Clinical trial results:
A Phase II multi-center, single arm, safety and efficacy study of MBG453 in combination with azacitidine and venetoclax for the treatment of Acute Myeloid Leukemia (AML) in adult patients unfit for chemotherapy.

Due to EudraCT system limitations, which EMA is aware of, data using 999 as data points in this record are not an accurate representation of the clinical trial results.

Please use https://www.novctrd.com for complete trial results.

Summary

EudraCT number	2019-000439-14
Trial protocol	DE IT FR
Global end of trial date	25 October 2024

Results information

Result version number	v1 (current)
This version publication date	23 October 2025
First version publication date	23 October 2025

Trial information

Trial identification

Sponsor protocol code	CMBG453C12201

Additional study identifiers

ISRCTN number	-
ClinicalTrials.gov id (NCT number)	NCT04150029
WHO universal trial number (UTN)	-

Notes:

Sponsors

Sponsor organisation name	Novartis Pharma, AG
Sponsor organisation address	Lichtstrasse 35, Basel, Switzerland, 4056
Public contact	Clinical Disclosure Office, Novartis Pharma, AG, 41 613241111, novartis.email@novartis.com
Scientific contact	Clinical Disclosure Office, Novartis Pharma, AG, 41 613241111, novartis.email@novartis.com

Notes:

Paediatric regulatory details

Is trial part of an agreed paediatric	No

investigation plan (PIP)	
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	25 October 2024
Is this the analysis of the primary completion data?	No

Global end of trial reached?	Yes
Global end of trial date	25 October 2024
Was the trial ended prematurely?	Yes

Notes:

General information about the trial

Main objective of the trial:

Safety run in + Expansion:
To assess the complete remission (CR) rate of sabatolimab, administered at 800 mg Q4W, in combination with azacitidine and venetoclax in participants with AML not suitable for chemotherapy.

Safety run-in:
To determine whether sabatolimab at the two tested dose levels is not meeting overdose criteria when added to azacitidine + venetoclax in participants with AML not suitable for chemotherapy.

Protection of trial subjects:

The study was in compliance with the ethical principles derived from the Declaration of Helsinki and the International Conference on Harmonization (ICH) Good Clinical Practice (GCP) guidelines. All the local regulatory requirements pertinent to safety of trial subjects were also followed during the conduct of the trial.

Background therapy: -

Evidence for comparator: -

Actual start date of recruitment	01 September 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	Australia: 2
Country: Number of subjects enrolled	Canada: 12
Country: Number of subjects enrolled	France: 5
Country: Number of subjects enrolled	Germany: 6
Country: Number of subjects enrolled	Italy: 8
Country: Number of subjects enrolled	Japan: 3
Country: Number of subjects enrolled	Korea, Republic of: 4
Country: Number of subjects enrolled	Spain: 14
Country: Number of subjects enrolled	Taiwan: 3

Country: Number of subjects enrolled	United States: 33
Worldwide total number of subjects	90
EEA total number of subjects	33

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)	4
From 65 to 84 years	80
85 years and over	6

Subject disposition

Recruitment

Recruitment details:

This study was conducted in 28 centers across 10 countries with a total of 90 participants enrolled.

Pre-assignment

Screening details:

Informed consent was obtained from each participant in writing before screening before any study specific procedure was performed.

Period 1

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

Arms

Are arms mutually exclusive?	Yes
Arm title	MBG453 400 mg + Venetoclax +Azacitidine

Arm description:

Participants received 400 mg MBG453 in combination with Venetoclax (VEN) and Azacitidine (AZA). This arm was used in Part 1 (Safety Run-in phase) of the study.

Arm type	Experimental
Investigational medicinal product name	MBG453 (Sabatolimab)
Investigational medicinal product code	MBG453
Other name	sabatolimab
Pharmaceutical forms	Solution for infusion
Routes of administration	Intravenous use

Dosage and administration details:

100 mg in 1 ml and/or 400 mg in 4 ml

Investigational medicinal product name	Azacitidine
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Solution for infusion
Routes of administration	Intravenous use, Subcutaneous use

Dosage and administration details:

As per local supply. Formulation for generic azacitidine as approved by local regulations

Investigational medicinal product name	Venetoclax
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Tablet
Routes of administration	Oral use

Dosage and administration details:

100 mg and/or 50 mg and/or 10 mg (or as per local supply)

Arm title	MBG453 800 mg + Venetoclax +Azacitidine

Arm description:

Participants received 800 mg MBG453 in combination with Venetoclax (VEN) and Azacitidine (AZA). This arm was used in Part 1 (Safety Run-in) and Part 2 (Expansion Part) of the study.

Arm type	Experimental

Investigational medicinal product name	MBG453 (Sabatolimab)
Investigational medicinal product code	MBG453
Other name	sabatolimab
Pharmaceutical forms	Solution for infusion
Routes of administration	Intravenous use

Dosage and administration details:

100 mg in 1 ml and/or 400 mg in 4 ml

Investigational medicinal product name	Azacitidine
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Solution for infusion
Routes of administration	Intravenous use, Subcutaneous use

Dosage and administration details:

As per local supply. Formulation for generic azacitidine as approved by local regulations.

Investigational medicinal product name	Venetoclax
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Tablet
Routes of administration	Oral use

Dosage and administration details:

100 mg and/or 50 mg and/or 10 mg (or as per local supply)

Number of subjects in period 1	MBG453 400 mg + Venetoclax +Azacitidine	MBG453 800 mg + Venetoclax +Azacitidine
Started	5	85
Did not enter post-treatment follow-up	4	60
Entered post-treatment follow-up	1	25
Entered survival follow-up	5	85
Completed	0	0
Not completed	5	85
Adverse event, serious fatal	-	8
Participant Decision	-	7
Disease Relapse	-	18
Physician decision	-	10
Adverse event, non-fatal	1	11
Progressive Disease	2	16
Study Terminated by Sponsor	1	10
Hemopoietic Stem Cell Transplant (HSCT)	1	5

Baseline characteristics

Reporting groups	
Reporting group title	MBG453 400 mg + Venetoclax +Azacitidine
Reporting group description:	
Participants received 400 mg MBG453 in combination with Venetoclax (VEN) and Azacitidine (AZA). This arm was used in Part 1 (Safety Run-in phase) of the study.	
Reporting group title	MBG453 800 mg + Venetoclax +Azacitidine
Reporting group description:	
Participants received 800 mg MBG453 in combination with Venetoclax (VEN) and Azacitidine (AZA). This arm was used in Part 1 (Safety Run-in) and Part 2 (Expansion Part) of the study.	

Reporting group values	MBG453 400 mg + Venetoclax +Azacitidine	MBG453 800 mg + Venetoclax +Azacitidine	Total
Number of subjects	5	85	90
Age categorical Units: Subjects			
Adults (18-64 years)	0	4	4
From 65-84 years	4	76	80
85 years and over	1	5	6
Age Continuous Units: Years			
arithmetic mean	76.8	76.1	
standard deviation	± 4.97	± 6.33	-
Sex: Female, Male Units: Participants			
Female	1	38	39
Male	4	47	51
Race/Ethnicity, Customized Units: Subjects			
White	5	69	74
Black or African American	0	2	2
Asian	0	13	13
Unknown	0	1	1
ECOG performance status			
Eastern Cooperative Oncology Group (ECOG) performance status scale is a widely used standard of care criteria used to assess the functional status of a patient with cancer to measure how the disease impacts thepatient’s daily living abilities. This scale has a range from 0 - 5. The higher the grade, the worse the patient's abilities: 0 implies fully active, able to carry on all pre-disease performance without restriction and 5 implies death.			
Units: Subjects			
ECOG performance status: 0	1	14	15
ECOG performance status: 1	2	43	45
ECOG performance status: 2	2	24	26
ECOG performance status: 3	0	4	4
Body surface area (BSA)			
BSA is a measurement of the total area of the skin of a human body, usually expressed in square meters (m^2). It's a crucial parameter in various medical calculations, including drug dosages, fluid administration, and determining metabolic mass. BSA (m^2) at baseline is calculated as square root of (weight (kg) * height (cm)/3600) using weight at baseline and height at screening.			
Units: m^2			

arithmetic mean	1.88	1.84	
standard deviation	± 0.105	± 0.252	-

End points

End points reporting groups

Reporting group title	MBG453 400 mg + Venetoclax +Azacitidine

Reporting group description:

Participants received 400 mg MBG453 in combination with Venetoclax (VEN) and Azacitidine (AZA). This arm was used in Part 1 (Safety Run-in phase) of the study.

Reporting group title	MBG453 800 mg + Venetoclax +Azacitidine

Reporting group description:

Participants received 800 mg MBG453 in combination with Venetoclax (VEN) and Azacitidine (AZA). This arm was used in Part 1 (Safety Run-in) and Part 2 (Expansion Part) of the study.

Primary: Incidence of dose limiting toxicities (DLT)(Safety run-in patients only)

End point title	Incidence of dose limiting toxicities (DLT)(Safety run-in patients only)[1]

End point description:

A dose-limiting toxicity (DLT) is defined as an adverse event or abnormal laboratory value considered by the Investigator to be at least possibily related to MBG453 as a single contributor or in combination with other component(s) of study treatment that occurs during the DLT observation period and meets any of the criteria as per protolcol.

End point type	Primary

End point timeframe:

From Cycle 1 Day 8 to end of Cycle 2; Cycle =28 Days

Notes:

[1] - No statistical analyses have been specified for this primary end point. It is expected there is at least one statistical analysis for each primary end point.
Justification: Statistical (Bayesian) analyses performed cannot be reported in the requested form

End point values	MBG453 400 mg + Venetoclax +Azacitidine	MBG453 800 mg + Venetoclax +Azacitidine		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	4	11		
Units: Participants				
Participants with at least 1 event - All grades	0	1		
Participants with at least 1 event - Grade >= 3	0	0		
Cardiac disorders - All grades	0	1		
Cardiac disorders - Grades >= 3	0	0		

Statistical analyses

No statistical analyses for this end point

Primary: Percentage of participants achieving complete remission (CR) (CR rate)

End point title	Percentage of participants achieving complete remission (CR) (CR rate)[2][3]

End point description:

CR rate is defined as the percentage of participants achieving a complete remission (CR) as per investigator assessment (based on IWG Cheson et al 2003, ELN 2017 Dohner et al 2017).

End point type	Primary

End point timeframe:

at least 12 cycles from last participant first treatment up to 100 weeks (each cycle =28 Days)

Notes:

[2] - No statistical analyses have been specified for this primary end point. It is expected there is at least one statistical analysis for each primary end point.
Justification: Statistical (Bayesian) analyses performed cannot be reported in the requested form

[3] - The end point is not reporting statistics for all the arms in the baseline period. It is expected all the baseline period arms will be reported on when providing values for an end point on the baseline period.
Justification: Statistical (Bayesian) analyses performed cannot be reported in the requested form

End point values	MBG453 800 mg + Venetoclax +Azacitidine			
Subject group type	Reporting group			
Number of subjects analysed	85			
Units: Percentage of participants				
number (confidence interval 95%)	47.06 (36.1 to 58.2)			

Statistical analyses

No statistical analyses for this end point

Secondary: Measurable residual disease (MRD) - negativity rate: Full study population

End point title	Measurable residual disease (MRD) - negativity rate: Full study population

End point description:

MRD negativity rate was defined as the percentage of participants with MRD negativity, which was defined as an MRD negative sample (frequency of LAIP below 0.1%, as determined by Multi-parameter Flow Cytometry-Measurable residual disease (MFC-MRD) at Central Lab) in participant with remission (i.e., CR or CRi) as per investigator assessment (based on IWG Cheson et al 2003, ELN 2017 Dohner et al 2017). MRD-negative response was required to be observed at or after morphological remission, and prior to relapse or disease progression.

End point type	Secondary

End point timeframe:

every 12 weeks (starting at week 5) for up to 48 months from last patient first treatment

End point values	MBG453 400 mg + Venetoclax +Azacitidine	MBG453 800 mg + Venetoclax +Azacitidine		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	5	85		
Units: Percentage of participants				
number (confidence interval 95%)	60.0 (14.7 to 94.7)	42.4 (31.7 to 53.6)		

Statistical analyses

No statistical analyses for this end point

Secondary: Measurable residual disease (MRD) - negativity rate in participants with best overall response (BOR) of CR/CRi and evaluable MRD

End point title	Measurable residual disease (MRD) - negativity rate in participants with best overall response (BOR) of CR/CRi and evaluable MRD

End point description:

MRD negativity rate was defined as the percentage of participants with MRD negativity, which was defined as an MRD negative sample (frequency of LAIP below 0.1%, as determined by Multi-parameter Flow Cytometry-Measurable residual disease (MFC-MRD) at Central Lab) in participant with remission (i.e., CR or CRi) as per investigator assessment (based on IWG Cheson et al 2003, ELN 2017 Dohner et al 2017). MRD-negative response was required to be observed at or after morphological remission, and prior to relapse or disease progression.

End point type	Secondary

End point timeframe:

every 12 weeks (starting at week 5) for up to 48 months from last patient first treatment

End point values	MBG453 400 mg + Venetoclax +Azacitidine	MBG453 800 mg + Venetoclax +Azacitidine		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	3	49		
Units: Percentage of participants				
number (confidence interval 95%)	100.0 (29.2 to 100.0)	73.5 (58.9 to 85.1)		

Statistical analyses

No statistical analyses for this end point

Secondary: Duration of complete remission (CR)

End point title	Duration of complete remission (CR)

End point description:

The duration of CR is defined as the time from first achievement of CR to the first documented relapse or progressive disease or death due to any cause, whichever occurs first. The response assessment is as per investigator assessment based on IWG (Cheson et al 2003) and ELN 2017 (Dohner et al 2017).

End point type	Secondary

End point timeframe:

every 12 weeks (starting at week 5) for up to 48 months from last patient first treatment

End point values	MBG453 400 mg + Venetoclax +Azacitidine	MBG453 800 mg + Venetoclax +Azacitidine		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	4	40		
Units: Months				
median (confidence interval 95%)	99 (7.56 to 999)	10.28 (6.28 to 999)		

Statistical analyses

No statistical analyses for this end point

Secondary: Percentage of participants achieving a complete remission (CR) or complete remission with partial hematologic blood count recovery (CRh) (CR/CRh rate)

End point title	Percentage of participants achieving a complete remission (CR) or complete remission with partial hematologic blood count recovery (CRh) (CR/CRh rate)

End point description:

CR/CRh rate is defined as the percentage of participants with best overall response of either complete remission (CR) or complete remission with partial hematologic recovery (CRh) as per derivation based on ELN 2022 (Döhner et al 2022).

End point type	Secondary

End point timeframe:

every 12 weeks (starting at week 5) for up to 48 months from last patient first treatment

End point values	MBG453 400 mg + Venetoclax +Azacitidine	MBG453 800 mg + Venetoclax +Azacitidine		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	5	85		
Units: Percentage of participants				
number (confidence interval 95%)	80.0 (28.4 to 99.5)	50.6 (39.5 to 61.6)		

Statistical analyses

No statistical analyses for this end point

Secondary: Percentage of participants achieving a complete remission (CR) or complete remission with incomplete hematologic blood count recovery (CRi)

(CR/CRi rate)	
End point title	Percentage of participants achieving a complete remission (CR) or complete remission with incomplete hematologic blood count recovery (CRi) (CR/CRi rate)

End point description:

CR/CRi rate is defined as the percentage pf participants with best overall response of either complete remission (CR) or complete remission with incomplete hematologic recovery (CRi) as per investigator assessment (based on IWG (Cheson et al 2003) and ELN 2017 (Dohner et al 2017)).

End point type	Secondary

End point timeframe:

every 12 weeks (starting at week 5) for up to 48 months from last patient first treatment

End point values	MBG453 400 mg + Venetoclax +Azacitidine	MBG453 800 mg + Venetoclax +Azacitidine		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	5	85		
Units: Percentage of participants				
number (confidence interval 95%)	80.0 (28.4 to 99.5)	69.4 (58.5 to 79.0)		

Statistical analyses

No statistical analyses for this end point

Secondary: The duration of complete remission (CR)/complete remission with incomplete blood count recovery (CRi)	
End point title	The duration of complete remission (CR)/complete remission with incomplete blood count recovery (CRi)

End point description:

The duration of CR/CRi is defined as the time from first achievement of CR or CRi to the first documented relapse or progressive disease or death due to any cause, whichever occurs first. The response assessment is as per investigator assessment based on IWG (Cheson et al 2003) and ELN 2017 (Dohner et al 2017).

End point type	Secondary

End point timeframe:

every 12 weeks (starting at week 5) for up to 48 months from last patient first treatment

End point values	MBG453 400 mg + Venetoclax +Azacitidine	MBG453 800 mg + Venetoclax +Azacitidine		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	4	59		
Units: Months				
median (confidence interval 95%)	99 (7.56 to 999)	8.54 (5.98 to 13.67)		

Statistical analyses

No statistical analyses for this end point

Secondary: Duration of CR/CRh

End point title	Duration of CR/CRh

End point description:

The duration of CR/CRh is defined as the time from date of first documented CR or CRh to the date of first documented relapse or death due to any cause, whichever occurs first. The response assessment is as per derivation based on ELN 2022 (Döhner et al 2022).

End point type	Secondary

End point timeframe:

every 12 weeks (starting at week 5) for up to 48 months from last patient first treatment

End point values	MBG453 400 mg + Venetoclax +Azacitidine	MBG453 800 mg + Venetoclax +Azacitidine		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	4	43		
Units: Months				
median (confidence interval 95%)	99 (7.56 to 999)	12.45 (6.83 to 14.78)		

Statistical analyses

No statistical analyses for this end point

Secondary: Event free survival (EFS)

End point title	Event free survival (EFS)

End point description:

EFS is the time from start of treatment until death due to any cause, relapse from complete remission (CR) or complete remission with incomplete hematologic recovery (CRi), or treatment failure, whichever occurs first. Treatment failure was defined as lack of reaching CR until Cycle 8 Day 1 or earlier permanent discontinuation from study without reaching CR, the time to treatment failure was then set to Day 1.

End point type	Secondary

End point timeframe:

every 12 weeks (starting at week 5) for up to 48 months from last patient first treatment

End point values	MBG453 400 mg + Venetoclax +Azacitidine	MBG453 800 mg + Venetoclax +Azacitidine		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	5	85		
Units: Months				
median (confidence interval 95%)	8.28 (0.03 to 999)	0.03 (0.03 to 6.14)		

Statistical analyses

No statistical analyses for this end point

Secondary: Overall Survival (OS)

End point title	Overall Survival (OS)

End point description:

OS is the time from start of treatment to death due to any cause. If a participant was not known to have died, then OS was censored at the latest date the participant was known to be alive (on or before the cut-off date).

End point type	Secondary

End point timeframe:

date of start of treatment to date of death due to any reason (for up to 48 months from last patient first treatment)

End point values	MBG453 400 mg + Venetoclax +Azacitidine	MBG453 800 mg + Venetoclax +Azacitidine		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	5	85		
Units: Months				
median (confidence interval 95%)	11.17 (5.32 to 999)	13.27 (9.49 to 18.14)		

Statistical analyses

No statistical analyses for this end point

Secondary: Peak Serum Concentration (Cmax) of MBG453

End point title	Peak Serum Concentration (Cmax) of MBG453

End point description:

Cmax is the maximal concentration of MBG453.

End point type	Secondary

End point timeframe:

Cycle 1 Day 8 (end of infusion) and Cycle 3 Day 8 (end of infusion), cycle = 28 days

End point values	MBG453 400 mg + Venetoclax +Azacitidine	MBG453 800 mg + Venetoclax +Azacitidine		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	5	81		
Units: ug/ml				
geometric mean (geometric coefficient of variation)				
Cycle 1 Day 8: 2 hr (post-dose) (n = 4, 67)	84.0 (± 20.0)	204 (± 35.3)		
Cycle 3 Day 8: 2 hr (post-dose) (n = 2, 46)	129 (± 4.9)	261 (± 40.9)		

Statistical analyses

No statistical analyses for this end point

Secondary: Trough Serum Concentration (Cmin) MBG453

End point title	Trough Serum Concentration (Cmin) MBG453
End point description:	
Cmin is the minimum concentration of MBG453 (i.e., prior to the next dosing).	
End point type	Secondary
End point timeframe:	
Day 8 of Cycle 1,2,3,6,9,12,18, 24 and through treatment completion, an average of 24 months	

End point values	MBG453 400 mg + Venetoclax +Azacitidine	MBG453 800 mg + Venetoclax +Azacitidine		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	5	81		
Units: ug/ml				
geometric mean (geometric coefficient of variation)				
Cycle 1 Day 8: 0 hr (pre-dose) (n = 5, 73)	0 (± 0)	0 (± 0)		
Cycle 2 Day 8: 0 hr (pre-dose) (n = 4, 61)	8.79 (± 70.8)	18.8 (± 68.9)		
Cycle 3 Day 8: 0 hr (pre-dose) (n = 2, 51)	12.4 (± 16.0)	30.7 (± 80.9)		
Cycle 6 Day 8: 0 hr (pre-dose) (n = 2, 26)	17.6 (± 0)	45.1 (± 79.5)		
Cycle 9 Day 8: 0 hr (pre-dose) (n = 1, 17)	6.55 (± 0)	72.9 (± 60.0)		
Cycle 12 Day 8: 0 hr (pre-dose) (n = 1, 10)	17.4 (± 0)	78.1 (± 62.7)		

Cycle 18 Day 8: 0 hr (pre-dose) (n = 1, 7)	9.76 (± 0)	70.4 (± 96.5)		
Cycle 24 Day 8: 0 hr (pre-dose) (n = 1, 2)	30.6 (± 0)	61.4 (± 84.1)		

Statistical analyses

No statistical analyses for this end point

Secondary: Trough Plasma Concentration (Cmin) Venetoclax

End point title	Trough Plasma Concentration (Cmin) Venetoclax

End point description:

Trough concentration of venetoclax on treatment

End point type	Secondary

End point timeframe:

0 hr (Pre-dose) of Day 8 of Cycle 1, 3 and 6 ; Cycle =28 days

End point values	MBG453 400 mg + Venetoclax +Azacitidine	MBG453 800 mg + Venetoclax +Azacitidine		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	3	62		
Units: ng/ml				
geometric mean (geometric coefficient of variation)				
Cycle 1 day 8: 0 hr pre-dose) (n = 3, 49)	378 (± 86.4)	972 (± 97.5)		
Cycle 3 day 8: 0 hr pre-dose) (n= 2, 32)	730 (± 8.6)	1010 (± 154.8)		
Cycle 6 day 8: 0 hr pre-dose) (n = 0, 12)	999 (± 999)	959 (± 64.1)		

Statistical analyses

No statistical analyses for this end point

Secondary: Anti-drug Antibody (ADA) prevalence at baseline and ADA incidence on-treatment

End point title	Anti-drug Antibody (ADA) prevalence at baseline and ADA incidence on-treatment

End point description:

Immunogenicity (IG) to MBG453 prior to MBG453 exposure. ADA prevalence (i.e., ADA-positive samples) is the number of ADA-positive samples among the number of participants with a non-missing sample.
Treatment-induced ADA-positive is based on participants who were ADA-negative at baseline.
Treatment-boosted ADA-positive is based on participants who were ADA-positive at baselline.

End point type	Secondary

End point timeframe:

Continuously collected for patients during treatment with sabatolimab up to 150 days after last treatment, approx. 24 months

End point values	MBG453 400 mg + Venetoclax +Azacitidine	MBG453 800 mg + Venetoclax +Azacitidine		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	5	74		
Units: Participants				
ADA prevalence (i.e. ADA positive at baseline (BL)	0	4		
ADA incidence (i.e. ADA positive on-treatment)	1	9		
Trtmnt-ind. ADA+ve (ADA -ve @ BL) (n=5,70)	1	9		
Trtmnt-boost. ADA-ve (ADA+ve @ BL) (n=0,4)	0	0		

Statistical analyses

No statistical analyses for this end point

Secondary: Rate of participants who achieved transfusion independence from baseline and while on treatment

End point title	Rate of participants who achieved transfusion independence from baseline and while on treatment

End point description:

Percentage of participants having received no RBC/Platelets transfusions during at least 8 consecutive weeks.

End point type	Secondary

End point timeframe:

at baseline, post baseline up to 48 months from last patient first treatment

End point values	MBG453 400 mg + Venetoclax +Azacitidine	MBG453 800 mg + Venetoclax +Azacitidine		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	5	85		
Units: Percentage of participants				
number (confidence interval 95%)				
RBC: transfusion independence at post-BL	60.0 (14.7 to 94.7)	57.6 (46.4 to 68.3)		
Platelet transfusion independence at post-baseline	60.0 (14.7 to 94.7)	65.9 (54.8 to 75.8)		

Statistical analyses

No statistical analyses for this end point

Adverse events

Adverse events information

Timeframe for reporting adverse events:

All-cause mortality: from first dose of study treatment up to approx. 52 months, including post-treatment survival follow up period. Serious and Other Adverse Events: from first dose of study treatment until 30 days after last dose.

Adverse event reporting additional description:

Any sign or symptom that occurred during the conduct of the trial and the safety follow-up. Deaths in the post-treatment survival follow-up period are not considered adverse events.

Assessment type	Systematic

Dictionary used

Dictionary name	MedDRA
Dictionary version	27.1

Reporting groups

Reporting group title	MBG453 800mg +AZA+VEN

Reporting group description:

Participants received 800 mg MBG453 in combination with Venetoclax (VEN) and Azacitidine (AZA). This arm was used in Part 2 (Expansion Part) of the study.

Reporting group title	MBG453 400mg +AZA+VEN

Reporting group description:

Participants received 400 mg MBG453 in combination with Venetoclax (VEN) and Azacitidine (AZA). This arm was used in Part 1 (Safety Run-in phase) of the study.

Serious adverse events	MBG453 800mg +AZA+VEN	MBG453 400mg +AZA+VEN	
Total subjects affected by serious adverse events			
subjects affected / exposed	67 / 85 (78.82%)	4 / 5 (80.00%)	
number of deaths (all causes)	56	3	
number of deaths resulting from adverse events	2	0	
Neoplasms benign, malignant and unspecified (incl cysts and polyps)			
Chloroma			
subjects affected / exposed	0 / 85 (0.00%)	1 / 5 (20.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 1	
Vascular disorders			
Hypotension			
subjects affected / exposed	2 / 85 (2.35%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	0 / 2	0 / 0	
deaths causally related to treatment / all	0 / 1	0 / 0	
Peripheral artery thrombosis			

subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Embolism			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Subclavian vein thrombosis			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
General disorders and administration site conditions			
Chills			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Asthenia			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Pyrexia			
subjects affected / exposed	13 / 85 (15.29%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	7 / 14	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Malaise			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
General physical health deterioration			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	1 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Respiratory, thoracic and mediastinal disorders			

Pneumonitis			
subjects affected / exposed	0 / 85 (0.00%)	1 / 5 (20.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Pleural effusion			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Hypoxia			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Dyspnoea			
subjects affected / exposed	2 / 85 (2.35%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	0 / 2	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Acute pulmonary oedema			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Pulmonary embolism			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	1 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Respiratory failure			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 1	0 / 0	
Psychiatric disorders			
Confusional state			
subjects affected / exposed	2 / 85 (2.35%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	0 / 2	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Hallucination			

subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Investigations			
Blood creatinine increased			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Injury, poisoning and procedural complications			
Limb injury			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Fall			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Cardiac disorders			
Cardiac failure congestive			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Cardio-respiratory arrest			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 1	0 / 0	
Immune-mediated pericarditis			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	1 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Cardiac failure			
subjects affected / exposed	2 / 85 (2.35%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	1 / 2	0 / 0	
deaths causally related to treatment / all	1 / 1	0 / 0	

Myocarditis			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	1 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Pericardial effusion			
subjects affected / exposed	2 / 85 (2.35%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	1 / 2	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Supraventricular tachycardia			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Ventricular arrhythmia			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (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			
Cerebral infarction			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Headache			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Vascular dementia			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Syncope			
subjects affected / exposed	2 / 85 (2.35%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	0 / 2	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Subarachnoid haemorrhage			

subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	1 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Presyncope			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Blood and lymphatic system disorders			
Febrile neutropenia			
subjects affected / exposed	30 / 85 (35.29%)	3 / 5 (60.00%)	
occurrences causally related to treatment / all	20 / 50	1 / 4	
deaths causally related to treatment / all	0 / 0	0 / 0	
Anaemia			
subjects affected / exposed	2 / 85 (2.35%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	2 / 2	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Disseminated intravascular coagulation			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	1 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Thrombocytopenia			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	1 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Neutropenia			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	1 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Gastrointestinal disorders			
Abdominal distension			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	

Abdominal pain			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Anal inflammation			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Colitis			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Diarrhoea			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	1 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Gastrointestinal haemorrhage			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	1 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Large intestinal obstruction			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	0 / 2	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Intestinal ischaemia			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Nausea			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	1 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Vomiting			

subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Upper gastrointestinal haemorrhage			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Pancreatitis			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Hepatobiliary disorders			
Hepatitis acute			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	1 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Cholelithiasis			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Cholecystitis acute			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Cholecystitis			
subjects affected / exposed	3 / 85 (3.53%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	0 / 3	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Cholangitis			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Renal and urinary disorders			

Acute kidney injury			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Urinary retention			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Musculoskeletal and connective tissue disorders			
Immune-mediated arthritis			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	1 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Arthritis			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	0 / 2	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Arthralgia			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	1 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Joint swelling			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Muscular weakness			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (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			
Cellulitis			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	

Clostridium difficile colitis			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Device related infection			
subjects affected / exposed	2 / 85 (2.35%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	0 / 2	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Enterococcal bacteraemia			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Enterococcal sepsis			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
COVID-19			
subjects affected / exposed	5 / 85 (5.88%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	0 / 5	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Bacteraemia			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Enterocolitis infectious			
subjects affected / exposed	0 / 85 (0.00%)	1 / 5 (20.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Atypical pneumonia			
subjects affected / exposed	2 / 85 (2.35%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	2 / 2	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Escherichia sepsis			

subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Infection			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Osteomyelitis			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Periorbital cellulitis			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	2 / 2	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Pneumonia			
subjects affected / exposed	8 / 85 (9.41%)	1 / 5 (20.00%)	
occurrences causally related to treatment / all	5 / 10	1 / 1	
deaths causally related to treatment / all	1 / 1	0 / 0	
Pneumonia pseudomonal			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Sepsis			
subjects affected / exposed	4 / 85 (4.71%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	1 / 7	0 / 0	
deaths causally related to treatment / all	0 / 1	0 / 0	
Septic shock			
subjects affected / exposed	3 / 85 (3.53%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	0 / 3	0 / 0	
deaths causally related to treatment / all	0 / 1	0 / 0	
Urinary tract infection			

subjects affected / exposed	2 / 85 (2.35%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	1 / 4	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Streptococcal sepsis			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	1 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Urinary tract infection bacterial			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Splenic infection fungal			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Metabolism and nutrition disorders			
Dehydration			
subjects affected / exposed	2 / 85 (2.35%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	0 / 2	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Gout			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Tumour lysis syndrome			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	1 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Hypokalaemia			
subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Hyperglycaemia			

subjects affected / exposed	1 / 85 (1.18%)	0 / 5 (0.00%)	
occurrences causally related to treatment / all	0 / 1	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	MBG453 800mg +AZA+VEN	MBG453 400mg +AZA+VEN	
Total subjects affected by non-serious adverse events			
subjects affected / exposed	85 / 85 (100.00%)	5 / 5 (100.00%)	
Vascular disorders			
Hypotension			
subjects affected / exposed	20 / 85 (23.53%)	1 / 5 (20.00%)	
occurrences (all)	23	1	
Hypertension			
subjects affected / exposed	9 / 85 (10.59%)	0 / 5 (0.00%)	
occurrences (all)	21	0	
Orthostatic hypotension			
subjects affected / exposed	2 / 85 (2.35%)	1 / 5 (20.00%)	
occurrences (all)	2	1	
Scalp haematoma			
subjects affected / exposed	0 / 85 (0.00%)	1 / 5 (20.00%)	
occurrences (all)	0	1	
General disorders and administration site conditions			
Axillary pain			
subjects affected / exposed	0 / 85 (0.00%)	1 / 5 (20.00%)	
occurrences (all)	0	1	
Asthenia			
subjects affected / exposed	11 / 85 (12.94%)	1 / 5 (20.00%)	
occurrences (all)	15	1	
Catheter site irritation			
subjects affected / exposed	0 / 85 (0.00%)	1 / 5 (20.00%)	
occurrences (all)	0	1	
Injection site reaction			
subjects affected / exposed	7 / 85 (8.24%)	3 / 5 (60.00%)	
occurrences (all)	7	3	

Injection site erythema			
subjects affected / exposed	3 / 85 (3.53%)	1 / 5 (20.00%)	
occurrences (all)	7	2	
Influenza like illness			
subjects affected / exposed	2 / 85 (2.35%)	1 / 5 (20.00%)	
occurrences (all)	2	1	
Fatigue			
subjects affected / exposed	23 / 85 (27.06%)	2 / 5 (40.00%)	
occurrences (all)	30	2	
Chills			
subjects affected / exposed	9 / 85 (10.59%)	0 / 5 (0.00%)	
occurrences (all)	9	0	
Chest pain			
subjects affected / exposed	5 / 85 (5.88%)	0 / 5 (0.00%)	
occurrences (all)	8	0	
Chest discomfort			
subjects affected / exposed	1 / 85 (1.18%)	1 / 5 (20.00%)	
occurrences (all)	1	1	
Injection site swelling			
subjects affected / exposed	1 / 85 (1.18%)	1 / 5 (20.00%)	
occurrences (all)	1	1	
Mucosal inflammation			
subjects affected / exposed	6 / 85 (7.06%)	0 / 5 (0.00%)	
occurrences (all)	7	0	
Oedema			
subjects affected / exposed	3 / 85 (3.53%)	1 / 5 (20.00%)	
occurrences (all)	7	1	
Oedema peripheral			
subjects affected / exposed	25 / 85 (29.41%)	2 / 5 (40.00%)	
occurrences (all)	37	2	
Pyrexia			
subjects affected / exposed	31 / 85 (36.47%)	0 / 5 (0.00%)	
occurrences (all)	48	0	
Reproductive system and breast disorders			

Oedema genital			
subjects affected / exposed	0 / 85 (0.00%)	1 / 5 (20.00%)	
occurrences (all)	0	1	
Benign prostatic hyperplasia			
subjects affected / exposed	0 / 85 (0.00%)	1 / 5 (20.00%)	
occurrences (all)	0	1	
Respiratory, thoracic and mediastinal disorders			
Dyspnoea exertional			
subjects affected / exposed	0 / 85 (0.00%)	1 / 5 (20.00%)	
occurrences (all)	0	1	
Dyspnoea			
subjects affected / exposed	12 / 85 (14.12%)	1 / 5 (20.00%)	
occurrences (all)	20	1	
Cough			
subjects affected / exposed	17 / 85 (20.00%)	0 / 5 (0.00%)	
occurrences (all)	19	0	
Epistaxis			
subjects affected / exposed	8 / 85 (9.41%)	1 / 5 (20.00%)	
occurrences (all)	8	2	
Rhinorrhoea			
subjects affected / exposed	6 / 85 (7.06%)	0 / 5 (0.00%)	
occurrences (all)	6	0	
Nasal congestion			
subjects affected / exposed	5 / 85 (5.88%)	0 / 5 (0.00%)	
occurrences (all)	5	0	
Oropharyngeal pain			
subjects affected / exposed	7 / 85 (8.24%)	1 / 5 (20.00%)	
occurrences (all)	7	1	
Pleural effusion			
subjects affected / exposed	8 / 85 (9.41%)	0 / 5 (0.00%)	
occurrences (all)	9	0	
Throat tightness			
subjects affected / exposed	0 / 85 (0.00%)	1 / 5 (20.00%)	
occurrences (all)	0	1	
Hypoxia			

subjects affected / exposed	8 / 85 (9.41%)	0 / 5 (0.00%)	
occurrences (all)	10	0	
Psychiatric disorders			
Insomnia			
subjects affected / exposed	9 / 85 (10.59%)	0 / 5 (0.00%)	
occurrences (all)	10	0	
Confusional state			
subjects affected / exposed	4 / 85 (4.71%)	1 / 5 (20.00%)	
occurrences (all)	4	1	
Anxiety			
subjects affected / exposed	5 / 85 (5.88%)	0 / 5 (0.00%)	
occurrences (all)	5	0	
Investigations			
Alanine aminotransferase increased			
subjects affected / exposed	10 / 85 (11.76%)	1 / 5 (20.00%)	
occurrences (all)	13	1	
Aspartate aminotransferase increased			
subjects affected / exposed	7 / 85 (8.24%)	1 / 5 (20.00%)	
occurrences (all)	9	2	
Blood alkaline phosphatase increased			
subjects affected / exposed	5 / 85 (5.88%)	1 / 5 (20.00%)	
occurrences (all)	5	2	
Blood bilirubin increased			
subjects affected / exposed	9 / 85 (10.59%)	0 / 5 (0.00%)	
occurrences (all)	12	0	
Blood creatinine increased			
subjects affected / exposed	13 / 85 (15.29%)	0 / 5 (0.00%)	
occurrences (all)	21	0	
Electrocardiogram QT prolonged			
subjects affected / exposed	6 / 85 (7.06%)	0 / 5 (0.00%)	
occurrences (all)	6	0	
Gamma-glutamyltransferase increased			
subjects affected / exposed	8 / 85 (9.41%)	1 / 5 (20.00%)	
occurrences (all)	9	1	
Lipase increased			

subjects affected / exposed	5 / 85 (5.88%)	0 / 5 (0.00%)	
occurrences (all)	6	0	
Lymphocyte count decreased			
subjects affected / exposed	4 / 85 (4.71%)	1 / 5 (20.00%)	
occurrences (all)	10	3	
Neutrophil count decreased			
subjects affected / exposed	22 / 85 (25.88%)	3 / 5 (60.00%)	
occurrences (all)	59	12	
Platelet count decreased			
subjects affected / exposed	29 / 85 (34.12%)	3 / 5 (60.00%)	
occurrences (all)	66	11	
Troponin T increased			
subjects affected / exposed	6 / 85 (7.06%)	0 / 5 (0.00%)	
occurrences (all)	7	0	
Weight decreased			
subjects affected / exposed	14 / 85 (16.47%)	1 / 5 (20.00%)	
occurrences (all)	16	1	
White blood cell count decreased			
subjects affected / exposed	16 / 85 (18.82%)	1 / 5 (20.00%)	
occurrences (all)	51	3	
Injury, poisoning and procedural complications			
Fall			
subjects affected / exposed	8 / 85 (9.41%)	0 / 5 (0.00%)	
occurrences (all)	11	0	
Contusion			
subjects affected / exposed	11 / 85 (12.94%)	1 / 5 (20.00%)	
occurrences (all)	15	1	
Infusion related reaction			
subjects affected / exposed	6 / 85 (7.06%)	0 / 5 (0.00%)	
occurrences (all)	7	0	
Procedural pain			
subjects affected / exposed	3 / 85 (3.53%)	1 / 5 (20.00%)	
occurrences (all)	3	1	
Cardiac disorders			

Atrial fibrillation			
subjects affected / exposed	6 / 85 (7.06%)	0 / 5 (0.00%)	
occurrences (all)	6	0	
Tachycardia			
subjects affected / exposed	7 / 85 (8.24%)	0 / 5 (0.00%)	
occurrences (all)	9	0	
Nervous system disorders			
Dizziness			
subjects affected / exposed	16 / 85 (18.82%)	2 / 5 (40.00%)	
occurrences (all)	17	3	
Dysgeusia			
subjects affected / exposed	5 / 85 (5.88%)	1 / 5 (20.00%)	
occurrences (all)	6	1	
Hypoaesthesia			
subjects affected / exposed	3 / 85 (3.53%)	1 / 5 (20.00%)	
occurrences (all)	3	1	
Headache			
subjects affected / exposed	17 / 85 (20.00%)	2 / 5 (40.00%)	
occurrences (all)	21	3	
Syncope			
subjects affected / exposed	1 / 85 (1.18%)	1 / 5 (20.00%)	
occurrences (all)	1	1	
Tremor			
subjects affected / exposed	5 / 85 (5.88%)	0 / 5 (0.00%)	
occurrences (all)	6	0	
Blood and lymphatic system disorders			
Febrile neutropenia			
subjects affected / exposed	14 / 85 (16.47%)	1 / 5 (20.00%)	
occurrences (all)	17	1	
Anaemia			
subjects affected / exposed	27 / 85 (31.76%)	2 / 5 (40.00%)	
occurrences (all)	69	2	
Thrombocytopenia			
subjects affected / exposed	20 / 85 (23.53%)	0 / 5 (0.00%)	
occurrences (all)	64	0	
Neutropenia			

subjects affected / exposed	39 / 85 (45.88%)	1 / 5 (20.00%)	
occurrences (all)	191	9	
Gastrointestinal disorders			
Nausea			
subjects affected / exposed	32 / 85 (37.65%)	3 / 5 (60.00%)	
occurrences (all)	45	5	
Abdominal pain lower			
subjects affected / exposed	2 / 85 (2.35%)	1 / 5 (20.00%)	
occurrences (all)	2	1	
Abdominal pain upper			
subjects affected / exposed	4 / 85 (4.71%)	1 / 5 (20.00%)	
occurrences (all)	4	1	
Constipation			
subjects affected / exposed	48 / 85 (56.47%)	3 / 5 (60.00%)	
occurrences (all)	67	9	
Diarrhoea			
subjects affected / exposed	37 / 85 (43.53%)	2 / 5 (40.00%)	
occurrences (all)	68	7	
Dyspepsia			
subjects affected / exposed	6 / 85 (7.06%)	0 / 5 (0.00%)	
occurrences (all)	7	0	
Haemorrhoids			
subjects affected / exposed	6 / 85 (7.06%)	1 / 5 (20.00%)	
occurrences (all)	6	1	
Abdominal pain			
subjects affected / exposed	16 / 85 (18.82%)	2 / 5 (40.00%)	
occurrences (all)	19	3	
Vomiting			
subjects affected / exposed	21 / 85 (24.71%)	2 / 5 (40.00%)	
occurrences (all)	28	4	
Stomatitis			
subjects affected / exposed	13 / 85 (15.29%)	0 / 5 (0.00%)	
occurrences (all)	14	0	
Proctalgia			
subjects affected / exposed	6 / 85 (7.06%)	0 / 5 (0.00%)	
occurrences (all)	6	0	

Oral pain			
subjects affected / exposed	6 / 85 (7.06%)	0 / 5 (0.00%)	
occurrences (all)	7	0	
Skin and subcutaneous tissue disorders			
Dry skin			
subjects affected / exposed	6 / 85 (7.06%)	0 / 5 (0.00%)	
occurrences (all)	6	0	
Erythema			
subjects affected / exposed	6 / 85 (7.06%)	1 / 5 (20.00%)	
occurrences (all)	6	1	
Ingrowing nail			
subjects affected / exposed	0 / 85 (0.00%)	1 / 5 (20.00%)	
occurrences (all)	0	1	
Night sweats			
subjects affected / exposed	5 / 85 (5.88%)	1 / 5 (20.00%)	
occurrences (all)	5	2	
Skin lesion			
subjects affected / exposed	5 / 85 (5.88%)	0 / 5 (0.00%)	
occurrences (all)	5	0	
Rash maculo-papular			
subjects affected / exposed	4 / 85 (4.71%)	1 / 5 (20.00%)	
occurrences (all)	6	1	
Rash			
subjects affected / exposed	5 / 85 (5.88%)	0 / 5 (0.00%)	
occurrences (all)	8	0	
Pruritus			
subjects affected / exposed	20 / 85 (23.53%)	3 / 5 (60.00%)	
occurrences (all)	25	3	
Musculoskeletal and connective tissue disorders			
Tendon disorder			
subjects affected / exposed	1 / 85 (1.18%)	1 / 5 (20.00%)	
occurrences (all)	1	1	
Pain in jaw			
subjects affected / exposed	1 / 85 (1.18%)	1 / 5 (20.00%)	
occurrences (all)	1	1	
Pain in extremity			

subjects affected / exposed	12 / 85 (14.12%)	1 / 5 (20.00%)	
occurrences (all)	19	1	
Neck pain			
subjects affected / exposed	2 / 85 (2.35%)	1 / 5 (20.00%)	
occurrences (all)	2	1	
Musculoskeletal chest pain			
subjects affected / exposed	1 / 85 (1.18%)	1 / 5 (20.00%)	
occurrences (all)	1	1	
Muscle spasms			
subjects affected / exposed	4 / 85 (4.71%)	1 / 5 (20.00%)	
occurrences (all)	4	1	
Bone pain			
subjects affected / exposed	3 / 85 (3.53%)	1 / 5 (20.00%)	
occurrences (all)	3	1	
Back pain			
subjects affected / exposed	9 / 85 (10.59%)	2 / 5 (40.00%)	
occurrences (all)	10	2	
Arthralgia			
subjects affected / exposed	11 / 85 (12.94%)	1 / 5 (20.00%)	
occurrences (all)	14	2	
Myalgia			
subjects affected / exposed	4 / 85 (4.71%)	1 / 5 (20.00%)	
occurrences (all)	4	1	
Infections and infestations			
COVID-19			
subjects affected / exposed	16 / 85 (18.82%)	1 / 5 (20.00%)	
occurrences (all)	17	1	
Urinary tract infection			
subjects affected / exposed	9 / 85 (10.59%)	0 / 5 (0.00%)	
occurrences (all)	11	0	
Upper respiratory tract infection			
subjects affected / exposed	3 / 85 (3.53%)	1 / 5 (20.00%)	
occurrences (all)	3	1	
Pneumonia			
subjects affected / exposed	13 / 85 (15.29%)	2 / 5 (40.00%)	
occurrences (all)	16	2	

Oral candidiasis			
subjects affected / exposed	3 / 85 (3.53%)	1 / 5 (20.00%)	
occurrences (all)	3	2	
Influenza			
subjects affected / exposed	1 / 85 (1.18%)	1 / 5 (20.00%)	
occurrences (all)	1	1	
Cellulitis			
subjects affected / exposed	5 / 85 (5.88%)	0 / 5 (0.00%)	
occurrences (all)	5	0	
Metabolism and nutrition disorders			
Decreased appetite			
subjects affected / exposed	17 / 85 (20.00%)	1 / 5 (20.00%)	
occurrences (all)	18	1	
Hypophosphataemia			
subjects affected / exposed	14 / 85 (16.47%)	0 / 5 (0.00%)	
occurrences (all)	21	0	
Hyponatraemia			
subjects affected / exposed	18 / 85 (21.18%)	0 / 5 (0.00%)	
occurrences (all)	21	0	
Hypomagnesaemia			
subjects affected / exposed	19 / 85 (22.35%)	0 / 5 (0.00%)	
occurrences (all)	25	0	
Hypokalaemia			
subjects affected / exposed	29 / 85 (34.12%)	0 / 5 (0.00%)	
occurrences (all)	52	0	
Hypoglycaemia			
subjects affected / exposed	0 / 85 (0.00%)	1 / 5 (20.00%)	
occurrences (all)	0	1	
Hypocalcaemia			
subjects affected / exposed	11 / 85 (12.94%)	0 / 5 (0.00%)	
occurrences (all)	16	0	
Hypoalbuminaemia			
subjects affected / exposed	5 / 85 (5.88%)	0 / 5 (0.00%)	
occurrences (all)	8	0	
Hyperuricaemia			

subjects affected / exposed	4 / 85 (4.71%)	1 / 5 (20.00%)	
occurrences (all)	4	1	
Hyperphosphataemia			
subjects affected / exposed	10 / 85 (11.76%)	0 / 5 (0.00%)	
occurrences (all)	10	0	
Hyperglycaemia			
subjects affected / exposed	6 / 85 (7.06%)	0 / 5 (0.00%)	
occurrences (all)	8	0	
Hypercalcaemia			
subjects affected / exposed	1 / 85 (1.18%)	1 / 5 (20.00%)	
occurrences (all)	1	1	

More information

Substantial protocol amendments (globally)

Were there any global substantial amendments to the protocol? Yes

Date	Amendment
10 February 2020	This amendment, issued before trial initiation and treatment, incorporated US FDA recommendations from the End of Phase 1 meeting (22 November 2019). The main objectives were to further evaluate subject safety during the safety run-in part of the trial by exploring a lower dose level of MBG453 (400 mg Q4W) with azacitidine and venetoclax before escalating to 800 mg Q4W, and to and to ensure consistency in the enrolled subject population across sites by modifying I/E criteria to more precisely define the population not suitable for intensive chemotherapy. As the combination of MBG453, azacitidine & venetoclax had not been tested in the clinic, the safety run-in initially enrolled a cohort of 3–6 evaluable subjects at a starting dose of MBG453 of 400 mg Q4W in combination with azacitidine and venetoclax; if tolerated, about 12 subjects were treated at the higher dose of MBG453 800 mg Q4W with same combination. Eligibility criteria were refined from the original protocol for uniformity, specifying age and certain comorbidities (cardiac, pulmonary, hepatic, renal) for patient selection, aligning with similar venetoclax studies. The modified definition of the secondary endpoint, event free survival (EFS) was modified per FDA feedback & was to be aligned with other MBG453 studies as well as with studies with other agents in this subject population. The modified definition of EFS now included treatment failure which is failure to achieve CR after 7 cycles of treatment, death due to any cause, and relapse from CR as events; disease progression and start of new therapy were no longer considered events. A new exploratory objective, Progression free survival (PFS) was added to evaluate the potential benefit of disease stabilization. Finally, clarification was provided on the scope of the Steering Committee (including recommendation of study termination). This amendment also included minor editorial changes and additional clarifications to address investigators' questions.
19 May 2020	As the release of this amendment, no sites have been initiated, and no subject has been screened or has received study treatment in this trial. The main purpose of this amendment is to allow enrollment of patients receiving moderate or strong CYP3A4 inhibitors or Pg-p inhibitors, in order to allow use of prophylactic antifungal medications (e.g. posaconazole, fluconazole or other azoles) commonly used in this patient population. This amendment expands the pool of eligible subjects, allowing enrollment of subjects more representative of the overall population with AML not suitable for intensive chemotherapy. Venetoclax is metabolized via the CYP3A4 system. Inhibitors of CYP3A4 administered concurrently with venetoclax result in higher, potentially toxic plasma levels of venetoclax. This has been studied extensively and is reflected in the prescribing information for venetoclax. It is allowed to co-administer venetoclax with strong CYP3A inhibitors, but venetoclax doses need to be reduced. As many antifungal drugs commonly used for prophylaxis or treatment of fungal infections in AML are strong CYP3A inhibitors, this amendment removes the strict ban of co-administration in lieu of dose-reduction rules for venetoclax. In addition, the following updates have been implemented: Extend the restrictions on the use of live vaccines until the end of the follow-up period after the last dose of MBG453; Guidance has been added on the criteria for MBG453 dose management for dermatological adverse drug reactions (ADRs) and non-immune related toxicities to align with the MBG453 Investigator's Brochure; Guidance has been added that subjects should be monitored carefully for any skin toxicity or mucositis, and that study treatment should be discontinued for any suspected case of Stevens-Johnson syndrome (SJS), or Lyell syndrome/toxic epidermal necrolysis (TEN) to align with the MBG453 Investigator's Brochure.

08 April 2021	At the time of release of this amendment, 5 subjects have been enrolled to this trial. The main purpose of this amendment is to modify the exclusion criteria to permit enrollment of patients with therapy-related AML. This change will align eligibility criteria with VIALE-A, the Phase III study that demonstrated the efficacy of venetoclax and azacitidine in patients with AML not suitable for intensive chemotherapy. In addition, the following notable changes were made: - Exclusion criterion #6 was modified to allow enrollment of patients who have been treated for a malignancy and have been disease free (absence of residual disease) for at least 1 year; previously a disease free period of 2 years was required. - Requirements for evaluation of extramedullary disease were modified to allow imaging modalities and techniques to be selected based on institutional standard of care. The previous specifications for use of CT scan or MRI have been removed. - Venetoclax ramp-up dosing was updated based on Venclexta® (Venetoclax) USPI 2018. The 4-day ramp-up dosing was amended to 100 mg (D1), 200 mg (D2), 400 mg (D3), 400 mg (D4) compared to the original protocol which noted 4-day ramp-up dosing as 100 mg (D1), 200 mg (D2), 300 mg (D3), 400 mg (D4). - New, Novartis standard language, referred to as disruption proofing language, has been added to address trial conduct during public health emergencies. The added language addresses study participant safety and trial integrity. In addition, updates to the new version of Novartis protocol CTP template were made. - This amendment also includes minor editorial changes and additional clarifications
22 December 2021	At the time of release of this amendment, 29 subjects have been enrolled to this trial. Part 1 (safety run-in) has been completed, and following investigator's recommendation from the Safety Review Meeting held on 26-Oct-2021, the expansion phase has opened to enrollment. The main purpose of this amendment is to modify the guidance on permanent discontinuation of treatment for patients experiencing prolonged cytopenias. Cytopenia is a common adverse event with the triplet combination of MBG453, venetoclax, and azacitidine and may take longer than 28 days to recover. For patients experiencing prolonged cytopenias, the study treatment may be interrupted for up to 42 days. This change will allow patients the opportunity to stay on study treatment while their blood counts recover. In addition, the DLT criteria related to prolonged hematologic toxicities, applicable during the safety run-in phase, were modified. A CTCAE Grade 4 neutropenia, thrombopenia or pancytopenia, not related to leukemic infiltration, persisting beyond 42 days (instead of 56 days previously) from start of treatment cycle constitutes a DLT. This change was implemented consistently for pertinent combination studies within the MBG453 program.
08 December 2022	At the time of release of this amendment, all subjects (n= 90) have been enrolled to this trial. The main purpose of the present amendment is to revise the timing of the primary analysis (CR analysis) in order to capture potential late responders and more robust duration of response to study treatment. The CR rate analysis, initially planned when all subjects completed at least 7 treatment cycles or discontinued earlier, will now be performed when all subjects completed at least 12 treatment cycles or discontinued earlier. As recent publications highlighted the high variability of time to/duration of response in patients receiving venetoclax plus azacitidine; it is necessary to allow sufficient follow-up time before conducting the CR rate analysis. In addition, the following secondary endpoints were added: CR/CRh rate and duration of CR/CRh that will be derived by the Sponsor. These changes are made to reflect the updated ELN 2022 diagnosis and management of AML guidelines.

Notes:

Interruptions (globally)

Were there any global interruptions to the trial? No

Limitations and caveats

Limitations of the trial such as small numbers of subjects analysed or technical problems leading to unreliable data.

Due to EudraCT system limitations, which EMA is aware of, data using 999 as data points in this record are not an accurate representation of the clinical trial results. Please use https://www.novctrd.com for complete trial results.

Notes: