



Clinical trial results:

Efficacy of BELImumab for therapy-resistant SKIN manifestations in patients with lupus erythematosus (LE): A phase III, multicenter, randomized, double-blind, placebo-controlled, 24-week trial (BELI-SKIN)

Summary

EudraCT number	2017-003051-35
Trial protocol	DE
Global end of trial date	17 January 2024

Results information

Result version number	v1 (current)
This version publication date	07 August 2025
First version publication date	07 August 2025
Summary attachment (see zip file)	Clinical Study Report_BELISKIN (250409_BeliSkin_Bericht_PEI_sig.pdf)

Trial information

Trial identification

Sponsor protocol code	DER-201701
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Additional study identifiers

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

Notes:

Sponsors

Sponsor organisation name	Rheinische Friedrich-Wilhelms-Universität Bonn
Sponsor organisation address	Venusberg-Campus 1, Bonn, Germany, 53127
Public contact	Verena Proß, Studienzentrale des Studienzentrum Bonn (SZB), 0049 228287 16046, studienzentrale-szb@ukbonn.de
Scientific contact	Prof. Dr. med. Joerg Wenzel, Zentrum für Hauterkrankungen Klinik für Dermatologie & Allergologie Universitätsklinikum Bonn, 0049 22828715370, joerg.wenzel@ukbonn.de

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	11 April 2025
Is this the analysis of the primary completion data?	Yes
Primary completion date	17 January 2024
Global end of trial reached?	Yes
Global end of trial date	17 January 2024
Was the trial ended prematurely?	No

Notes:

General information about the trial

Main objective of the trial:

To evaluate the efficacy of belimumab for therapy-resistant LE-specific skin manifestations of LE patients under Standard of Care therapy

Protection of trial subjects:

The IMP has already been authorized for the treatment of systemic lupus erythematoses as a supplement to standard therapy. The investigator informed the patients about the trial in detail and both signed the informed consent form. A patient insurance was in place. Adverse events were documented regularly.

Background therapy:

The patients will receive standard care according to the diagnosis lupus erythematoses and concomitant disease conditions based on EBM standards and good-clinical practice within the participating departments.

Evidence for comparator: -

Actual start date of recruitment	04 February 2019
Long term follow-up planned	No
Independent data monitoring committee (IDMC) involvement?	No

Notes:

Population of trial subjects

Subjects enrolled per country

Country: Number of subjects enrolled	Germany: 70
Worldwide total number of subjects	70
EEA total number of subjects	70

Notes:

Subjects enrolled per age group

In utero	0
Preterm newborn - gestational age < 37 wk	0
Newborns (0-27 days)	0
Infants and toddlers (28 days-23 months)	0
Children (2-11 years)	0
Adolescents (12-17 years)	0
Adults (18-64 years)	60
From 65 to 84 years	10

85 years and over	0
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Subject disposition

Recruitment

Recruitment details:

FPI to LPI: 04.02.2019 to 31.10.2022 in 9 German trial sites

Pre-assignment

Screening details:

After obtaining the signed written informed consent from a potential LE patient, trial sites will perform screening examinations and will check inclusion/exclusion criteria. After successful screening the patient is randomized centrally using the eCRF interactive web-based response system (IWRS) where the randomization number is assigned.

Period 1

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

Blinding implementation details:

This trial is double-blinded. After randomization neither the patients nor the investigator or sponsor will be aware of the treatment allocation. Patients assigned to one of the double-blinded treatments receive subcutaneous injection of belimumab or matching placebo. The syringes for subcutaneous injection will be identical in appearance. The IMP will be packed and delivered from manufacturer to the centres via central pharmacy. This will ensure double-blind conditions. The preparing sequence

Arms

Are arms mutually exclusive?	Yes
Arm title	Belimumab

Arm description:

weekly subcutaneous injection of 200mg belimumab

Arm type	single
Investigational medicinal product name	Belimumab
Investigational medicinal product code	
Other name	Benlysta®
Pharmaceutical forms	Solution for injection in pre-filled syringe
Routes of administration	Injection

Dosage and administration details:

Dose: 200 mg weekly for 24 weeks followed by an open-label extension: optional 24 weeks treatment with 200 mg belimumab weekly

Arm title	Placebo
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Arm description:

weekly subcutaneous injection of matching placebo

Arm type	Placebo
Investigational medicinal product name	Belimumab
Investigational medicinal product code	
Other name	Benlysta®
Pharmaceutical forms	Solution for injection in pre-filled syringe
Routes of administration	Injection

Dosage and administration details:

Dose: 200 mg weekly for 24 weeks followed by an open-label extension: optional 24 weeks treatment with 200 mg belimumab weekly

Number of subjects in period 1	Belimumab	Placebo
Started	35	35
Completed	30	32
Not completed	5	3
Adverse event, serious fatal	-	2
Consent withdrawn by subject	2	-
not known	2	1
Adverse event, non-fatal	1	-

Baseline characteristics

Reporting groups

Reporting group title	Belimumab
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Reporting group description:

weekly subcutaneous injection of 200mg belimumab

Reporting group title	Placebo
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Reporting group description:

weekly subcutaneous injection of matching placebo

Reporting group values	Belimumab	Placebo	Total
Number of subjects	35	35	70
Age categorical Units: Subjects			
In utero	0	0	0
Preterm newborn infants (gestational age < 37 wks)	0	0	0
Newborns (0-27 days)	0	0	0
Infants and toddlers (28 days-23 months)	0	0	0
Children (2-11 years)	0	0	0
Adolescents (12-17 years)	0	0	0
Adults (18-64 years)	30	30	60
From 65-84 years	5	5	10
85 years and over	0	0	0
Age continuous Units: years			
arithmetic mean	48.6	49.9	
standard deviation	± 14.1	± 12.3	-
Gender categorical Units: Subjects			
Female	29	23	52
Male	6	12	18

End points

End points reporting groups

Reporting group title	Belimumab
Reporting group description:	weekly subcutaneous injection of 200mg belimumab
Reporting group title	Placebo
Reporting group description:	weekly subcutaneous injection of matching placebo

Primary: Differences in relative change of the mean RCLASI activity score after 168 days (V8) between placebo- and treatment-arm

End point title	Differences in relative change of the mean RCLASI activity score after 168 days (V8) between placebo- and treatment-arm
End point description:	
End point type	Primary
End point timeframe:	Baseline to 168 days (V8)

End point values	Belimumab	Placebo		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	35	34		
Units: Activity Overall Score				
arithmetic mean (confidence interval 95%)	-0.33 (-0.44 to -0.22)	-0.21 (-0.43 to 0.004)		

Statistical analyses

Statistical analysis title	Repeted measure model
Comparison groups	Belimumab v Placebo
Number of subjects included in analysis	69
Analysis specification	Pre-specified
Analysis type	superiority
P-value	= 0.177 ^[1]
Method	Mixed models analysis
Parameter estimate	Mean difference (final values)
Point estimate	0.114
Confidence interval	
level	95 %
sides	2-sided
lower limit	-0.057
upper limit	0.285

Variability estimate	Standard error of the mean
Dispersion value	0.087

Notes:

[1] - non significant

Secondary: Change to baseline in the SELENA-SLEDAI score after 56 and 168 days of treatment in both arms

End point title	Change to baseline in the SELENA-SLEDAI score after 56 and 168 days of treatment in both arms
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End point description:

Results presented only relative changes for day 168. Absoulut and relative changes are calculated. Results for other time points please see attached summary

End point type	Secondary
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End point timeframe:

baseline to 168 days

End point values	Belimumab	Placebo		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	34	35		
Units: Score				
arithmetic mean (confidence interval 95%)	0.04 (-0.32 to 0.40)	0.11 (-0.27 to 0.50)		

Statistical analyses

No statistical analyses for this end point

Secondary: Change to baseline in Dermatology Life Quality Index (DLQI) score after 56 and 168 days of treatment in both arms

End point title	Change to baseline in Dermatology Life Quality Index (DLQI) score after 56 and 168 days of treatment in both arms
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End point description:

Results presented only relative changes for day 168. Absoulut and relative changes are calculated. Results for other time points please see attached summary

End point type	Secondary
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End point timeframe:

baseline to day 168

End point values	Belimumab	Placebo		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	34	35		
Units: Score				
arithmetic mean (confidence interval 95%)	-0.15 (-0.44 to 0.15)	0.01 (-0.40 to 0.41)		

Statistical analyses

No statistical analyses for this end point

Secondary: Change to baseline in Beck Depression Inventory II (BDI-II) score after 56 and 168 days of treatment in both arms

End point title	Change to baseline in Beck Depression Inventory II (BDI-II) score after 56 and 168 days of treatment in both arms
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End point description:

Results presented only relative changes for day 168. Absoulut and relative changes are calculated. Results for other time points please see attached summary

End point type	Secondary
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End point timeframe:

baseline to day 168

End point values	Belimumab	Placebo		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	34	35		
Units: Score				
arithmetic mean (confidence interval 95%)	0.10 (-0.31 to 0.52)	-0.09 (-0.42 to 0.24)		

Statistical analyses

No statistical analyses for this end point

Adverse events

Adverse events information

Timeframe for reporting adverse events:

Baseline to day 168

Adverse event reporting additional description:

Safety reporting started after first IMP administration.

Assessment type	Systematic
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Dictionary used

Dictionary name	MedDRA
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Dictionary version	23.1
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Reporting groups

Reporting group title	Blinded period_Belimumab
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Reporting group description: -

Reporting group title	Blinded period_Placebo
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Reporting group description: -

Serious adverse events	Blinded period_Belimumab	Blinded period_Placebo	
Total subjects affected by serious adverse events			
subjects affected / exposed	1 / 34 (2.94%)	2 / 35 (5.71%)	
number of deaths (all causes)	0	0	
number of deaths resulting from adverse events	0	0	
Eye disorders			
Ocular vein thrombosis			
subjects affected / exposed	0 / 34 (0.00%)	1 / 35 (2.86%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Gastrointestinal disorders			
Gastritis			
subjects affected / exposed	0 / 34 (0.00%)	1 / 35 (2.86%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Renal and urinary disorders			
Acute renal failure			
subjects affected / exposed	1 / 34 (2.94%)	0 / 35 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Musculoskeletal and connective tissue disorders			

Deterioration of SLE			
subjects affected / exposed	1 / 34 (2.94%)	0 / 35 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	

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

Non-serious adverse events	Blinded period_Belumumab	Blinded period_Placebo	
Total subjects affected by non-serious adverse events			
subjects affected / exposed	30 / 34 (88.24%)	31 / 35 (88.57%)	
Investigations			
Increased blood pressure			
subjects affected / exposed	0 / 34 (0.00%)	2 / 35 (5.71%)	
occurrences (all)	0	2	
Injury, poisoning and procedural complications			
Wound			
subjects affected / exposed	0 / 34 (0.00%)	2 / 35 (5.71%)	
occurrences (all)	0	2	
Vascular disorders			
Hypertension			
subjects affected / exposed	1 / 34 (2.94%)	2 / 35 (5.71%)	
occurrences (all)	1	2	
Nervous system disorders			
Headache			
subjects affected / exposed	4 / 34 (11.76%)	5 / 35 (14.29%)	
occurrences (all)	4	5	
Migraine			
subjects affected / exposed	2 / 34 (5.88%)	1 / 35 (2.86%)	
occurrences (all)	2	1	
General disorders and administration site conditions			
Fatigue			
subjects affected / exposed	0 / 34 (0.00%)	4 / 35 (11.43%)	
occurrences (all)	0	4	
Peripheral swelling			
subjects affected / exposed	2 / 34 (5.88%)	0 / 35 (0.00%)	
occurrences (all)	2	0	

Reproductive system and breast disorders menstrual problems subjects affected / exposed occurrences (all)	0 / 34 (0.00%) 0	2 / 35 (5.71%) 2	
Gastrointestinal disorders Abdominal complaints subjects affected / exposed occurrences (all) Nausea subjects affected / exposed occurrences (all)	1 / 34 (2.94%) 1 1 / 34 (2.94%) 1	2 / 35 (5.71%) 2 2 / 35 (5.71%) 2	
Musculoskeletal and connective tissue disorders Arthralgie subjects affected / exposed occurrences (all) Myalgia subjects affected / exposed occurrences (all) Back pain subjects affected / exposed occurrences (all) Pain in one extremity subjects affected / exposed occurrences (all)	2 / 34 (5.88%) 2 0 / 34 (0.00%) 0 0 / 34 (0.00%) 0 2 / 34 (5.88%) 2	5 / 35 (14.29%) 5 2 / 35 (5.71%) 2 2 / 35 (5.71%) 2 1 / 35 (2.86%) 1	
Infections and infestations Bronchitis subjects affected / exposed occurrences (all) Coronavirus infection subjects affected / exposed occurrences (all) Urinary tract infection subjects affected / exposed occurrences (all) Nasopharyngitis	2 / 34 (5.88%) 2 7 / 34 (20.59%) 7 2 / 34 (5.88%) 2	0 / 35 (0.00%) 0 4 / 35 (11.43%) 4 3 / 35 (8.57%) 3	

subjects affected / exposed	4 / 34 (11.76%)	7 / 35 (20.00%)	
occurrences (all)	4	7	
Pulpitis dentalis			
subjects affected / exposed	0 / 34 (0.00%)	5 / 35 (14.29%)	
occurrences (all)	0	5	

More information

Substantial protocol amendments (globally)

Were there any global substantial amendments to the protocol? Yes

Date	Amendment
01 November 2018	Protocol Amendment (V3.0) due to ethics requests
27 February 2019	Protocol (V4.0) and ICF Amendment, Addition of 2 new trial sites, deregistration of one trial site, change of deputy in one trial site
25 July 2019	Protocol (V5.0) and Synopsis Amendment, Update Labeling and IB, new Deputy in one trial site
24 July 2020	Protocol (V6.0) and ICF amendment, Update IB
05 January 2021	Protocol (V7.0) and Synopse amendment, prolongation of recruitment period; update of import authorisation and QP-declaration due to Brexit
10 December 2021	Protocol (V8.0) and Synopse amendment, Additional trial site, Update IB
05 January 2023	Changed manufacturing process of the placebo
05 September 2023	Update IB and deregistration of two trial sites

Notes:

Interruptions (globally)

Were there any global interruptions to the trial? No

Limitations and caveats

None reported