.2705

Statistical analysis title	Risk Difference Analysis of ACR 50 at Week 24

Statistical analysis description:

Risk difference (ABP 798/ABP 798 - Rituximab [EU]/Rituximab [EU]) at week 24, based on a generalized linear model adjusted for the stratification factors geographic region, seropositivity, and number of prior biologic therapies used for RA as covariates.

Comparison groups	ABP 798 / ABP 798 v Rituximab (EU) / Rituximab (EU)
Number of subjects included in analysis	208
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk difference (RD)
Point estimate	0.002
Confidence interval	
level	90 %
sides	2-sided
lower limit	-0.1081
upper limit	0.1122

Statistical analysis title	Risk Ratio Analysis of ACR 50 at Week 24

Statistical analysis description:

Risk ratio (ABP 798/ABP 798 versus Rituximab [US]/ABP 798]) at week 24, based on a generalized linear model adjusted for the stratification factors geographic region, seropositivity, and number of prior biologic therapies used for RA as covariates.

Comparison groups	ABP 798 / ABP 798 v Rituximab (US) / ABP 798
Number of subjects included in analysis	207
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk ratio (RR)
Point estimate	1.0029
Confidence interval	
level	90 %
sides	2-sided
lower limit	0.756
upper limit	1.3305

Statistical analysis title	Risk Difference Analysis of ACR 50 at Week 24

Statistical analysis description:

Risk difference (ABP 798/ABP 798 - Rituximab [US]/ABP 798) at week 24, based on a generalized linear model adjusted for the stratification factors geographic region, seropositivity, and number of prior biologic therapies used for RA as covariates.

Comparison groups	ABP 798 / ABP 798 v Rituximab (US) / ABP 798
Number of subjects included in analysis	207
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk difference (RD)
Point estimate	0.0039
Confidence interval	
level	90 %
sides	2-sided
lower limit	-0.1056
upper limit	0.1135

Statistical analysis title	Risk Ratio Analysis of ACR 50 at Week 40

Statistical analysis description:

Risk ratio (ABP 798/ABP 798 versus Rituximab [EU]/Rituximab [EU]) at week 40, based on a generalized linear model adjusted for the stratification factors geographic region, seropositivity, and number of prior biologic therapies used for RA as covariates.

Comparison groups	ABP 798 / ABP 798 v Rituximab (EU) / Rituximab (EU)
Number of subjects included in analysis	208
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk ratio (RR)
Point estimate	0.8373
Confidence interval	
level	90 %
sides	2-sided
lower limit	0.6797
upper limit	1.0316

Statistical analysis title	Risk Difference Analysis of ACR 50 at Week 40

Statistical analysis description:

Risk difference (ABP 798/ABP 798 - Rituximab [EU]/Rituximab [EU]) at week 40, based on a generalized linear model adjusted for the stratification factors geographic region, seropositivity, and number of prior biologic therapies used for RA as covariates.

Comparison groups	ABP 798 / ABP 798 v Rituximab (EU) / Rituximab (EU)
Number of subjects included in analysis	208
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk difference (RD)
Point estimate	-0.0863
Confidence interval	
level	90 %
sides	2-sided
lower limit	-0.2029
upper limit	0.0302

Statistical analysis title	Risk Ratio Analysis of ACR 50 at Week 40

Statistical analysis description:

Risk ratio (ABP 798/ABP 798 versus Rituximab [US]/ABP 798]) at week 40, based on a generalized linear model adjusted for the stratification factors geographic region, seropositivity, and number of prior biologic therapies used for RA as covariates.

Comparison groups	ABP 798 / ABP 798 v Rituximab (US) / ABP 798

Number of subjects included in analysis	207
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk ratio (RR)
Point estimate	1.1191
Confidence interval	
level	90 %
sides	2-sided
lower limit	0.878
upper limit	1.4264

Statistical analysis title	Risk Difference Analysis of ACR 50 at Week 40

Statistical analysis description:

Risk difference (ABP 798/ABP 798 - Rituximab [US]/ABP 798) at week 40, based on a generalized linear model adjusted for the stratification factors geographic region, seropositivity, and number of prior biologic therapies used for RA as covariates.

Comparison groups	ABP 798 / ABP 798 v Rituximab (US) / ABP 798
Number of subjects included in analysis	207
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk difference (RD)
Point estimate	0.0288
Confidence interval	
level	90 %
sides	2-sided
lower limit	-0.0827
upper limit	0.1402

Statistical analysis title	Risk Ratio Analysis of ACR 50 at Week 48

Statistical analysis description:

Risk ratio (ABP 798/ABP 798 versus Rituximab [EU]/Rituximab [EU]) at week 48, based on a generalized linear model adjusted for the stratification factors geographic region, seropositivity, and number of prior biologic therapies used for RA as covariates.

Comparison groups	ABP 798 / ABP 798 v Rituximab (EU) / Rituximab (EU)
Number of subjects included in analysis	208
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk ratio (RR)
Point estimate	0.8376
Confidence interval	
level	90 %
sides	2-sided
lower limit	0.6807
upper limit	1.0307

Statistical analysis title	Risk Difference Analysis of ACR 50 at Week 48

Statistical analysis description:

Risk difference (ABP 798/ABP 798 - Rituximab [EU]/Rituximab [EU]) at week 48, based on a generalized linear model adjusted for the stratification factors geographic region, seropositivity, and number of prior biologic therapies used for RA as covariates.

Comparison groups	ABP 798 / ABP 798 v Rituximab (EU) / Rituximab (EU)
Number of subjects included in analysis	208
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk difference (RD)
Point estimate	-0.0781
Confidence interval	
level	90 %
sides	2-sided
lower limit	-0.2014
upper limit	0.0452

Statistical analysis title	Risk Ratio Analysis of ACR 50 at Week 48

Statistical analysis description:

Risk ratio (ABP 798/ABP 798 versus Rituximab [US]/ABP 798]) at week 48, based on a generalized linear model adjusted for the stratification factors geographic region, seropositivity, and number of prior biologic therapies used for RA as covariates.

Comparison groups	ABP 798 / ABP 798 v Rituximab (US) / ABP 798
Number of subjects included in analysis	207
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk ratio (RR)
Point estimate	1.0548
Confidence interval	
level	90 %
sides	2-sided
lower limit	0.8351
upper limit	1.3321

Statistical analysis title	Risk Difference Analysis of ACR 50 at Week 48

Statistical analysis description:

Risk difference (ABP 798/ABP 798 - Rituximab [US]/ABP 798) at week 48, based on a generalized linear model adjusted for the stratification factors geographic region, seropositivity, and number of prior biologic therapies used for RA as covariates.

Comparison groups	ABP 798 / ABP 798 v Rituximab (US) / ABP 798
Number of subjects included in analysis	207
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk difference (RD)
Point estimate	0.0141

Confidence interval	
level	90 %
sides	2-sided
lower limit	-0.1021
upper limit	0.1303

Secondary: Percentage of Participants with an ACR70 Response

End point title	Percentage of Participants with an ACR70 Response

End point description:

A positive ACR70 response is defined if the following 3 criteria for improvement from baseline were met:
- ≥ 70% improvement in 68 tender joint count;
- ≥ 70% improvement in 66 swollen joint count; and
- ≥ 70% improvement in at least 3 of the 5 following parameters:
  - Patient's assessment of disease-related pain (measured on a 100 mm visual analog scale [VAS]);
  - Patient's global health assessment (measured on a 100 mm VAS);
  - Investigator's global health assessment (measured on a 100 mm VAS);
  - Patient's self-assessment of physical function (Health Assessment Questionnaire - Disability Index [HAQ-DI]);
  - C-reactive protein concentration.

The analysis includes participants in the full analysis set with observed data.

End point type	Secondary

End point timeframe:

Baseline and Weeks 8, 12, 24, 40, and 48

End point values	ABP 798 / ABP 798	Rituximab (EU) / Rituximab (EU)	Rituximab (US) / ABP 798	
Subject group type	Reporting group	Reporting group	Reporting group	
Number of subjects analysed	104	104	103	
Units: percentage of participants				
number (not applicable)				
Week 8 (n = 101, 100, 97)	6.9	12.0	9.3	
Week 12 (n = 101, 101, 98)	12.9	19.8	16.3	
Week 24 (n = 99, 102, 96)	19.2	19.6	16.7	
Week 40 (n = 94, 94, 92)	27.7	27.7	22.8	
Week 48 (n = 87, 84, 89)	28.7	39.3	24.7	

Statistical analyses

Statistical analysis title	Risk Ratio Analysis of ACR70 at Week 8

Statistical analysis description:

Risk ratio (ABP 798/ABP 798 versus Rituximab [EU]/Rituximab [EU]) at week 8, based on a generalized linear model adjusted for the stratification factors geographic region, seropositivity, and number of prior biologic therapies used for RA as covariates.

Comparison groups	ABP 798 / ABP 798 v Rituximab (EU) / Rituximab (EU)

Number of subjects included in analysis	208
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk ratio (RR)
Point estimate	0.5926
Confidence interval	
level	90 %
sides	2-sided
lower limit	0.2818
upper limit	1.2462

Statistical analysis title	Risk Difference Analysis of ACR70 at Week 8

Statistical analysis description:

Risk difference (ABP 798/ABP 798 - Rituximab [EU]/Rituximab [EU]) at week 8, based on a generalized linear model adjusted for the stratification factors geographic region, seropositivity, and number of prior biologic therapies used for RA as covariates.

Comparison groups	ABP 798 / ABP 798 v Rituximab (EU) / Rituximab (EU)
Number of subjects included in analysis	208
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk difference (RD)
Point estimate	-0.0574
Confidence interval	
level	90 %
sides	2-sided
lower limit	-0.1285
upper limit	0.0136

Statistical analysis title	Risk Ratio Analysis of ACR70 at Week 8

Statistical analysis description:

Risk ratio (ABP 798/ABP 798 versus Rituximab [US]/ABP 798]) at week 8, based on a generalized linear model adjusted for the stratification factors geographic region, seropositivity, and number of prior biologic therapies used for RA as covariates.

Comparison groups	ABP 798 / ABP 798 v Rituximab (US) / ABP 798
Number of subjects included in analysis	207
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk ratio (RR)
Point estimate	0.7476
Confidence interval	
level	90 %
sides	2-sided
lower limit	0.3383
upper limit	1.6519

Statistical analysis title	Risk Difference Analysis of ACR70 at Week 8
Statistical analysis description:	
Risk difference (ABP 798/ABP 798 - Rituximab [US]/ABP 798) at week 8, based on a generalized linear model adjusted for the stratification factors geographic region, seropositivity, and number of prior biologic therapies used for RA as covariates.	
Comparison groups	ABP 798 / ABP 798 v Rituximab (US) / ABP 798
Number of subjects included in analysis	207
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk difference (RD)
Point estimate	-0.0327
Confidence interval	
level	90 %
sides	2-sided
lower limit	-0.0962
upper limit	0.0308

Statistical analysis title	Risk Ratio Analysis of ACR70 at Week 12
Statistical analysis description:	
Risk ratio (ABP 798/ABP 798 versus Rituximab [EU]/Rituximab [EU]) at week 12, based on a generalized linear model adjusted for the stratification factors geographic region, seropositivity, and number of prior biologic therapies used for RA as covariates.	
Comparison groups	ABP 798 / ABP 798 v Rituximab (EU) / Rituximab (EU)
Number of subjects included in analysis	208
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk ratio (RR)
Point estimate	0.6346
Confidence interval	
level	90 %
sides	2-sided
lower limit	0.3704
upper limit	1.0872

Statistical analysis title	Risk Difference Analysis of ACR70 at Week 12
Statistical analysis description:	
Risk difference (ABP 798/ABP 798 - Rituximab [EU]/Rituximab [EU]) at week 12, based on a generalized linear model adjusted for the stratification factors geographic region, seropositivity, and number of prior biologic therapies used for RA as covariates.	
Comparison groups	ABP 798 / ABP 798 v Rituximab (EU) / Rituximab (EU)
Number of subjects included in analysis	208
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk difference (RD)
Point estimate	-0.0569

Confidence interval	
level	90 %
sides	2-sided
lower limit	-0.1448
upper limit	0.031

Statistical analysis title	Risk Ratio Analysis of ACR70 at Week 12

Statistical analysis description:

Risk ratio (ABP 798/ABP 798 versus Rituximab [US]/ABP 798]) at week 12, based on a generalized linear model adjusted for the stratification factors geographic region, seropositivity, and number of prior biologic therapies used for RA as covariates.

Comparison groups	ABP 798 / ABP 798 v Rituximab (US) / ABP 798
Number of subjects included in analysis	207
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk ratio (RR)
Point estimate	0.7857
Confidence interval	
level	90 %
sides	2-sided
lower limit	0.445
upper limit	1.3874

Statistical analysis title	Risk Difference Analysis of ACR70 at Week 12

Statistical analysis description:

Risk difference (ABP 798/ABP 798 - Rituximab [US]/ABP 798) at week 12, based on a generalized linear model adjusted for the stratification factors geographic region, seropositivity, and number of prior biologic therapies used for RA as covariates.

Comparison groups	ABP 798 / ABP 798 v Rituximab (US) / ABP 798
Number of subjects included in analysis	207
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk difference (RD)
Point estimate	-0.0417
Confidence interval	
level	90 %
sides	2-sided
lower limit	-1237
upper limit	0.0403

Statistical analysis title	Risk Ratio Analysis of ACR70 at Week 24

Statistical analysis description:

Risk ratio (ABP 798/ABP 798 versus Rituximab [EU]/Rituximab [EU]) at week 24, based on a generalized linear model adjusted for the stratification factors geographic region, seropositivity, and number of prior biologic therapies used for RA as covariates.

Comparison groups	ABP 798 / ABP 798 v Rituximab (EU) / Rituximab (EU)
Number of subjects included in analysis	208
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk ratio (RR)
Point estimate	0.9254
Confidence interval	
level	90 %
sides	2-sided
lower limit	0.5772
upper limit	1.4838

Statistical analysis title	Risk Difference Analysis of ACR70 at Week 24

Statistical analysis description:

Risk difference (ABP 798/ABP 798 - Rituximab [EU]/Rituximab [EU]) at week 24, based on a generalized linear model adjusted for the stratification factors geographic region, seropositivity, and number of prior biologic therapies used for RA as covariates.

Comparison groups	ABP 798 / ABP 798 v Rituximab (EU) / Rituximab (EU)
Number of subjects included in analysis	208
Analysis specification	Pre-specified
Analysis type	
Parameter estimate	Risk difference (RD)
Point estimate	0.0156
Confidence interval	
level	90 %
sides	2-sided
lower limit	-0.078
upper limit	0.1092

Statistical analysis title	Risk Ratio Analysis of ACR70 at Week 24

Statistical analysis description:

Risk ratio (ABP 798/ABP 798 versus Rituximab [US]/ABP 798]) at week 24, based on a generalized linear model adjusted for the stratification factors geographic region, seropositivity, and number of prior biologic therapies used for RA as covariates.

Comparison groups	ABP 798 / ABP 798 v Rituximab (US) / ABP 798
Number of subjects included in analysis	207
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk ratio (RR)
Point estimate	1.112
Confidence interval	
level	90 %
sides	2-sided
lower limit	0.6722
upper limit	1.8398

Statistical analysis title	Risk Difference Analysis of ACR70 at Week 24
Statistical analysis description:	
Risk difference (ABP 798/ABP 798 - Rituximab [US]/ABP 798) at week 24, based on a generalized linear model adjusted for the stratification factors geographic region, seropositivity, and number of prior biologic therapies used for RA as covariates.	
Comparison groups	ABP 798 / ABP 798 v Rituximab (US) / ABP 798
Number of subjects included in analysis	207
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk difference (RD)
Point estimate	0.0244
Confidence interval	
level	90 %
sides	2-sided
lower limit	-0.063
upper limit	0.1119

Statistical analysis title	Risk Ratio Analysis of ACR70 at Week 40
Statistical analysis description:	
Risk ratio (ABP 798/ABP 798 versus Rituximab [EU]/Rituximab [EU]) at week 40, based on a generalized linear model adjusted for the stratification factors geographic region, seropositivity, and number of prior biologic therapies used for RA as covariates.	
Comparison groups	ABP 798 / ABP 798 v Rituximab (EU) / Rituximab (EU)
Number of subjects included in analysis	208
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk ratio (RR)
Point estimate	0.9798
Confidence interval	
level	90 %
sides	2-sided
lower limit	0.6675
upper limit	1.4384

Statistical analysis title	Risk Difference Analysis of ACR70 at Week 40
Statistical analysis description:	
Risk difference (ABP 798/ABP 798 - Rituximab [EU]/Rituximab [EU]) at week 40, based on a generalized linear model adjusted for the stratification factors geographic region, seropositivity, and number of prior biologic therapies used for RA as covariates.	
Comparison groups	ABP 798 / ABP 798 v Rituximab (EU) / Rituximab (EU)

Number of subjects included in analysis	208
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk difference (RD)
Point estimate	0.0375
Confidence interval	
level	90 %
sides	2-sided
lower limit	-0.0707
upper limit	0.1456

Statistical analysis title	Risk Ratio Analysis of ACR70 at Week 40

Statistical analysis description:

Risk ratio (ABP 798/ABP 798 versus Rituximab [US]/ABP 798]) at week 40, based on a generalized linear model adjusted for the stratification factors geographic region, seropositivity, and number of prior biologic therapies used for RA as covariates.

Comparison groups	ABP 798 / ABP 798 v Rituximab (US) / ABP 798
Number of subjects included in analysis	207
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk ratio (RR)
Point estimate	1.1831
Confidence interval	
level	90 %
sides	2-sided
lower limit	0.7833
upper limit	1.787

Statistical analysis title	Risk Difference Analysis of ACR70 at Week 40

Statistical analysis description:

Risk difference (ABP 798/ABP 798 - Rituximab [US]/ABP 798) at week 40, based on a generalized linear model adjusted for the stratification factors geographic region, seropositivity, and number of prior biologic therapies used for RA as covariates.

Comparison groups	ABP 798 / ABP 798 v Rituximab (US) / ABP 798
Number of subjects included in analysis	207
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk difference (RD)
Point estimate	0.0752
Confidence interval	
level	90 %
sides	2-sided
lower limit	-0.0297
upper limit	0.1802

Statistical analysis title	Risk Ratio Analysis of ACR70 at Week 48

Statistical analysis description:

Risk ratio (ABP 798/ABP 798 versus Rituximab [EU]/Rituximab [EU]) at week 48, based on a generalized linear model adjusted for the stratification factors geographic region, seropositivity, and number of prior biologic therapies used for RA as covariates.

Comparison groups	ABP 798 / ABP 798 v Rituximab (EU) / Rituximab (EU)
Number of subjects included in analysis	208
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk ratio (RR)
Point estimate	0.7027
Confidence interval	
level	90 %
sides	2-sided
lower limit	0.493
upper limit	1.0017

Statistical analysis title	Risk Difference Analysis of ACR70 at Week 48

Statistical analysis description:

Risk difference (ABP 798/ABP 798 - Rituximab [EU]/Rituximab [EU]) at week 48, based on a generalized linear model adjusted for the stratification factors geographic region, seropositivity, and number of prior biologic therapies used for RA as covariates.

Comparison groups	ABP 798 / ABP 798 v Rituximab (EU) / Rituximab (EU)
Number of subjects included in analysis	208
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk difference (RD)
Point estimate	-0.0908
Confidence interval	
level	90 %
sides	2-sided
lower limit	-0.211
upper limit	0.0294

Statistical analysis title	Risk Ratio Analysis of ACR70 at Week 48

Statistical analysis description:

Risk ratio (ABP 798/ABP 798 versus Rituximab [US]/ABP 798]) at week 48, based on a generalized linear model adjusted for the stratification factors geographic region, seropositivity, and number of prior biologic therapies used for RA as covariates.

Comparison groups	ABP 798 / ABP 798 v Rituximab (US) / ABP 798
Number of subjects included in analysis	207
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk ratio (RR)
Point estimate	1.1449

Confidence interval	
level	90 %
sides	2-sided
lower limit	0.7601
upper limit	1.7246

Statistical analysis title	Risk Difference Analysis of ACR70 at Week 48

Statistical analysis description:

Risk difference (ABP 798/ABP 798 - Rituximab [US]/ABP 798) at week 48, based on a generalized linear model adjusted for the stratification factors geographic region, seropositivity, and number of prior biologic therapies used for RA as covariates.

Comparison groups	ABP 798 / ABP 798 v Rituximab (US) / ABP 798
Number of subjects included in analysis	207
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk difference (RD)
Point estimate	0.0277
Confidence interval	
level	90 %
sides	2-sided
lower limit	-0.0804
upper limit	0.1357

Secondary: Hybrid ACR

End point title	Hybrid ACR

End point description:

The hybrid ACR combines the ACR 20/50/70 response with the mean percent change in all 7 ACR core components, thus providing a percent improvement from baseline on a continuous scale. For each participant, the mean percent improvement from baseline across the 7 ACR core set measures (tender joint count, swollen joint count, Patient's Global Assessment of Disease Activity, Investigator's Global Assessment of Disease Activity, disability index of the HAQ, and CRP) was calculated (a positive change indicates improvement, and the maximum worst change is limited to -100%) and the ACR20, ACR50, and ACR70 response is determined. The hybrid ACR is determined from a reference table taking into account both ACR response and mean percent improvement in the core set measures. Scores can range from -100% (maximal worsening) to 100% (maximal improvement). The analysis includes participants in the full analysis set with observed data.

End point type	Secondary

End point timeframe:

Baseline and weeks 8, 12, 24, 40, and 48

End point values	ABP 798 / ABP 798	Rituximab (EU) / Rituximab (EU)	Rituximab (US) / ABP 798	
Subject group type	Reporting group	Reporting group	Reporting group	
Number of subjects analysed	104	104	103	
Units: percent improvement				
least squares mean (standard error)				

Week 8 (n = 94, 95, 92)	32.631 (± 2.7287)	34.630 (± 2.8058)	32.086 (± 2.8628)	
Week 12 (n = 98, 101, 94)	36.604 (± 2.8910)	44.828 (± 2.9412)	38.664 (± 3.0360)	
Week 24 (n = 94, 100, 93)	39.269 (± 3.1660)	40.589 (± 3.1781)	38.539 (± 3.2436)	
Week 40 (n = 91, 94, 89)	41.042 (± 3.1508)	43.250 (± 3.1916)	41.078 (± 3.2459)	
Week 48 (n = 85, 84, 87)	41.917 (± 3.3878)	48.546 (± 3.4870)	45.013 (± 3.3942)	

Statistical analyses

Statistical analysis title	Analysis of Hybrid ACR at Week 8

Statistical analysis description:

Analysis of the LS mean difference (ABP 798/ABP 798 - Rituximab [EU]/Rituximab [EU]) at week 8, based on an ANCOVA model adjusted for the stratification variables geographic region, seropositivity, and number of prior biologic therapies used for RA.

Comparison groups	ABP 798 / ABP 798 v Rituximab (EU) / Rituximab (EU)
Number of subjects included in analysis	208
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	LS Mean Difference
Point estimate	-1.999
Confidence interval	
level	90 %
sides	2-sided
lower limit	-7.673
upper limit	3.675

Statistical analysis title	Analysis of Hybrid ACR at Week 8

Statistical analysis description:

Analysis of the LS mean difference (ABP 798/ABP 798 - Rituximab [US]/ABP 798) at week 8, based on an ANCOVA model adjusted for the stratification variables geographic region, seropositivity, and number of prior biologic therapies used for RA.

Comparison groups	ABP 798 / ABP 798 v Rituximab (US) / ABP 798
Number of subjects included in analysis	207
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	LS Mean Difference
Point estimate	0.544
Confidence interval	
level	90 %
sides	2-sided
lower limit	-5.185
upper limit	6.274

Statistical analysis title	Analysis of Hybrid ACR at Week 12

Statistical analysis description:

Analysis of the LS mean difference (ABP 798/ABP 798 - Rituximab [EU]/Rituximab [EU]) at week 12, based on an ANCOVA model adjusted for the stratification variables geographic region, seropositivity, and number of prior biologic therapies used for RA.

Comparison groups	ABP 798 / ABP 798 v Rituximab (EU) / Rituximab (EU)
Number of subjects included in analysis	208
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	LS Mean Difference
Point estimate	-8.224
Confidence interval	
level	90 %
sides	2-sided
lower limit	-14.102
upper limit	-2.346

Statistical analysis title	Analysis of Hybrid ACR at Week 12

Statistical analysis description:

Analysis of the LS mean difference (ABP 798/ABP 798 - Rituximab [US]/ABP 798) at week 12, based on an ANCOVA model adjusted for the stratification variables geographic region, seropositivity, and number of prior biologic therapies used for RA.

Comparison groups	ABP 798 / ABP 798 v Rituximab (US) / ABP 798
Number of subjects included in analysis	207
Analysis specification	Pre-specified
Analysis type	
Parameter estimate	LS Mean Difference
Point estimate	-2.06
Confidence interval	
level	90 %
sides	2-sided
lower limit	-8.052
upper limit	3.933

Statistical analysis title	Analysis of Hybrid ACR at Week 24

Statistical analysis description:

Analysis of the LS mean difference (ABP 798/ABP 798 - Rituximab [EU]/Rituximab [EU]) at week 24, based on an ANCOVA model adjusted for the stratification variables geographic region, seropositivity, and number of prior biologic therapies used for RA.

Comparison groups	ABP 798 / ABP 798 v Rituximab (EU) / Rituximab (EU)
Number of subjects included in analysis	208
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	LS Mean Difference
Point estimate	-1.32

Confidence interval	
level	90 %
sides	2-sided
lower limit	-7.62
upper limit	4.979

Statistical analysis title	Analysis of Hybrid ACR at Week 24

Statistical analysis description:

Analysis of the LS mean difference (ABP 798/ABP 798 - Rituximab [US]/ABP 798) at week 24, based on an ANCOVA model adjusted for the stratification variables geographic region, seropositivity, and number of prior biologic therapies used for RA.

Comparison groups	ABP 798 / ABP 798 v Rituximab (US) / ABP 798
Number of subjects included in analysis	207
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	LS Mean Difference
Point estimate	0.73
Confidence interval	
level	90 %
sides	2-sided
lower limit	-5.691
upper limit	7.15

Statistical analysis title	Analysis of Hybrid ACR at Week 40

Statistical analysis description:

Analysis of the LS mean difference (ABP 798/ABP 798 - Rituximab [EU]/Rituximab [EU]) at week 40, based on an ANCOVA model adjusted for the stratification variables geographic region, seropositivity, and number of prior biologic therapies used for RA.

Comparison groups	ABP 798 / ABP 798 v Rituximab (EU) / Rituximab (EU)
Number of subjects included in analysis	208
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	LS Mean Difference
Point estimate	-2.207
Confidence interval	
level	90 %
sides	2-sided
lower limit	-8.562
upper limit	1.417

Statistical analysis title	Analysis of Hybrid ACR at Week 40

Statistical analysis description:

Analysis of the LS mean difference (ABP 798/ABP 798 - Rituximab [US]/ABP 798) at week 40, based on an ANCOVA model adjusted for the stratification variables geographic region, seropositivity, and number of prior biologic therapies used for RA.

Comparison groups	ABP 798 / ABP 798 v Rituximab (US) / ABP 798
Number of subjects included in analysis	207
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	LS Mean Difference
Point estimate	-0.036
Confidence interval	
level	90 %
sides	2-sided
lower limit	-6.497
upper limit	6.424

Statistical analysis title	Analysis of Hybrid ACR at Week 48

Statistical analysis description:

Analysis of the LS mean difference (ABP 798/ABP 798 - Rituximab [EU]/Rituximab [EU]) at week 48, based on an ANCOVA model adjusted for the stratification variables geographic region, seropositivity, and number of prior biologic therapies used for RA.

Comparison groups	ABP 798 / ABP 798 v Rituximab (EU) / Rituximab (EU)
Number of subjects included in analysis	208
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	LS Mean Difference
Point estimate	-6.629
Confidence interval	
level	90 %
sides	2-sided
lower limit	-13.455
upper limit	0.197

Statistical analysis title	Analysis of Hybrid ACR at Week 48

Statistical analysis description:

Analysis of the LS mean difference (ABP 798/ABP 798 - Rituximab [US]/ABP 798) at week 48, based on an ANCOVA model adjusted for the stratification variables geographic region, seropositivity, and number of prior biologic therapies used for RA.

Comparison groups	ABP 798 / ABP 798 v Rituximab (US) / ABP 798
Number of subjects included in analysis	207
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	LS Mean Difference
Point estimate	-3.096
Confidence interval	
level	90 %
sides	2-sided
lower limit	-9.883
upper limit	3.691

Secondary: Percentage of Participants with Complete Depletion in CD19+ Cell Count on Day 3

End point title	Percentage of Participants with Complete Depletion in CD19+ Cell Count on Day 3

End point description:

Complete depletion of cluster of differentiation (CD) 19 positive cells was defined as a CD19+ cell count < 20 cell/µL (0.02 x 10 cell/L). The analysis includes participants in the full analysis set with a day 3 CD19+ cell count; participants with missing CD19+ cell counts at baseline or with CD19+ cell count < 20 cell/µL at baseline were excluded from the analysis.

End point type	Secondary

End point timeframe:

Day 3

End point values	ABP 798	Rituximab (EU)	Rituximab (US)	
Subject group type	Subject analysis set	Subject analysis set	Subject analysis set	
Number of subjects analysed	97	96	97	
Units: percentage of participants				
number (not applicable)	94.8	96.9	92.8	

Statistical analyses

Statistical analysis title	Risk Difference Analysis of CD19+ Cell Depletion

Statistical analysis description:

Risk difference was based on a generalized linear model adjusted for geographic region, seropositivity and prior biologic use as covariates in the model.

Comparison groups	ABP 798 v Rituximab (EU)
Number of subjects included in analysis	193
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk difference (RD)
Point estimate	-0.0245
Confidence interval	
level	90 %
sides	2-sided
lower limit	-0.1083
upper limit	0.0593

Statistical analysis title	Risk Difference Analysis of CD19+ Cell Depletion

Statistical analysis description:

Risk difference was based on a generalized linear model adjusted for geographic region, seropositivity and prior biologic use as covariates in the model.

Comparison groups	ABP 798 v Rituximab (US)

Number of subjects included in analysis	194
Analysis specification	Pre-specified
Analysis type	other
Parameter estimate	Risk difference (RD)
Point estimate	0.0187
Confidence interval	
level	90 %
sides	2-sided
lower limit	-0.061
upper limit	0.0984

Secondary: Duration of Complete Depletion in CD19+ Cell Count

End point title	Duration of Complete Depletion in CD19+ Cell Count

End point description:

Duration of CD19+ B-cell complete depletion was defined as the time from the first incidence of complete depletion of CD19+ cell count (CD19+ cell count < 20 cells/µL) to when the CD19+ cell count first increased to ≥ 20 cells/µL. Participants whose CD19+ cell count did not increase to ≥ 20 cells/µL were censored at the last CD19+ assessment date. The analysis includes participants in the full analysis set who had a CD19+ complete depletion for at least one postdose time point. "99999" indicates data could not be estimated due to the low number of events.

End point type	Secondary

End point timeframe:

CD19+ cell count was assessed at baseline, days 2, 3, weeks 4, 24, and 48

End point values	ABP 798 / ABP 798	Rituximab (EU) / Rituximab (EU)	Rituximab (US) / ABP 798	
Subject group type	Reporting group	Reporting group	Reporting group	
Number of subjects analysed	95	99	98	
Units: days				
median (confidence interval 90%)	99999 (99999 to 99999)	99999 (377.0 to 99999)	99999 (338.0 to 99999)	

Statistical analyses

No statistical analyses for this end point

Secondary: Number of Participants with Adverse Events (AEs) After the First Dose

End point title	Number of Participants with Adverse Events (AEs) After the First Dose

End point description:

Adverse events were graded by the investigator according to National Cancer Institute Common Terminology Criteria for Adverse Events (CTCAE), version 4.03, where Grade 1 = mild AE, Grade 2 = moderate AE, Grade 3 = severe AE, Grade 4 = life-threatening AE, and Grade 5 = death due to AE. A serious AE was defined as an AE that met at least 1 of the following serious criteria:
- fatal
- life-threatening
- required inpatient hospitalization or prolongation of existing hospitalization

- resulted in persistent or significant disability/incapacity
- congenital anomaly/birth defect
- other medically important serious event.
The adverse events of interest prespecified for this study included infusion reactions including hypersensitivity, cardiac disorders, serious infections, progressive multifocal leukoencephalopathy, hematological reactions, hepatitis B reactivation, opportunistic infections, hypogammaglobulinemia, severe mucocutaneous reactions, and gastrointestinal perforation.

End point type	Secondary

End point timeframe:

From day 1 until the first infusion of the second dose (week 24)

End point values	ABP 798	Rituximab (EU)	Rituximab (US)	
Subject group type	Subject analysis set	Subject analysis set	Subject analysis set	
Number of subjects analysed	104	104	103	
Units: participants				
Any adverse event	52	44	44	
Any grade ≥ 3 adverse event	4	6	4	
Any fatal adverse event	0	0	0	
Any serious adverse event	4	5	5	
Any AE leading to discontinuation of drug/study	3	1	4	
Any AE leading to infusion delayed/ not given	6	6	7	
Any adverse event of interest	19	11	18	

Statistical analyses

No statistical analyses for this end point

Secondary: Number of Participants who Developed Anti-drug Antibodies

End point title	Number of Participants who Developed Anti-drug Antibodies

End point description:

Samples were first tested in an electrochemiluminescence (ECL)-based bridging immunoassay to detect antibodies capable of binding to ABP 798/rituximab (Binding Antibody Assay). Samples confirmed to be positive for binding antibodies were subsequently tested in a cell-based assay to determine neutralizing activity against ABP 798/rituximab (Neutralizing Antibody Assay). Developing antibody incidence was defined as participants with a negative or no binding antibody result at baseline and a positive antibody result at any post-baseline time point. The analysis includes participants with a binding negative or no result at baseline and an available postbaseline result.

End point type	Secondary

End point timeframe:

Day 1 through the end of study (48 weeks).

End point values	ABP 798 / ABP 798	Rituximab (EU) / Rituximab (EU)	Rituximab (US) / ABP 798	
Subject group type	Reporting group	Reporting group	Reporting group	
Number of subjects analysed	97	94	97	
Units: participants				
Binding antibody positive	14	13	20	
Neutralizing antibody positive	8	4	10	

Statistical analyses

No statistical analyses for this end point

Secondary: Number of Participants with Clinically Significant Laboratory Findings

End point title	Number of Participants with Clinically Significant Laboratory Findings

End point description:

Clinically significant clinical laboratory findings were defined as laboratory results that were ≥ Grade 3, based on the CTCAE version 4.03. The analysis includes All randomized participants who received at least 1 infusion of study drug.

End point type	Secondary

End point timeframe:

Day 1 through the end of study (48 weeks).

End point values	ABP 798 / ABP 798	Rituximab (EU) / Rituximab (EU)	Rituximab (US) / ABP 798	
Subject group type	Reporting group	Reporting group	Reporting group	
Number of subjects analysed	104	104	103	
Units: participants				
Hemoglobin - decrease (anemia)	0	0	1	
Lymphocytes - decrease	64	54	52	
Alanine aminotransferase - increase	1	0	0	
Gamma glutamyl transferase - increase	5	0	2	
Potassium - increase (hyperkalemia)	0	2	1	

Statistical analyses

No statistical analyses for this end point

Adverse events

Adverse events information	
Timeframe for reporting adverse events: Dose 1: weeks 1 to 24. Doses 1 and 2: weeks 1 to 48.	
Assessment type	Systematic

Dictionary used	
Dictionary name	MedDRA
Dictionary version	21.0

Reporting groups	
Reporting group title	Weeks 1-24: ABP 798
Reporting group description: Participants received 1000 mg ABP 798 by intravenous infusion on days 1 and 15 (dose 1).	
Reporting group title	Weeks 1-24: Rituximab (EU)
Reporting group description: Participants received 1000 mg rituximab (EU formulation) by intravenous infusion on days 1 and 15 (dose 1).	
Reporting group title	Weeks 1-24: Rituximab (US)
Reporting group description: Participants received 1000 mg rituximab (US formulation) by intravenous infusion on days 1 and 15 (dose 1).	
Reporting group title	Weeks 1-48: ABP 798 / ABP 798
Reporting group description: Participants received ABP 798 on days 1 and 15 (dose 1) and a second dose of ABP 798 at weeks 24 and 26 (dose 2). Each dose consisted of two 1000 mg intravenous infusions 2 weeks apart.	
Reporting group title	Weeks 1-48: Rituximab (EU) / Rituximab (EU)
Reporting group description: Participants received rituximab (EU formulation) on days 1 and 15 (dose 1) and a second dose of rituximab (EU formulation) at weeks 24 and 26 (dose 2). Each dose consisted of two 1000 mg intravenous infusions 2 weeks apart.	
Reporting group title	Weeks 1-48: Rituximab (US) / ABP 798
Reporting group description: Participants received rituximab (US formulation) on days 1 and 15 (dose 1) and transitioned to receive ABP 798 at weeks 24 and 26 (dose 2). Each dose consisted of two 1000 mg intravenous infusions 2 weeks apart.	

Serious adverse events	Weeks 1-24: ABP 798	Weeks 1-24: Rituximab (EU)	Weeks 1-24: Rituximab (US)
Total subjects affected by serious adverse events			
subjects affected / exposed	4 / 104 (3.85%)	5 / 104 (4.81%)	5 / 103 (4.85%)
number of deaths (all causes)	0	0	0
number of deaths resulting from adverse events			
Neoplasms benign, malignant and unspecified (incl cysts and polyps)			
Intraductal papilloma of breast			

subjects affected / exposed	0 / 104 (0.00%)	0 / 104 (0.00%)	0 / 103 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Renal neoplasm			
subjects affected / exposed	0 / 104 (0.00%)	0 / 104 (0.00%)	0 / 103 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Injury, poisoning and procedural complications			
Forearm fracture			
subjects affected / exposed	0 / 104 (0.00%)	1 / 104 (0.96%)	0 / 103 (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			
Hypertension			
subjects affected / exposed	0 / 104 (0.00%)	0 / 104 (0.00%)	1 / 103 (0.97%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Cardiac disorders			
Acute myocardial infarction			
subjects affected / exposed	0 / 104 (0.00%)	1 / 104 (0.96%)	0 / 103 (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 failure chronic			
subjects affected / exposed	0 / 104 (0.00%)	0 / 104 (0.00%)	1 / 103 (0.97%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Coronary artery disease			
subjects affected / exposed	1 / 104 (0.96%)	0 / 104 (0.00%)	0 / 103 (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
Nervous system disorders			
Cerebrovascular accident			

subjects affected / exposed	0 / 104 (0.00%)	0 / 104 (0.00%)	0 / 103 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Gastrointestinal disorders			
Abdominal pain			
subjects affected / exposed	0 / 104 (0.00%)	0 / 104 (0.00%)	0 / 103 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Rectal haemorrhage			
subjects affected / exposed	0 / 104 (0.00%)	0 / 104 (0.00%)	0 / 103 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Hepatobiliary disorders			
Cholecystitis			
subjects affected / exposed	1 / 104 (0.96%)	0 / 104 (0.00%)	0 / 103 (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			
Chronic obstructive pulmonary disease			
subjects affected / exposed	0 / 104 (0.00%)	0 / 104 (0.00%)	0 / 103 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Skin and subcutaneous tissue disorders			
Dermatitis allergic			
subjects affected / exposed	0 / 104 (0.00%)	0 / 104 (0.00%)	1 / 103 (0.97%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Eczema			
subjects affected / exposed	0 / 104 (0.00%)	0 / 104 (0.00%)	1 / 103 (0.97%)
occurrences causally related to treatment / all	0 / 0	0 / 0	1 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Renal and urinary disorders			
Tubulointerstitial nephritis			

subjects affected / exposed	0 / 104 (0.00%)	0 / 104 (0.00%)	1 / 103 (0.97%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Musculoskeletal and connective tissue disorders			
Arthralgia			
subjects affected / exposed	0 / 104 (0.00%)	0 / 104 (0.00%)	0 / 103 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Back pain			
subjects affected / exposed	0 / 104 (0.00%)	0 / 104 (0.00%)	0 / 103 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Bursitis			
subjects affected / exposed	0 / 104 (0.00%)	1 / 104 (0.96%)	0 / 103 (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
Infections and infestations			
Biliary tract infection			
subjects affected / exposed	1 / 104 (0.96%)	0 / 104 (0.00%)	0 / 103 (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 / 104 (0.96%)	0 / 104 (0.00%)	0 / 103 (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
Erythema migrans			
subjects affected / exposed	0 / 104 (0.00%)	0 / 104 (0.00%)	0 / 103 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Pneumonia			
subjects affected / exposed	0 / 104 (0.00%)	1 / 104 (0.96%)	0 / 103 (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

Sepsis syndrome			
subjects affected / exposed	0 / 104 (0.00%)	1 / 104 (0.96%)	0 / 103 (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
Urinary tract infection			
subjects affected / exposed	0 / 104 (0.00%)	1 / 104 (0.96%)	0 / 103 (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

Serious adverse events	Weeks 1-48: ABP 798 / ABP 798	Weeks 1-48: Rituximab (EU) / Rituximab (EU)	Weeks 1-48: Rituximab (US) / ABP 798
Total subjects affected by serious adverse events			
subjects affected / exposed	8 / 104 (7.69%)	8 / 104 (7.69%)	8 / 103 (7.77%)
number of deaths (all causes)	0	0	0
number of deaths resulting from adverse events			
Neoplasms benign, malignant and unspecified (incl cysts and polyps)			
Intraductal papilloma of breast			
subjects affected / exposed	0 / 104 (0.00%)	0 / 104 (0.00%)	1 / 103 (0.97%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Renal neoplasm			
subjects affected / exposed	0 / 104 (0.00%)	1 / 104 (0.96%)	0 / 103 (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
Injury, poisoning and procedural complications			
Forearm fracture			
subjects affected / exposed	0 / 104 (0.00%)	1 / 104 (0.96%)	0 / 103 (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			
Hypertension			
subjects affected / exposed	0 / 104 (0.00%)	0 / 104 (0.00%)	1 / 103 (0.97%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Cardiac disorders			

Acute myocardial infarction			
subjects affected / exposed	1 / 104 (0.96%)	1 / 104 (0.96%)	0 / 103 (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
Cardiac failure chronic			
subjects affected / exposed	0 / 104 (0.00%)	0 / 104 (0.00%)	1 / 103 (0.97%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Coronary artery disease			
subjects affected / exposed	1 / 104 (0.96%)	0 / 104 (0.00%)	0 / 103 (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
Nervous system disorders			
Cerebrovascular accident			
subjects affected / exposed	1 / 104 (0.96%)	0 / 104 (0.00%)	0 / 103 (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
Gastrointestinal disorders			
Abdominal pain			
subjects affected / exposed	0 / 104 (0.00%)	0 / 104 (0.00%)	1 / 103 (0.97%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Rectal haemorrhage			
subjects affected / exposed	0 / 104 (0.00%)	0 / 104 (0.00%)	1 / 103 (0.97%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Hepatobiliary disorders			
Cholecystitis			
subjects affected / exposed	1 / 104 (0.96%)	0 / 104 (0.00%)	0 / 103 (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			
Chronic obstructive pulmonary disease			

subjects affected / exposed	0 / 104 (0.00%)	1 / 104 (0.96%)	0 / 103 (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
Skin and subcutaneous tissue disorders			
Dermatitis allergic			
subjects affected / exposed	0 / 104 (0.00%)	0 / 104 (0.00%)	1 / 103 (0.97%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Eczema			
subjects affected / exposed	0 / 104 (0.00%)	0 / 104 (0.00%)	1 / 103 (0.97%)
occurrences causally related to treatment / all	0 / 0	0 / 0	1 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Renal and urinary disorders			
Tubulointerstitial nephritis			
subjects affected / exposed	0 / 104 (0.00%)	0 / 104 (0.00%)	1 / 103 (0.97%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Musculoskeletal and connective tissue disorders			
Arthralgia			
subjects affected / exposed	0 / 104 (0.00%)	1 / 104 (0.96%)	0 / 103 (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
Back pain			
subjects affected / exposed	0 / 104 (0.00%)	2 / 104 (1.92%)	0 / 103 (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
Bursitis			
subjects affected / exposed	0 / 104 (0.00%)	1 / 104 (0.96%)	0 / 103 (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
Infections and infestations			
Biliary tract infection			

subjects affected / exposed	1 / 104 (0.96%)	0 / 104 (0.00%)	0 / 103 (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 / 104 (0.96%)	0 / 104 (0.00%)	0 / 103 (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
Erythema migrans			
subjects affected / exposed	1 / 104 (0.96%)	0 / 104 (0.00%)	0 / 103 (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	0 / 104 (0.00%)	2 / 104 (1.92%)	0 / 103 (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
Sepsis syndrome			
subjects affected / exposed	0 / 104 (0.00%)	1 / 104 (0.96%)	0 / 103 (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
Urinary tract infection			
subjects affected / exposed	1 / 104 (0.96%)	1 / 104 (0.96%)	0 / 103 (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

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

Non-serious adverse events	Weeks 1-24: ABP 798	Weeks 1-24: Rituximab (EU)	Weeks 1-24: Rituximab (US)
Total subjects affected by non-serious adverse events			
subjects affected / exposed	21 / 104 (20.19%)	15 / 104 (14.42%)	14 / 103 (13.59%)
Gastrointestinal disorders			
Nausea			
subjects affected / exposed	4 / 104 (3.85%)	2 / 104 (1.92%)	1 / 103 (0.97%)
occurrences (all)	5	2	1
Musculoskeletal and connective tissue			

disorders			
Rheumatoid arthritis			
subjects affected / exposed	6 / 104 (5.77%)	2 / 104 (1.92%)	3 / 103 (2.91%)
occurrences (all)	6	2	4
Infections and infestations			
Bronchitis			
subjects affected / exposed	3 / 104 (2.88%)	2 / 104 (1.92%)	1 / 103 (0.97%)
occurrences (all)	3	2	1
Nasopharyngitis			
subjects affected / exposed	5 / 104 (4.81%)	4 / 104 (3.85%)	1 / 103 (0.97%)
occurrences (all)	7	4	1
Upper respiratory tract infection			
subjects affected / exposed	6 / 104 (5.77%)	7 / 104 (6.73%)	8 / 103 (7.77%)
occurrences (all)	6	8	9

Non-serious adverse events	Weeks 1-48: ABP 798 / ABP 798	Weeks 1-48: Rituximab (EU) / Rituximab (EU)	Weeks 1-48: Rituximab (US) / ABP 798
Total subjects affected by non-serious adverse events			
subjects affected / exposed	38 / 104 (36.54%)	22 / 104 (21.15%)	19 / 103 (18.45%)
Gastrointestinal disorders			
Nausea			
subjects affected / exposed	8 / 104 (7.69%)	3 / 104 (2.88%)	1 / 103 (0.97%)
occurrences (all)	11	3	1
Musculoskeletal and connective tissue disorders			
Rheumatoid arthritis			
subjects affected / exposed	10 / 104 (9.62%)	3 / 104 (2.88%)	4 / 103 (3.88%)
occurrences (all)	13	3	7
Infections and infestations			
Bronchitis			
subjects affected / exposed	7 / 104 (6.73%)	3 / 104 (2.88%)	2 / 103 (1.94%)
occurrences (all)	7	3	2
Nasopharyngitis			
subjects affected / exposed	9 / 104 (8.65%)	6 / 104 (5.77%)	4 / 103 (3.88%)
occurrences (all)	12	9	4
Upper respiratory tract infection			
subjects affected / exposed	13 / 104 (12.50%)	9 / 104 (8.65%)	11 / 103 (10.68%)
occurrences (all)	15	13	13

More information

Substantial protocol amendments (globally)

Were there any global substantial amendments to the protocol? Yes

Date	Amendment
01 December 2016	• modification of the inclusion criteria as follows: - to specify subjects must have had intolerance or an inadequate response to one or more TNF inhibitor therapies - to specify that subjects must have completed at least 4 weeks of a TB prophylaxis regimen prior to enrollment • modification of the exclusion criteria as follows: - to allow subjects with a positive hepatitis B surface antigen or hepatitis B core antibody result to enroll provided documentation of hepatitis B virus immunization is provided - to add adalimumab to the list of biologic therapies not allowed within 3 months prior to first dose of investigational product - to add ocrelizumab to the list of prohibited prior treatments
16 October 2017	• revised to include only DAS28-CRP change from baseline at week 24 as the endpoint supporting the secondary objective of efficacy instead of both DAS28-CRP change from baseline at week 24 and ACR20 at week 24; DAS28-CRP at weeks 8, 12, 40, and 48 and ACR20 at weeks 8, 12, 24, 40, and 48 were additional efficacy assessments • revised margin for DAS28-CRP to ± 0.6 • corrected multiplicity adjustments and error rates for statistical analysis of PK variables
20 March 2018	• removed reference to conducting primary analysis and replaced with reference to conducting final analysis • added a secondary objective to demonstrate PK similarity of rituximab (US) and rituximab (EU) • updated sample size estimation and statistical methods language to clarify efficacy analysis • specified the statistical approach for efficacy evaluation to include pooling of rituximab data if PK similarity between rituximab (US) and rituximab (EU) is established

Notes:

Interruptions (globally)

Were there any global interruptions to the trial? No

Limitations and caveats

None reported