NOVARTIS

Clinical Trial Results Summary

A clinical trial to study the long-term effects of AIN457 when used along with standard treatment in people with active lupus nephritis

Thank you!

Thank you to the participants who took part in the clinical trial for lupus nephritis. Every participant helped the researchers learn more about **AIN457**, also called secukinumab.

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 summary helps the participants to understand their important role in medical research.

Trial information

Trial number: CAIN457Q12301E1

Drug studied: AIN457, also known as secukinumab

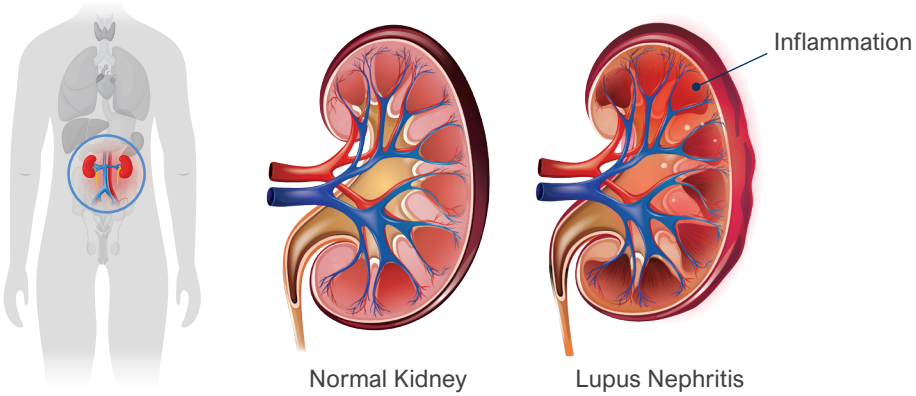
Sponsor: Novartis

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 findings.

What was the main purpose of this trial?

Lupus nephritis is a condition where the immune system attacks the kidneys, causing inflammation. People with **lupus nephritis** have inflamed kidneys, which affects their function and can result in kidney damage. If left untreated, the condition can worsen over time and may gradually lead to kidney failure.

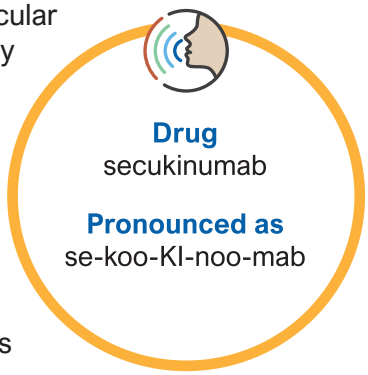


Common symptoms of **lupus nephritis** are:

- Blood in the urine
- Foamy urine due to high amounts of protein
- High blood pressure
- Swelling in the legs, ankles, or feet
- High levels of a waste product called creatinine in the blood

Currently, there are few treatments available for lupus nephritis. **Corticosteroids**, **mycophenolic acid (MPA)**, and **cyclophosphamide (CYC)** are all standard-of-care medicines that lower the body's immune response. They help reduce and manage lupus nephritis symptoms.

Standard-of-care treatments are the widely accepted treatments for a particular disease or disorder. They are usually the treatments recommended by doctors. Even if these treatments are initially effective, lupus flare-ups often occur later on. Therefore, researchers are trying to find new treatments.



In this trial, researchers wanted to learn more about a drug called **AIN457 (secukinumab)**, which is an antibody made in labs. It blocks a protein called **IL-17A**, which the immune system uses to cause inflammation. Researchers wanted to check if blocking the inflammation through **AIN457** would reduce symptoms of **lupus nephritis**. **AIN457** is already approved in the EU and the US for treating other conditions such as psoriatic arthritis, plaque psoriasis, and hidradenitis suppurativa (HS).

This is an extension trial to learn about the long-term effects of **AIN457** in participants with **lupus nephritis** who previously completed treatment in the core trial, **CAIN457Q12301**.

The main questions that researchers wanted to answer were:

- How many participants had a **complete renal response** to **AIN457** treatment?
  - ↳ A complete renal response means the participant had normal or close-to-normal kidney function test results. For more details, see **page 6**.
- What adverse events did participants have during this trial?
  - ↳ An **adverse event** is any sign or symptom that participants have during a trial.

How long was this trial?

The trial began in August 2022 and ended in August 2023. This trial was designed so that each participant could take part for up to 3 more years after the core trial.

However, the trial ended earlier than planned because the early results from the core trial showed the treatment did not work as expected in people with **lupus nephritis**. Researchers did not observe any new safety concerns with **AIN457**.

When the trial ended, researchers created a report of the trial results. This summary is based on that report.

Who was in this trial?

31 participants with active **lupus nephritis** received treatment in this trial. Participants' ages ranged from 19 to 59 years. Their average age was 33 years.

The number of participants by gender and race are shown below.

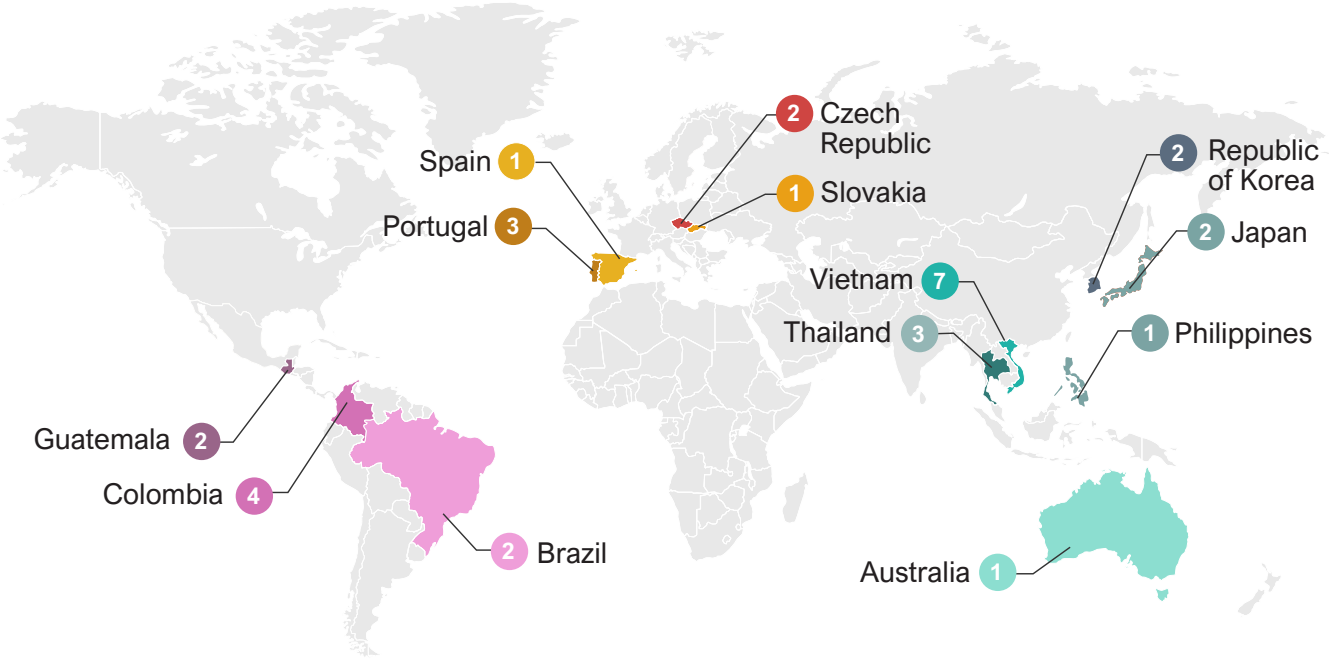
Gender

3 Men	28 Women

Race

16 Asian	8 White
6 American Indian or Alaska Native	1 Black or African American

31 participants from **13 countries** took part in the trial. The map below shows the number of participants who took part in each country.



Participants **could take part** in this trial if:

- They completed the entire treatment period up to Week 104 of the core trial, CAIN457Q12301.
- Trial doctors believed that **AIN457** treatment was providing a benefit to them.

What treatments did the participants receive?

Researchers studied the following treatments:

AIN457: 300 milligrams (mg), given as an injection under the skin.

Along with **AIN457**, all participants received standard-of-care mycophenolic acid (MPA) and corticosteroids, as directed by the trial doctors.

- Participants received MPA through the end of the core trial, and continued to receive the same dose of MPA in this extension trial.
- Like before, participants could have received **mycophenolate mofetil (MMF)**, which is another form of MPA.

In this trial, all participants received **AIN457** at the same dose. The participants, researchers, trial doctors, and trial staff all knew that participants received **AIN457**.

What happened during this trial?

Before entering extension trial

Participants who joined this trial from the core trial (CAIN457Q12301) at Week 104 had their health checked to make sure they could be in this trial.

During treatment

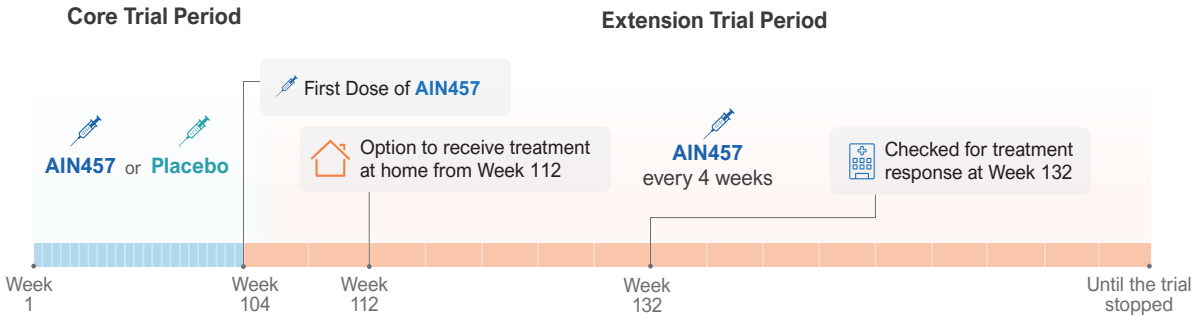
From Week 104 until the trial was stopped

A total of **31 participants** who received either **AIN457** or **placebo** in the core trial continued to receive **AIN457** in this trial. Those on **placebo** in the core trial switched to **AIN457**.

AIN457 to AIN457	Placebo to AIN457
16 participants	15 participants

Participants received **AIN457** at Week 104 and every 4 weeks thereafter until the trial was stopped. Participants also had an option to receive **AIN457** treatment at home from Week 112.

The timeline below shows when participants received **AIN457** in this study:



The treatment period was designed to last up to 3 years. However, the trial was stopped early. The longest time a participant received treatment was about **44 weeks**.

After the trial was stopped

Up to 12 weeks after the last dose

Participants had follow-up visit 12 weeks after their last dose of **AIN457**.

Trial doctors checked participants for their overall health throughout the trial.

What were the main results of this trial?

How many participants had a complete renal response to AIN457 treatment?

Due to the trial ending early and the low number of participants with results, researchers were not able to make any conclusions about treatment response to **AIN457**.

Originally, researchers wanted to know how many participants responded to treatment up until Week 260. As this trial ended early, researchers calculated the **complete renal response** based on the data they had available.

Researchers wanted to know the number of participants who had a complete renal response at **Week 104** and **Week 132**. To do this, trial doctors checked 2 types of measurements – **eGFR** and **UPCR**.

Complete Renal Response

Estimated glomerular filtration rate (eGFR) shows how well the kidneys are filtering waste from the blood.

Urine-to-protein creatinine ratio (UPCR) is a measure of kidney function that is used to detect kidney damage or disease. It compares the amount of protein to creatinine in a urine sample.

- A higher UPCR may indicate kidney damage or failure.

In this trial, participants had a **complete renal response** if:

- their eGFR was normal, or at least 85% of its value at the start of the trial.
- their UPCR from urine collected over 24 hours was close to normal.

Of the **31 total participants** who joined this trial, the results below are shown for participants who had the opportunity to complete 132 weeks of treatment when the decision to end the trial was made.

The table below shows the percentage of participants with complete renal response at Week 104 and Week 132.

Percentage of participants with Complete Renal Response

	AIN457 to AIN457 16 participants	**Placebo to AIN457** 15 participants
Complete renal response at Week 104	4 of 9 **(44%)**	5 of 9 **(56%)**
Complete renal response at Week 132	3 of 6 **(50%)**	5 of 5 **(100%)**

What adverse events did the participants have?

Trial doctors keep track of all **adverse events** that happen in trials, 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 the extension trial up to 12 weeks 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.

30 out of 31 participants had adverse events.

- 12 participants had adverse events that were considered serious.
- 1 participant left the trial due to an adverse event.
- None of the participants died.

How many participants had adverse events?

Adverse events are reported for participants who received at least 1 dose of **AIN457**.

Summary of adverse events

Participants who:	AIN457 to AIN457 16 participants	Placebo to AIN457 15 participants
Had at least 1 serious adverse event	4 of 16 **(25%)**	8 of 15 **(53%)**
Had at least 1 other adverse event	15 of 16 **(94%)**	15 of 15 **(100%)**
Left the trial due to an adverse event	0 of 16 **(0%)**	1 of 15 **(7%)**

What serious adverse events did the participants have?

The table below shows the serious adverse events that happened in a total of 2 or more participants.

Serious adverse events	AIN457 to AIN457 16 participants	Placebo to AIN457 15 participants
Breast cancer	0 of 16 **(0%)**	2 of 15 **(13%)**
COVID-19	0 of 16 **(0%)**	2 of 15 **(13%)**
Urinary tract infection	0 of 16 **(0%)**	2 of 15 **(13%)**
Indigestion Dyspepsia	1 of 16 **(6%)**	1 of 15 **(7%)**
Sudden kidney infection Pyelonephritis acute	1 of 16 **(6%)**	1 of 15 **(7%)**

What other adverse events did the participants have?

The table below shows the other adverse events that happened in a total of 5 or more participants.

Other adverse events	AIN457 to AIN457 16 participants	Placebo to AIN457 15 participants
COVID-19	5 of 16 **(31%)**	7 of 15 **(47%)**
Urinary tract infection	4 of 16 **(25%)**	5 of 15 **(33%)**
Low red blood cell count Anaemia	4 of 16 **(25%)**	3 of 15 **(20%)**
Diarrhea	2 of 16 **(13%)**	4 of 15 **(27%)**
Joint pain Arthralgia	3 of 16 **(19%)**	3 of 15 **(20%)**
Shingles Herpes zoster	5 of 16 **(31%)**	0 of 15 **(0%)**

What was learned from this trial?

This trial helped researchers learn about the effects of **AIN457** in people with **lupus nephritis**.

The researchers concluded that:

- Although adverse events were reported for many participants, there were no new or unexpected safety concerns with **AIN457**.

The trial ended earlier than planned because the early results from the core trial showed that the treatment did not work as expected in people with **lupus nephritis**.

At the time this summary was written, there were no ongoing studies with **AIN457** being done in participants with **lupus nephritis**.

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:

Go to **www.novctrd.com** → Click **Clinical Trial Results** → Agree to the terms ☑ **I agree** → Search for **CAIN457Q12301E1**

For more information about this trial go to any of the following websites:

- **clinicaltrials.gov** – search using the number **NCT05232864**
- **clinicaltrialsregister.eu/ctr-search/search** – search using the number **2021-005772-19**

Other trials of AIN457 may also appear on the public websites above. When there, search for **AIN457** or **secukinumab**.

Full clinical trial title: A Three-year, Open-label Extension Study of Subcutaneous Secukinumab to Evaluate the Long-term Efficacy, Safety and Tolerability in Patients With Active Lupus Nephritis

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