Clinical trial results:
A Phase 2b Trial of SB-061 for the Treatment of Symptomatic Osteoarthritis of the Knee

Summary

EudraCT number	2019-004515-31
Trial protocol	DK
Global end of trial date	07 October 2021

Results information

Result version number	v1 (current)
This version publication date	22 June 2023
First version publication date	22 June 2023

Trial information

Trial identification

Sponsor protocol code	TP-1879

Additional study identifiers

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

Notes:

Sponsors

Sponsor organisation name	Nordic Bioscience Clinical Development
Sponsor organisation address	Telefonvej 8d, Søborg, Denmark, 2860
Public contact	Regulatory Affairs Department, Nordic Bioscience CLinical Development, +45 73707908, regulatory@nbcd.com
Scientific contact	Regulatory Affairs Department, Nordic Bioscience CLinical Development, +45 73707908, regulatory@nbcd.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	09 December 2021
Is this the analysis of the primary completion data?	Yes
Primary completion date	07 October 2021
Global end of trial reached?	Yes
Global end of trial date	07 October 2021
Was the trial ended prematurely?	No

Notes:

General information about the trial

Main objective of the trial:

To evaluate the efficacy of SB-061 administered via intra-articular injection to reduce pain in subjects with symptomatic osteoarthritis of the knee.

Protection of trial subjects:

Patient protection was ensured by following high medical and ethical standards in accordance with the principles laid down in the Declaration of Helsinki, and that are consistent with Good Clinical Practice and applicable regulations.
To manage pain, subject were provided with rescue pain medication in the form of paracetamol tablets 500 mg. The dosage of paracetamol that the subjects was allowed to take per day was defined according to the standard of care in the countries where the trial was carried out; however, the maximum dose should not exceed 1 gram per dose and 4 grams per day.

Background therapy:

N/A

Evidence for comparator:

N/A

Actual start date of recruitment	03 February 2020
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	Denmark: 250
Country: Number of subjects enrolled	Hong Kong: 36
Worldwide total number of subjects	286
EEA total number of subjects	250

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	0

months)	
Children (2-11 years)	0
Adolescents (12-17 years)	0
Adults (18-64 years)	188
From 65 to 84 years	98
85 years and over	0

Subject disposition

Recruitment

Recruitment details:

First Subject First Visit was on 04 February 2020
Last Subject Fist Visit was on 07 October 2021

Pre-assignment

Screening details:

Overall 846 subjects were screened in this study, out of which 286 subjects were randomized and received the study treatment into the study.

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, Carer, Assessor

Arms

Are arms mutually exclusive?	Yes
Arm title	SB-061

Arm description: -

Arm type	Experimental
Investigational medicinal product name	SB-061
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Solution for injection in vial
Routes of administration	Intraarticular use

Dosage and administration details:

Treatment period of 32 weeks, with 3 single injections of 30 mg SB-061 performed on Day 1, on Day 113 and on Day 225, respectively

Arm title	Placebo

Arm description: -

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

Dosage and administration details:

Treatment period of 32 weeks, with 3 single injections of Sterile isotonic saline (solution of 0.90% w/v of NaCl) performed on Day 1, on Day 113 and on Day 225, respectively

Number of subjects in period 1	SB-061	Placebo
Started	145	141
Completed	129	125
Not completed	16	16
Consent withdrawn by subject	1	5
Adverse event, non-fatal	7	4
Lost to follow-up	3	3
Lack of efficacy	3	2
Protocol deviation	2	2

Baseline characteristics

Reporting groups	
Reporting group title	SB-061
Reporting group description: -	
Reporting group title	Placebo
Reporting group description: -	

Reporting group values	SB-061	Placebo	Total
Number of subjects	145	141	286
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)	98	90	188
From 65-84 years	47	51	98
85 years and over	0	0	0
Gender categorical Units: Subjects			
Female	89	87	176
Male	56	54	110
Race Units: Subjects			
American Indian or Alaska Native	0	0	0
Asian	19	17	36
Black or African American	0	2	2
Native Hawaiian or other Pacific Islander	0	0	0
White	126	122	248
Other	0	0	0
Ethnicity Units: Subjects			
Hispanic or latino	0	0	0
Not hispanic or latino	145	141	286
Unknown	0	0	0

End points

End points reporting groups

Reporting group title	SB-061
Reporting group description: -	
Reporting group title	Placebo
Reporting group description: -	

Primary: The change from baseline in reported pain as measured by the WOMAC A 11-point NRS 3.1 (5 questions) in the target knee at Week 8 of the trial.

End point title	The change from baseline in reported pain as measured by the WOMAC A 11-point NRS 3.1 (5 questions) in the target knee at Week 8 of the trial.
End point description:	
End point type	Primary
End point timeframe:	
From baseline to Week 8 of the trial.	

End point values	SB-061	Placebo		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	141	137		
Units: Score				
least squares mean (standard deviation)	-13.3 (± 17.21)	-13.9 (± 18.9)		

Statistical analyses

Statistical analysis title	Change in WOMAC pain sub-score at week 8

Statistical analysis description:

The treatment effect on the primary endpoint was assessed using a repeated measurement analysis of variance (MMRM) on absolute change from baseline, including baseline value, the treatment group, the time point, sex, country, the subject characteristic of unilateral/bilateral knee OA at baseline as factors, and including treatment by time as interaction.

Comparison groups	Placebo v SB-061
Number of subjects included in analysis	278
Analysis specification	Pre-specified
Analysis type	superiority
P-value	< 0.05
Method	Mixed models analysis

Confidence interval	
level	95 %
sides	2-sided

Adverse events

Adverse events information

Timeframe for reporting adverse events:

The AE reporting period for safety surveillance begins when subject is initially included in the trial (date of first signature of informed consent/date of first signature of first informed consent) until end of study

Assessment type	Non-systematic

Dictionary used

Dictionary name	MedDRA
Dictionary version	23.0

Reporting groups

Reporting group title	SB-061
Reporting group description: -	
Reporting group title	Placebo

Reporting group description: -

Serious adverse events	SB-061	Placebo	
Total subjects affected by serious adverse events			
subjects affected / exposed	8 / 145 (5.52%)	12 / 141 (8.51%)	
number of deaths (all causes)	0	1	
number of deaths resulting from adverse events	0	1	
Neoplasms benign, malignant and unspecified (incl cysts and polyps)			
Colon cancer			
subjects affected / exposed	1 / 145 (0.69%)	0 / 141 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Iris melanoma			
subjects affected / exposed	1 / 145 (0.69%)	0 / 141 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Melanocytic naevus			
subjects affected / exposed	0 / 145 (0.00%)	1 / 141 (0.71%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Cardiac disorders			
Myocardial infarction			

subjects affected / exposed	1 / 145 (0.69%)	0 / 141 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Surgical and medical procedures			
Knee arthroplasty			
subjects affected / exposed	1 / 145 (0.69%)	0 / 141 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Nervous system disorders			
Sciatica			
subjects affected / exposed	0 / 145 (0.00%)	1 / 141 (0.71%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Ear and labyrinth disorders			
Vertigo			
subjects affected / exposed	1 / 145 (0.69%)	1 / 141 (0.71%)	
occurrences causally related to treatment / all	0 / 1	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Gastrointestinal disorders			
Gastrooesophageal reflux disease			
subjects affected / exposed	1 / 145 (0.69%)	0 / 141 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Hepatobiliary disorders			
Bile duct stone			
subjects affected / exposed	0 / 145 (0.00%)	1 / 141 (0.71%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Cholecystitis			
subjects affected / exposed	0 / 145 (0.00%)	1 / 141 (0.71%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Cholelithiasis			

subjects affected / exposed	0 / 145 (0.00%)	1 / 141 (0.71%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Respiratory, thoracic and mediastinal disorders			
Pulmonary embolism			
subjects affected / exposed	0 / 145 (0.00%)	1 / 141 (0.71%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 1	
Renal and urinary disorders			
Nephrolithiasis			
subjects affected / exposed	0 / 145 (0.00%)	1 / 141 (0.71%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Ureterolithiasis			
subjects affected / exposed	0 / 145 (0.00%)	1 / 141 (0.71%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Musculoskeletal and connective tissue disorders			
Osteoarthritis			
subjects affected / exposed	0 / 145 (0.00%)	2 / 141 (1.42%)	
occurrences causally related to treatment / all	0 / 0	0 / 2	
deaths causally related to treatment / all	0 / 0	0 / 0	
Arthralgia			
subjects affected / exposed	1 / 145 (0.69%)	0 / 141 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Rotator cuff syndrome			
subjects affected / exposed	1 / 145 (0.69%)	0 / 141 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Infections and infestations			
Abdominal infection			

subjects affected / exposed	1 / 145 (0.69%)	0 / 141 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Cystitis			
subjects affected / exposed	0 / 145 (0.00%)	1 / 141 (0.71%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Pyelonephritis			
subjects affected / exposed	0 / 145 (0.00%)	1 / 141 (0.71%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	

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

Non-serious adverse events	SB-061	Placebo	
Total subjects affected by non-serious adverse events			
subjects affected / exposed	116 / 145 (80.00%)	120 / 141 (85.11%)	
Injury, poisoning and procedural complications			
Procedural pain			
subjects affected / exposed	6 / 145 (4.14%)	8 / 141 (5.67%)	
occurrences (all)	7	9	
Nervous system disorders			
Headache			
subjects affected / exposed	32 / 145 (22.07%)	15 / 141 (10.64%)	
occurrences (all)	58	27	
General disorders and administration site conditions			
Influenza like illness			
subjects affected / exposed	10 / 145 (6.90%)	4 / 141 (2.84%)	
occurrences (all)	10	4	
Injection site joint pain			
subjects affected / exposed	4 / 145 (2.76%)	7 / 141 (4.96%)	
occurrences (all)	5	7	
Gastrointestinal disorders			
Toothache			

subjects affected / exposed	12 / 145 (8.28%)	10 / 141 (7.09%)	
occurrences (all)	13	12	
Musculoskeletal and connective tissue disorders			
Arthralgia			
subjects affected / exposed	37 / 145 (25.52%)	37 / 141 (26.24%)	
occurrences (all)	54	45	
Back pain			
subjects affected / exposed	21 / 145 (14.48%)	18 / 141 (12.77%)	
occurrences (all)	30	23	
Pain in extremity			
subjects affected / exposed	7 / 145 (4.83%)	17 / 141 (12.06%)	
occurrences (all)	10	24	
Neck pain			
subjects affected / exposed	10 / 145 (6.90%)	6 / 141 (4.26%)	
occurrences (all)	10	9	
Infections and infestations			
Nasopharyngitis			
subjects affected / exposed	10 / 145 (6.90%)	9 / 141 (6.38%)	
occurrences (all)	11	9	
Cystitis			
subjects affected / exposed	4 / 145 (2.76%)	7 / 141 (4.96%)	
occurrences (all)	4	10	

More information

Substantial protocol amendments (globally)

Were there any global substantial amendments to the protocol? No

Interruptions (globally)

Were there any global interruptions to the trial? No

Limitations and caveats

None reported