

## CMBG453B12301 Study of Efficacy and Safety of MBG453 in Combination With Azacitidine in Subjects With Intermediate, High or Very High Risk Myelodysplastic Syndrome (MDS) as Per IPSS-R, or Chronic Myelomonocytic Leukemia-2 (CMML-2)

11/08/2025 05:11:10

### Main Information

**Primary registry identifying number**

LBCTR2020094590

**Protocol number**

CMBG453B12301

**MOH registration number**

**Study registered at the country of origin**

Yes

**Study registered at the country of origin: Specify**

**Type of registration**

Prospective

**Type of registration: Justify**

N/A

**Date of registration in national regulatory agency**

**Primary sponsor**

Novartis Pharmaceuticals

**Primary sponsor: Country of origin**

Novartis Pharmaceuticals

**Date of registration in primary registry**

11/02/2025

**Date of registration in national regulatory agency**

**Public title**

CMBG453B12301 Study of Efficacy and Safety of MBG453 in Combination With Azacitidine in Subjects With Intermediate, High or Very High Risk Myelodysplastic Syndrome (MDS) as Per IPSS-R, or Chronic Myelomonocytic Leukemia-2 (CMML-2)

**Acronym**

CMBG453B12301

**Scientific title**

A Randomized, Double-blind, Placebo-controlled Phase III Multi-center Study of Azacitidine With or Without MBG453 for the Treatment of Patients With Intermediate, High or Very High Risk Myelodysplastic Syndrome (MDS) as Per IPSS-R, or Chronic Myelomonocytic Leukemia-2 (CMML-2)

**Acronym**

**Brief summary of the study: English**

This is a Phase III multi-center, randomized, two-arm parallel-group, double-blind, placebo-controlled study of MBG453 or placebo added to azacitidine in adult subjects with intermediate, high or very high risk myelodysplastic syndrome (MDS) as per IPSS-R, or Chronic Myelomonocytic Leukemia-2 (CMML-2) who have an indication for treatment with azacitidine in first-line setting and are not eligible for intensive chemotherapy or hematopoietic stem cell transplantation (HSCT) according to medical judgment by the investigator.

The purpose of the current study is to assess clinical effects of MBG453 in combination with azacitidine in adult subjects with IPSS-R intermediate, high, very high risk MDS and CMML-2.

**Brief summary of the study: Arabic**



دراسة متعددة المراكز، عشوائية التوزيع، مزدوجة التعمية، مركزة على المقارنة بدواء وهمي، في المرحلة الثالثة حول دواء أزاسيتيدين مع أو بدون MBG453 لعلاج المرضى المصابين بمتلازمة خلل التنسج النقوي العالية الخطورة أو ذات الخطورة العالية جداً وفقاً للنظام الدولي المنفتح لتسجيل النتائج (IPSS-R) 2 أو بسرطان الدم الوبائي المزمن.

## Health conditions/problem studied: Specify

- Myelodysplastic Syndromes
- Leukemia, Myelomonocytic, Chronic

## Interventions: Specify

- Drug: MBG453

A dose of MBG453 800 mg will be administered intravenously (IV) every 4 weeks (Q4W).

- Drug: Azacitidine

A dose of Azacitidine 75 mg/m<sup>2</sup> will be administered IV or subcutaneously (SC) on Day 1-7, or Day 1-5, 8 and 9.

- Drug: Placebo

A dose of Placebo 800 mg will be administered intravenously every 4 weeks (Q4W).

## Key inclusion and exclusion criteria: Inclusion criteria

### Inclusion Criteria:

- Signed informed consent must be obtained prior to participation in the study
- Age ≥ 18 years at the date of signing the informed consent form
- Morphologically confirmed diagnosis of myelodysplastic syndrome (MDS) based on WHO 2016 classification (Arber et al 2016) by local investigator assessment with one of the following Prognostic Risk Categories, based on the revised International Prognostic Scoring System (IPSS-R):
  - Very high (> 6 points)
  - High (> 4.5 - ≤ 6 points)
  - Intermediate (> 3 - ≤ 4.5 points) Or Morphologically confirmed diagnosis of Chronic Myelomonocytic Leukemia -2 based on WHO 2016 classification (Arber et al 2016) by local investigator assessment with WBC < 13 x 10<sup>9</sup>/L
- Indication for azacitidine treatment according to the investigator, based on local standard medical practice and institutional guidelines for treatment decisions
- Not eligible at time of screening for intensive chemotherapy according to the investigator, based on local standard medical practice and institutional guidelines for treatment decisions, including assessment of individual clinical factors such as age, comorbidities and performance status
- Not eligible at time of screening for hematopoietic stem cell transplantation (HSCT) according to the investigator, based on local standard medical practice and institutional guidelines for treatment decisions, including assessment of individual clinical factors such as age, comorbidities, performance status, and donor availability
- Eastern Cooperative Oncology Group (ECOG) performance status of 0, 1 or 2

## Key inclusion and exclusion criteria: Gender

Both

## Key inclusion and exclusion criteria: Specify gender

## Key inclusion and exclusion criteria: Age minimum

18

## Key inclusion and exclusion criteria: Age maximum

99

## Key inclusion and exclusion criteria: Exclusion criteria

- Prior exposure to TIM-3 directed therapy at any time. Prior therapy with immune checkpoint inhibitors (e.g. anti-CTLA4, anti-PD-1, anti-PD-L1, or anti-PD-L2), cancer vaccines is allowed except if the drug was administered within 4 months prior to randomization
- Previous first-line treatment for intermediate, high, very high risk myelodysplastic syndromes (based on IPSS-R) or CMML with any antineoplastic agents including for example chemotherapy, lenalidomide and hypomethylating agents (HMAs) such as decitabine and azacitidine. However, previous treatment with hydroxyurea or leukopheresis to reduce WBC count is allowed prior to randomization.
- Investigational treatment received within 4 weeks or 5 half-lives of this investigational treatment, whatever is longer, prior to randomization. In case of a checkpoint inhibitor: a minimal interval of 4 months prior to randomization is necessary to allow randomization.
- Subjects with Myelodysplastic syndrome (MDS) based on 2016 WHO classification (Arber et al 2016) with revised International Prognostic Scoring System (IPSS-R) ≤ 3
- Diagnosis of acute myeloid leukemia (AML) including acute promyelocytic leukemia and extra-medullary acute myeloid leukemia, primary or secondary myelofibrosis based on WHO 2016 classification (Arber et al 2016)
- Diagnosis of therapy related myeloid neoplasms based on WHO 2016 classification (Arber et al 2016)
- History of organ or allogeneic hematopoietic stem cell transplant

Other protocol-defined Inclusion/Exclusion Criteria may apply.

## Type of study

Interventional

**Type of intervention**

Pharmaceutical

**Type of intervention: Specify type**

N/A

**Trial scope**

Therapy

**Trial scope: Specify scope**

N/A

**Study design: Allocation**

Randomized controlled trial

**Study design: Masking**

Blinded (masking used)

**Study design: Control**

Placebo

**Study phase**

3

**Study design: Purpose**

Treatment

**Study design: Specify purpose**

N/A

**Study design: Assignment**

Parallel

**Study design: Specify assignment**

N/A

**IMP has market authorization**

No

**IMP has market authorization: Specify**
**Name of IMP**

MBG453

**Year of authorization**
**Month of authorization**
**Type of IMP**

Immunological

**Pharmaceutical class**

humanized monoclonal antibody against human TIM-3

**Therapeutic indication**

Patients with:  
Myelodysplastic Syndromes or with chronic Leukemia Myelomonocytic

**Therapeutic benefit**

The primary objective of this study is to compare overall survival (OS) in the MBG453 plus azacitidine arm versus placebo plus azacitidine arm where OS is the time from randomization until death due to any cause.

**Study model**

N/A

**Study model: Explain model**

N/A

**Study model: Specify model**

N/A

**Time perspective**

N/A

**Time perspective: Explain time perspective**

N/A

**Time perspective: Specify perspective**

N/A

**Target follow-up duration**
**Target follow-up duration: Unit**

## Number of groups/cohorts

### Biospecimen retention

Samples without DNA

### Biospecimen description

Samples will be shipped to covance central laboratory and BMA will be

### Target sample size

4

### Actual enrollment target size

1

### Date of first enrollment: Type

Actual

### Date of first enrollment: Date

21/06/2021

### Date of study closure: Type

Actual

### Date of study closure: Date

31/12/2024

### Recruitment status

Complete

### Recruitment status: Specify

### Date of completion

22/12/2021

### IPD sharing statement plan

Yes

### IPD sharing statement description

Novartis is committed to sharing with qualified external researchers, access to patient-level data and supporting clinical documents from eligible studies. These requests are reviewed and approved by an independent expert panel on the basis of scientific merit. All data provided is anonymized to respect the privacy of patients who have participated in the trial in line with applicable laws and regulations.

### Additional data URL

<https://clinicaltrials.gov/ct2/show/record/NCT04266301?term=MBG&draw=2&rank=2&view=record>

### Admin comments

### Trial status

Approved

## Secondary Identifying Numbers

Full name of issuing authority	Secondary identifying number
Clinical trials.gov	NCT04266301



## Sources of Monetary or Material Support

Name

Novartis Pharmaceuticals

## Secondary Sponsors

Name

NA

## Contact for Public/Scientific Queries

Contact type	Contact full name	Address	Country	Telephone	Email	Affiliation
Public	Ali Bazarbach	Beirut	Lebanon	961-1-350000 ext 5800	bazarbac@aub.edu.lb	American University of Beirut Medical Center
Scientific	Hind Khairallah	Beirut	Lebanon	9611512002 ext 271	hind.khairallah@attal.com.lb	Khalil Fattal et Fils

## Centers/Hospitals Involved in the Study

Center/Hospital name	Name of principles investigator	Principles investigator speciality	Ethical approval
American UNiversity of Beirut medical Center	Ali Bazarbach	Hematology	Approved

## Ethics Review

Ethics approval obtained	Approval date	Contact name	Contact email	Contact phone
American University of Beirut Medical Center	31/08/2020	Fuad Ziyadeh	fz05@aub.edu.lb	9611350000 ext 5445



## Countries of Recruitment

Name
Lebanon
Australia
Austria
Belgium
Oman
Saudi Arabia
Czech Republic
Finland
France
Japan
Singapore
Spain
Switzerland
Taiwan
Thailand

## Health Conditions or Problems Studied

Condition	Code	Keyword
MDS	Myelodysplastic syndrome, unspecified (D46.9)	MDS
CMML 2	Chronic monocytic leukaemia (C93.1)	CMML2

## Interventions

Intervention	Description	Keyword
Informed consent, IMP administration, questionnaire , Bone marrow aspirate, Lab tests	Informed consent, IMP administration, questionnaire , Bone marrow aspirate, Lab tests	Informed consent, IMP administration, questionnaire , Bone marrow aspirate, Lab tests



## Primary Outcomes

Name	Time Points	Measure
Overall Survival	5 years	5 years

## Key Secondary Outcomes

Name	Time Points	Measure
Time to definitive deterioration of fatigue using Functional Assessment of Cancer Therapy (FACIT)-Fatigue score	5 years	5 years
Red Blood Cell transfusion-free intervals	5 years	5 years
Percent of subjects with at least 3 point confirmed improvement from baseline in FACIT-fatigue score	5 years	5 years
Percent of subjects with at least 10 point confirmed improvement from baseline in physical functioning using European Organization for Research and Treatment of Cancer's Core Quality of Life Questionnaire	5 years	5 years
Percentage of subjects with either CR, or mCR, or PR, or HI in each treatment arm according to International Working Group for MDS	5 years	5 years
Progression Free Survival (PFS)	5 years	5 years
Percentage of subjects with stable disease in each treatment arm according to International Working Group for MDS (IWG-MDS) as per investigator assessment	5 years	5 years



## Trial Results

Summary results

Study results globally

Date of posting of results summaries

Date of first journal publication of results

Results URL link

Baseline characteristics

Participant flow

Adverse events

Outcome measures

URL to protocol files