NOVARTIS

Clinical Trial Results Summary

A clinical trial to learn more about the safety of MBG453 in combination with standard treatment in people with myelodysplastic syndrome

Thank you!

Thank you to the participants who took part in the clinical trial for **myelodysplastic syndrome**. Every participant helped the researchers learn more about the trial drug **MBG453**, also called **sabatolimab**.

Novartis sponsored this trial and believes it is important to share what was learned from the results of this trial with the participants and the public. We hope this helps the participants understand their important role in medical research.

Trial information

Trial number: CMBG453B1US01

Novartis drug studied: **MBG453**, also called **sabatolimab**

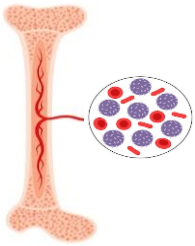
Sponsor: Novartis

If you were a participant and have any questions about the results, please talk to the doctor or staff at the trial site.

This summary only shows the results of a single clinical trial. Other clinical trials may have different results.

What was the main purpose of this trial?

The purpose of this trial was to learn more about the safety of **MBG453** in combination with **standard treatment** in people with **medium**, **high**, or **very high-risk myelodysplastic syndrome (MDS)**.



Myelodysplastic syndrome (MDS) is a group of conditions where the blood cells formed in the bone marrow do not mature or become healthy. Bone marrow is found in the center of some bones and is where blood cells are made. The symptoms of **MDS** include weakness, shortness of breath, pale skin, bleeding, being more prone to infections, and red or purple spots on the skin.

People with **medium-risk MDS** usually have fewer symptoms than those with **high** or **very high-risk MDS**. The risk level shows how likely the disease is to worsen or cause other life-threatening problems. In some cases, **MDS** might progress to acute myeloid leukemia (blood and bone marrow cancer).

MBG453, also called sabatolimab, is the trial drug being studied for treating **MDS**. It works by blocking a protein called TIM-3, present on the surface of some white blood cells and cancer cells. This process may activate the immune system and reduce the growth of cancer cells.

Trial drug
MBG453 also called sabatolimab
Pronounced as
Saba-To-li-mab

Participants also received **azacitidine** or **decitabine** as **standard treatment** during this trial. The **standard treatments**:

- are approved for **MDS** in some countries
- help the bone marrow make healthy blood cells
- reduce the number of abnormal cells over time

The trial's purpose was to answer this main question:

- How many participants had medical problems, also called adverse events, during this trial?
  - An **adverse event** is any sign or symptom that participants have during a trial. Adverse events **may** or **may not** be caused by treatments in the trial.

How long was this trial?

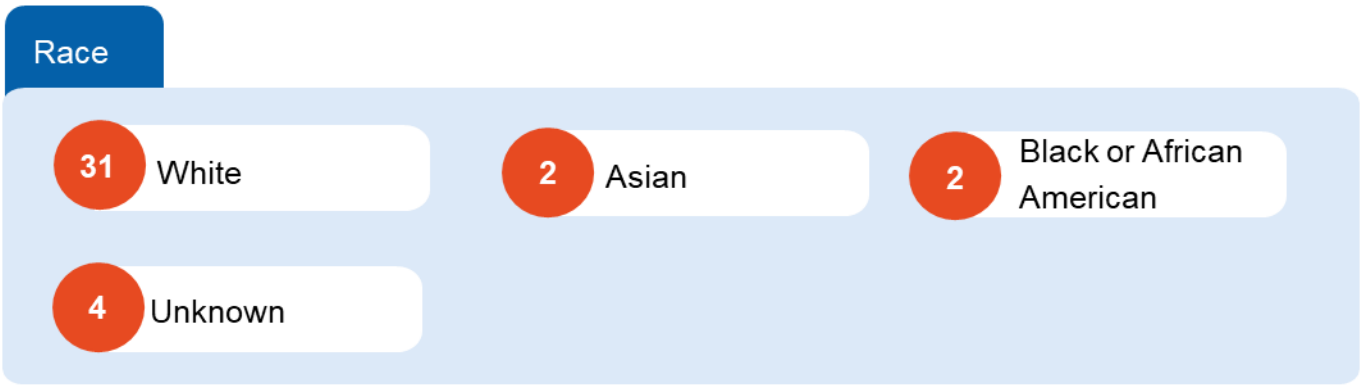
The trial began in March 2022. The participants were planned to be in this trial for about 3 years. However, the trial ended earlier than planned in September 2024.

The sponsor decided to end this trial early because the results of another **MBG453** trial did not show the expected effects in people with **MDS**. This decision was not due to any safety concerns with **MBG453** during the trial.

Who was in this trial?

39 participants with **MDS** received treatment in this trial – 25 men and 14 women. Participants' ages ranged from 39 to 86 years. Their average age was 68 years. All the participants were from the United States.

The number of participants by race is shown below:



The participants could take part in this trial if they were:

- 18 years of age or older
- diagnosed with **medium**, **high**, or **very high-risk MDS**
- not eligible to receive treatments such as high-dose chemotherapy or treatment requiring the transfer of blood cells from the bone marrow of a healthy person (also called stem cell transplant) at the start of the trial
- not previously treated with **standard treatment**
- either fully active or at least able to do their daily jobs, except for heavy activities

What treatments did the participants receive?

The treatments in this trial were given in **cycles**.

All participants received **MBG453** alone or with either **azacitidine** or **decitabine**. Doctors selected the **standard treatment** as per local practice.

Participants received the following treatments during each cycle:

A **cycle** is a treatment period that is repeated. In this trial, each cycle was a 28-day treatment period.

MBG453: 800 milligrams (mg) of **MBG453** as an intravenous infusion into a vein once, either alone on Day 8 or with **standard treatment** on any day between Days 5 and 8.

Azacitidine: 75 **mg/m²** as an intravenous infusion into a vein or an injection under the skin, once a day for 7 days; alternatively, on Days 1 to 5 and Days 8 to 9.

Decitabine: 20 mg/m^2 as an intravenous infusion into a vein; alternatively, 35 mg of **decitabine** or 100 mg of **cedazuridine** (another form of **decitabine**) as tablets by mouth, once daily on Days 1 to 5.

Milligrams per square meter (**mg/m²**) is a unit for measuring the amount of trial drug based on a person's height and weight.

The participants, researchers, and trial staff knew what treatment the participants were receiving.

What happened during the trial?

Before treatment

Up to 1 month

The trial staff checked to make sure the participants could be in this trial.

During treatment

Up to 2 years

The trial had two parts:

Part 1 (up to 1 year)

- 39 participants received **MBG453** along with **standard treatment** in 28-day cycles.
- **MBG453** was given as an intravenous infusion into a vein, combined with one of the **standard treatments** chosen by the trial doctor.

Part 2 (up to 1 year)

- After completing one year in Part 1, participants could move to Part 2 based on their trial doctor's decision and the participants' response to the treatment.
- Out of 39 participants, 12 entered Part 2. Participants could continue in this part for up to one year or as long as they were benefitting from the treatment. In Part 2, participants could receive one of the following treatments:
  - continue with **MBG453** with **standard treatment** from Part 1
  - **standard treatment** alone
  - **MBG453** alone

Even though the trial ended early, participants continued receiving treatment and remained in follow-up as planned.

After treatment

Up to 5 months

Trial staff checked all the participants who either completed the trial or discontinued due to worsening of their **MDS** for general health and any medical problems for up to 5 months.

Trial doctors contacted the participants every 6 months to check on their health until the end of the trial.

What were the main results of this trial?

How many participants had medical problems, also called adverse events, during this trial?

Trial doctors keep track of all medical problems, also called **adverse events**, that happen in trials. They track adverse events even if they think the adverse events are not related to the trial treatments.
Many trials are needed to know if a drug or treatment causes an adverse event.

This section is a summary of the adverse events that happened from the start of treatment until 5 months after the last treatment.

An **adverse event** is:

- Any **sign or symptom** that the participants have during a trial
- Considered **serious** when it is life-threatening, causes lasting problems, the participant needs hospital care, or results in death

Adverse events **may** or **may not** be caused by treatments in the trial.

- All participants had adverse events, including serious and non-serious.
- 23 participants had adverse events that were considered serious.
- 3 participants left the trial due to an adverse event.
- 20 participants died due to any cause.
- The researchers concluded there were no new safety concerns for **MBG453** in this trial.

How many participants had adverse events?

	MBG453 with standard treatment 39 participants
Had at least 1 **adverse event including serious and non-serious**	**39 of 39** 100%
Had at least 1 **serious adverse event**	**23 of 39** 59%
Left the trial due to an adverse event	**3 of 39** 8%
Died due to any cause	**20 of 39** 51%

What serious adverse events did the participants have?

23 participants had serious adverse events. The table below shows the most common serious adverse events that happened.

	MBG453 with standard treatment 39 participants
Fever due to a low number of neutrophils (a type of white blood cell) in the blood Febrile neutropenia	**14 of 39** 36% 
Infection of the lungs Pneumonia	**5 of 39** 13% 
Irregular and rapid heartbeat Atrial fibrillation	**2 of 39** 5%
Fall	**2 of 39** 5%
Bleeding in the digestive tract Gastrointestinal hemorrhage	**2 of 39** 5%
Fever Pyrexia	**2 of 39** 5%
Infection in the urinary system Urinary tract infection	**2 of 39** 5%

What other (not including serious) adverse events did the participants have?

The table on the next page shows the most common other adverse events that happened.

	MBG453 with standard treatment 39 participants
Low number of red blood cells Anemia	**16 of 39** 41%
Decreased number of platelets in the blood Platelet count decreased	**16 of 39** 41%
Decreased number of white blood cells White blood cell count decreased	**16 of 39** 41%
Constipation	**15 of 39** 39%
Decreased number of a type of white blood cell (neutrophils) Neutrophil count decreased	**15 of 39** 38%
Feeling tired Fatigue	**12 of 39** 31%
Headache	**12 of 39** 31%
Feeling sick Nausea	**11 of 39** 28%
Diarrhea	**8 of 39** 21%

What was learned from this trial?

The trial ended early because the results of another **MBG453** trial did not show the expected effects in people with **myelodysplastic syndrome** (**MDS**).

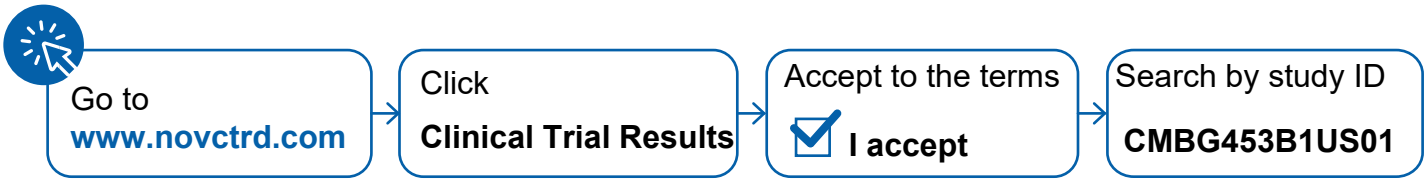
The researchers did not find any new safety concerns with the use of **MBG453** in combination with **standard treatment** in people with **medium**, **high**, or **very high-risk MDS** in this trial.

There are no further studies planned for **MGB453** in people with **medium**, **high**, or **very high-risk MDS**.

Where can I learn more about this trial?

More information about the results and adverse events in this trial can be found in the scientific summary of the results available on the Novartis Clinical Trial Results website, **www.novctrd.com**.

Follow these steps to find the scientific summary:



For more information about this trial, go to the following website:

- **www.clinicaltrials.gov**– search using the number **NCT04878432**

Other trials of **MBG453** may appear on the public websites above. When there, search for **MBG453** or sabatolimab.

Full clinical trial title: Single-arm, open label, Phase II study of MBG453 (sabatolimab) added to FDA approved hypomethylating agents of investigator's choice (IV/SC/Oral) for patients with intermediate, high or very high risk myelodysplastic syndrome (MDS) as per IPSS-R criteria (US multi-center) (STIMULUS MDS-US)

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