Clinical Study Results

CSL Behring

Research Sponsor: CSL Behring LLC
Treatment Studied: CSL312
Study Purpose: A study to learn more about how CSL312 works in participants with severe COVID-19

Thank you

Thank you to the participants who took part in the clinical study for the study treatment CSL312, also called garadacimab.

All of the participants helped researchers learn more about CSL312 to help people with severe COVID-19.

CSL Behring sponsored this study and thinks it is important to share the results of the study with the participants and the public. We hope it helps the participants understand and feel proud of their important role in medical research.

If you have questions about the results, please speak with the doctor or staff at your study site.

What is happening with the study now?

The participants were in the study for up to 4 weeks. But the entire study took around 6.5 months to finish. The study started in July 2020 and ended in January 2021. The study included 124 participants in the United States.

CSL Behring reviewed the data collected when the study ended and created a report of the results. This is a summary of the main results of that report.

Why was the research needed?

Researchers are looking for a better way to treat severe COVID-19. Before a treatment can be approved for patients to receive, researchers do clinical studies to find out how it works and how safe it is.

Most people who catch COVID-19 have a mild form of the illness. They may have symptoms such as high temperature and dry cough. But some people have severe symptoms, such as a serious lung infection called pneumonia. In some cases, a person may need to stay at a hospital and use a machine called a ventilator to help them breathe. In the most severe cases, people can die from complications of COVID-19.

In this study, the researchers wanted to find out if CSL312 works in a small number of participants with severe COVID-19. They also wanted to find out if the participants had any medical problems that might be related to CSL312.

The main questions researchers wanted to answer in this study were:

- Did CSL312 reduce the number of participants who needed a ventilator to help them breathe or who died from complications of COVID-19?
- What medical problems did the participants have during the study?

What kind of study was this?

To answer the questions in this study, researchers asked for the help of men and women with COVID-19 who were in the hospital with severe symptoms and a lung infection. The participants in this study were 22 to 92 years old when they joined.

The participants in this study got a single dose of either CSL312 or a placebo. The dose was given through a needle into a vein, also called an “IV infusion”.

A placebo looks like a medicine but does not have any medicine in it. Researchers use a placebo to help make sure any of the effects they see in the participants who receive the medicine are actually caused by the medicine.

All of the participants also got standard of care treatment for COVID-19. This means they were cared for in the hospital according to the local procedures for looking after people with COVID-19 and a lung infection.

- **63** participants were planned to get **CSL312**.
- **61** participants were planned to get **the placebo**.

A computer program was used to randomly choose the treatment each participant received. Researchers do this so that comparing the results of each treatment is as accurate as possible.

This was a “double-blind” study. This means none of the participants, doctors, or other study staff knew what treatment each participant received. Some studies are done this way because knowing what treatment the participants are receiving can affect the results of the study. When the study ended, CSL Behring was provided information about which treatment the participants received so they could create a report of the study results.

What happened during the study?

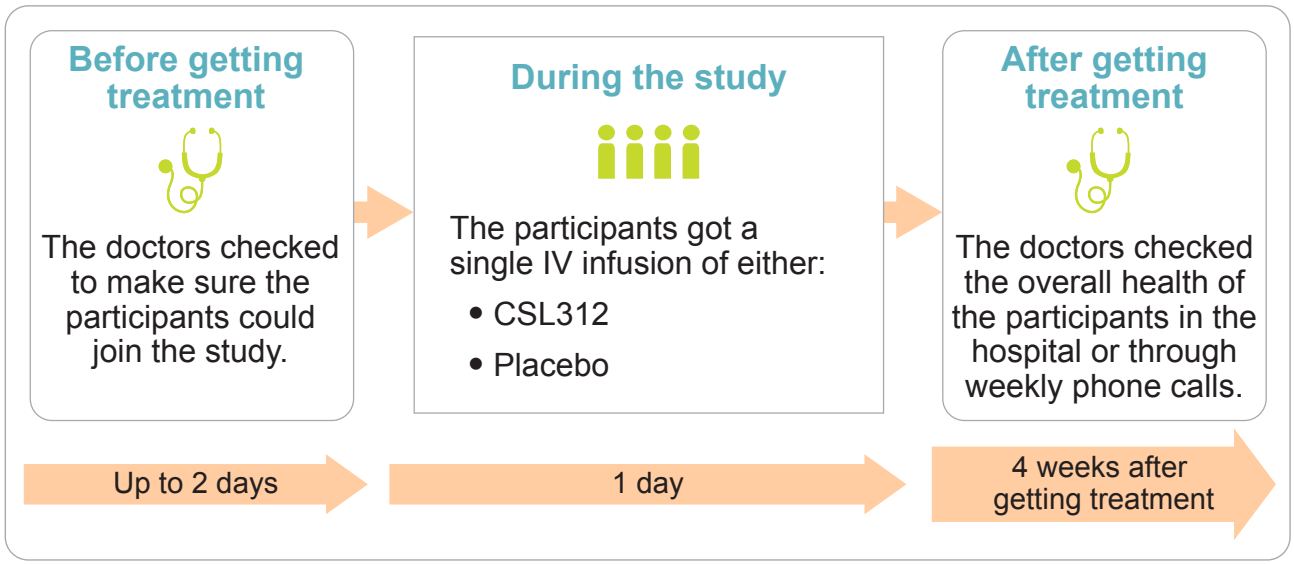
Before the participants got any study treatment, the study doctors checked their overall health to make sure they could join the study. They checked that all the participants had a positive COVID-19 test result and had scan results showing they had a severe lung infection. They also asked about the participants' medical history. The doctors also checked the participants' breathing and took blood and urine samples. They repeated some of these tests and measurements throughout the study.

During the study, the doctors gave the participants their dose of CSL312 or the placebo.

After getting study treatment, the doctors monitored the participants for 4 weeks. This was done either in the hospital or through weekly telephone calls for the participants who had left the hospital.

At the end of the study, the participants had a phone call with the doctors or visited their study site so that the doctors could check their overall health. The doctors also collected blood and urine samples for the participants who visited their study site.

The chart below shows how the study was done.



What were the results of the study?

This is a summary of the main results from this study overall. The results each participant had might be different from the overall summary results. A full list of the questions researchers wanted to answer can be found on the website listed at the end of this summary. If a full report of the study results is available, it may also be found on this website.

It takes many studies to decide which treatments work best and are safest. Other studies may provide new information or different results.

Did CSL312 reduce the number of participants who needed help breathing or who died from complications of COVID-19?

Overall, fewer participants who got CSL312 needed help breathing or died from complications of COVID-19 compared to participants who got the placebo. But the difference between the 2 groups was too small for the researchers to know if CSL312 helped people who have severe COVID-19 to breathe better and have less serious health complications from COVID-19.

The researchers found that:

- **22.2%** of participants who were planned to get **CSL312** needed help breathing or died from complications of COVID-19. This was 14 out of 63 participants.
- **26.2%** of participants who were planned to get **the placebo** needed help breathing or died from complications of COVID-19. This was 16 out of 61 participants.

What medical problems did the participants have during the study?

This section is a summary of the “adverse events” that happened during the study. An adverse event is any medical problem that participants have during the study. An adverse event is considered “serious” when it is life-threatening, causes lasting problems, is medically significant, requires hospital care, or results in death.

Adverse events may or may not be caused by the treatments in this study. A lot of research is needed to know whether a treatment causes an adverse event. Doctors keep track of all the adverse events that happen in studies, even if they do not think the adverse events might be related to the treatment.

There were 7 out of 124 participants who left the study before getting any study treatment. So, the results below are for the **117** participants who got the study treatment.

How many participants had adverse events?

There were **60.3%** of participants who got **CSL312** who had adverse events during the study. This was 35 out of 58 participants.

- **1.7%** of participants who got CSL312 left the study because of adverse events they had during the study. This was 1 out of 58 participants.

There were **67.8%** of participants who got **the placebo** who had adverse events during the study. This was 40 out of 59 participants.

- **None** of the participants who got the placebo left the study because of adverse events they had during the study.

How many participants had serious adverse events?

There were **34.5%** of participants who got CSL312 who had serious adverse events during the study. This was 20 out of 58 participants.

- The researchers did not think that any of these serious adverse events were related to getting study treatment.
- 20.7% of the participants who got CSL312 died because of serious adverse events during the study. This was 12 out of 58 participants.

There were **32.2%** of participants who got the placebo who had serious adverse events during the study. This was 19 out of 59 participants.

- The researchers thought that 1 of these serious adverse events was related to getting study treatment. This serious adverse event was a blood clot in the leg.
- 18.6% of participants who got the placebo died because of serious adverse events during the study. This was 11 out of 59 participants.

What serious adverse events did the participants have?

The serious adverse events below happened in 2 or more participants. There were other serious adverse events that happened during the study, but these happened in 1 participant each.

Serious adverse event	**CSL312** (58 participants)	**Placebo** (59 participants)
Not enough oxygen or too much carbon dioxide in the blood because of the lungs not working properly	10.3% (6)	11.9% (7)
Not enough oxygen in the blood	6.9% (4)	1.7% (1)
Suddenly having not enough oxygen or too much carbon dioxide in the blood because of the lungs not working properly	6.9% (4)	1.7% (1)
Blood clot in the leg	5.2% (3)	1.7% (1)
Heart stopped beating	5.2% (3)	1.7% (1)
Blood clot in the lungs	3.4% (2)	3.4% (2)
Extremely low blood pressure because of a blood infection	1.7% (1)	6.8% (4)
Low blood pressure	1.7% (1)	5.1% (3)
Sudden kidney injury	1.7% (1)	3.4% (2)
Collapsed lung	1.7% (1)	1.7% (1)
Lung infection	1.7% (1)	1.7% (1)
Blood infection	none	3.4% (2)
Extremely low blood pressure because of a blood infection	1.7% (1)	6.8% (4)
Chest infection	1.7% (1)	1.7% (1)
Dangerous infection with high levels of bacteria in the blood	none	3.4% (2)

What adverse events did the participants have?

The most common adverse event was not enough oxygen or too much carbon dioxide in the blood because of the lungs not working properly.

The adverse events below happened in 5.0% or more of participants overall. There were other adverse events, but these happened in fewer participants.

Adverse event	**CSL312** (58 participants)	**Placebo** (59 participants)
Not enough oxygen or too much carbon dioxide in the blood because of the lungs not working properly	12.1% (7)	13.6% (8)
High blood sugar levels	8.6% (5)	8.5% (5)
Not enough oxygen in the blood	8.6% (5)	1.7% (1)
Extremely low blood pressure because of a blood infection	6.9% (4)	8.5% (5)
Suddenly having not enough oxygen or too much carbon dioxide in the blood because of the lungs not working properly	6.9% (4)	3.4% (2)
Low blood pressure	5.2% (3)	15.3% (9)
Abnormally fast or irregular heartbeat	3.4% (2)	8.5% (5)
Shortness of breath	3.4% (2)	6.8% (4)
Sudden kidney injury	1.7% (1)	13.6% (8)

How has this study helped patients and researchers?

This study helped researchers learn more about CSL312 to help people with severe COVID-19.

Researchers look at the results of many studies to decide which treatments work best and are safest for patients. This summary shows only the main results from one study. Other studies may provide new information or different results. Always talk to a doctor before making any treatment changes.

Further clinical studies with CSL312 for COVID-19 are not planned.

Where can I learn more about this study?

This summary can be viewed online at www.TrialSummaries.com.

You can find more information about this study by searching on the websites listed below. Once a full report of the study results is available, it may also be found there.

- www.clinicaltrials.gov Once you are on the website, type **NCT04409509** into the search box and click “Search”.

Full study title: A Phase 2, Multicenter, Double blind, Randomized, Placebo-controlled Study to Evaluate CSL312 in Coronavirus Disease 2019 (COVID-19)

National Clinical Trials number: NCT04409509

CSL Behring LLC protocol number: CSL312_COVID-19

CSL Behring LLC sponsored this study and has its headquarters at 1020 First Avenue, King of Prussia, PA 19406, USA.

The phone number for the CSL Behring Information Center is 610-878-4000

The email address for CSL Behring Clinical Trial information is clinicaltrials@cslbehring.com.

Thank you

Clinical study participants belong to a large community of people who take part in clinical research around the world. They help researchers answer important health questions and find medical treatments for patients.

CISCRP

The Center for Information & Study on Clinical Research Participation (CISCRP) is a non-profit organization focused on educating and informing the public about clinical research participation. CISCRP is not involved in recruiting participants for clinical studies, nor is it involved in conducting clinical studies.

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