Clinical Trial Results Summary

A clinical trial to learn more about the effects and safety of secukinumab in participants with psoriatic arthritis

Protocol number: CAIN457FUS01

Thank You!

Novartis, the sponsor of this clinical trial, would like to thank you for taking part in this trial for the drug AIN457, also known as secukinumab. You helped researchers learn more about how secukinumab works in people with psoriatic arthritis.

As a clinical trial participant, you belong to a large community of people around the world. Your invaluable contribution to medicine and healthcare is greatly appreciated.

Please note that this summary only shows the results of a single clinical trial. Other clinical trials may have different findings. Researchers and health authorities' look at the results of many clinical trials to understand which drugs work and if they are safe. It takes many people in multiple clinical trials around the world to advance medical science and healthcare. If you have any questions about these trial results, please talk to the doctor or staff at your trial site.

How long was this trial?

This trial started in June 2016 and ended in December 2018. The entire duration, from enrolling the first participant to the last participant completing the trial was 2 years and 6 months. An individual participant could be in this trial for up to 1 year.

The researchers completed this trial as planned. When the trial ended, the researchers collected information on the trial treatments, AIN457 (secukinumab, pronounced as sek-ue-KIN-ue-mab) and placebo, and created a report of the trial results. This summary is based on that report.

Why was the research needed?

Psoriatic arthritis

Researchers were looking for a better way to treat psoriatic arthritis, a type of arthritis that affects about 30% of people with psoriasis. Psoriasis is a long lasting skin condition that causes red, itchy patches on the skin, with white and silvery flakes, called psoriasis plaques. Arthritis causes pain and swelling in the joints. These symptoms reappear sometimes, a condition called flare-up, and can affect any part of the body. Psoriatic arthritis affects both men and women and usually begins between the age of 30 and 55. About 1 in 3 people who have psoriasis will get psoriatic arthritis.

In this trial, researchers were studying the effect of AIN457 (secukinumab) compared to placebo on psoriatic arthritis. The effects were measured on both psoriatic arthritis symptoms and psoriasis symptoms.

Trial drugs

The drugs given in this trial were:

AIN457, also known as secukinumab

A drug that is approved for treating psoriatic arthritis. It blocks the activity of a protein in the body called interleukin-17a (IL-17a) which causes swelling, redness, and pain when produced in excess. IL-17a is found in high levels in patients with psoriasis and psoriatic arthritis.

Placebo

It looks like the trial drug but does not have any medicine in it. Placebo helps researchers better understand if the effects seen in the participants who received the trial drug are actually caused by the trial drug, AIN457 (secukinumab).

Trial purpose

The main question the researchers wanted to answer was:

How many participants who took AIN457 (secukinumab) had at least 20% improvement in their psoriatic arthritis symptoms after 16 weeks of treatment compared to placebo?

Other questions the researchers wanted to answer in this trial were:

- How many participants who took AIN457 (secukinumab) had at least 50% and 70% improvement in their **psoriatic arthritis symptoms** after 16 weeks of treatment compared to placebo?
- How many participants who took AIN457 (secukinumab) had at least a 75%, 90%, and 100% improvement in their **psoriasis symptoms** after 16 weeks of treatment compared to placebo?
- What medical problems did participants have during the first 16 weeks of AIN457 (secukinumab) and placebo treatment?

Who was in this trial?

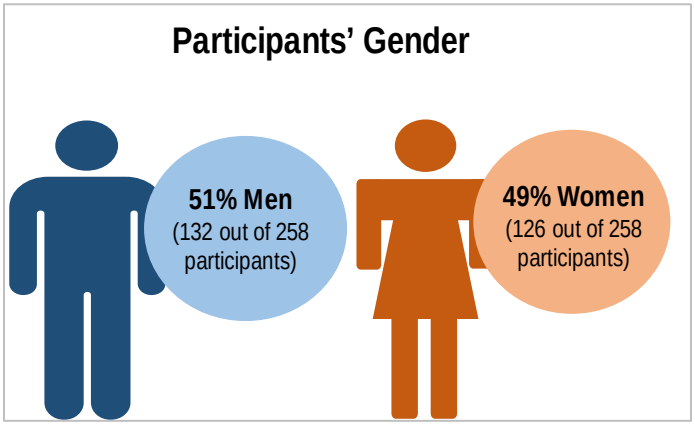
The participants could take part in this trial if they:

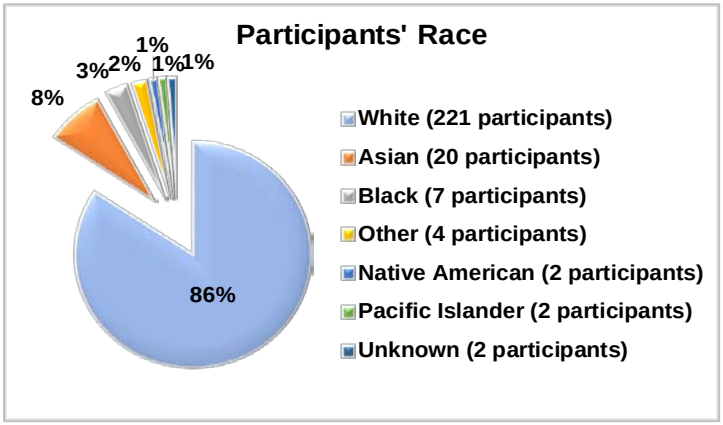
- were 18 years of age or above
- had signs of psoriatic arthritis for more than 6 months
- had 3 or more painful and swollen joints
- had not taken AIN457 (secukinumab) or other treatment that also blocks the activity of IL-17a protein, in the past

A total of 258 participants at 67 centers in the United States (US) participated in this trial.

The average age of participants was 52 years. Participants' age ranged from 19 to 82 years.

An almost equal number of men and women participated in this trial. 86% (221 out of 258) of the participants were white, as shown below:





What kind of trial was this?

This trial was called a double-blind trial. This means that none of the participants, trial doctors, or trial staff knew what treatment the participants were receiving. Some trials are done this way because knowing what treatment each participant is getting can affect the results of the trial. Doing a trial this way helps to make sure that the results are looked at with fairness towards all treatments.

What happened during this trial?

At the start of the trial, the researchers randomly assigned the participants into 1 of the 3 treatment groups to receive AIN457 (secukinumab) or placebo as shown below:

This trial had 2 parts.

Part 1 lasted 16 weeks

Participants received the following treatments once a week from the start of the trial (Week 0) to Week 4, followed by every 4 weeks, from Week 4 to Week 16, as an injection under the skin:

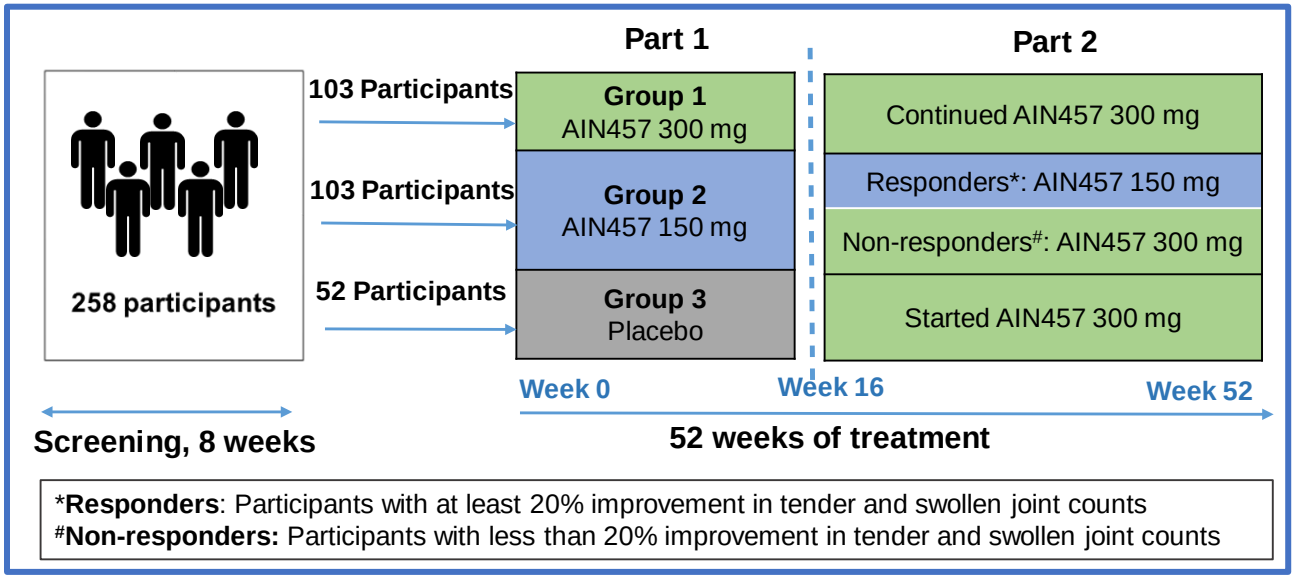
- **Group 1:** 300 milligrams (mg) of AIN457 (secukinumab, 2 injections of 150 mg each)
- **Group 2:** 150 mg of AIN457 (secukinumab)
- **Group 3:** Placebo

Part 2 lasted 36 weeks

Participants received the following treatments every 4 weeks from Week 16 to Week 48:

- **Group 1:** Participants continued taking 300 mg of AIN457 (secukinumab)

- **Group 2:** Participants whose tender and swollen joint counts improved by at least 20% (**responders at Week 16**) continued taking 150 mg of AIN457 (secukinumab), while participants whose tender and swollen joint counts improved less than 20% (**non-responders at Week 16, 28 or 40**) switched to taking 300 mg of AIN457 (secukinumab)
- **Group 3:** Participants switched from taking placebo to AIN457 (secukinumab) 300 mg regardless of whether they were responders or non-responders



What were the key results of this trial?

This is a summary of the average results for all the participants from different treatment groups. It does not show the results of each individual participant. Results of the individual participants could be different from the results of the total group of participants. A detailed presentation of the results can be found on the website listed at the end of this summary.

Results are reported for Part 1, which lasted 16 weeks.

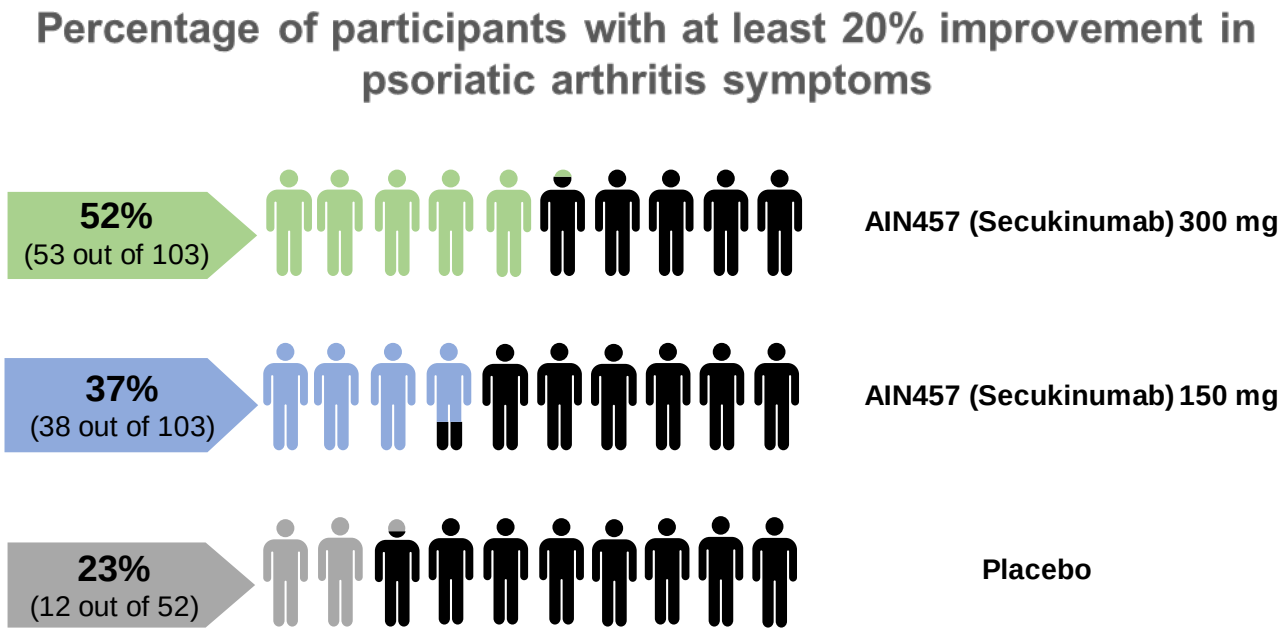
Overall, the results of 258 participants are presented including 103 participants in each AIN457 (secukinumab) treatment groups and 52 participants in the placebo treatment group.

How many participants who took AIN457 (secukinumab) had at least 20% improvement in psoriatic arthritis symptoms after 16 weeks of treatment compared to placebo?

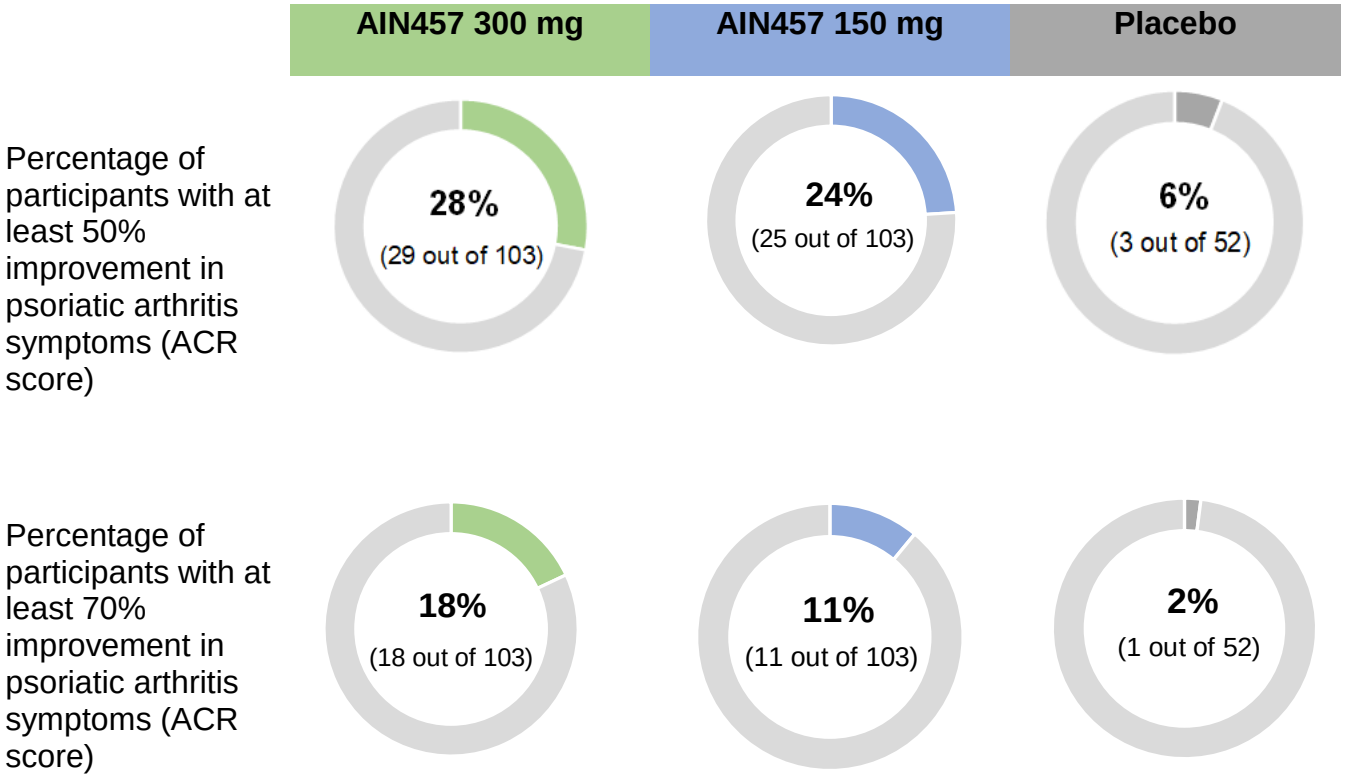
For measuring improvement in psoriatic arthritis symptoms, the researchers used a scale called the ACR score (named after the American College of Rheumatology). The ACR score counts the number of swollen and tender joints and assessments and questionnaires are used to count the categories listed below:

1. Self assessment: participants assess their own disease symptoms.
2. Doctor assessment: study doctors assess participants' disease symptoms.
3. Pain: how much pain the participants have experienced?
4. Disability: how much the psoriatic arthritis symptoms are stopping the participants from doing their daily activities?
5. Inflammation: how much inflammation the participants have using a blood test?

The researchers measured the first 4 categories using questionnaires and measured the severity of inflammation in the body by a blood test. A 20% improvement in ACR score (ACR20) is defined as a 20% improvement in the painful and swollen joints as well as 20% improvement in at least 3 of the 5 categories above.

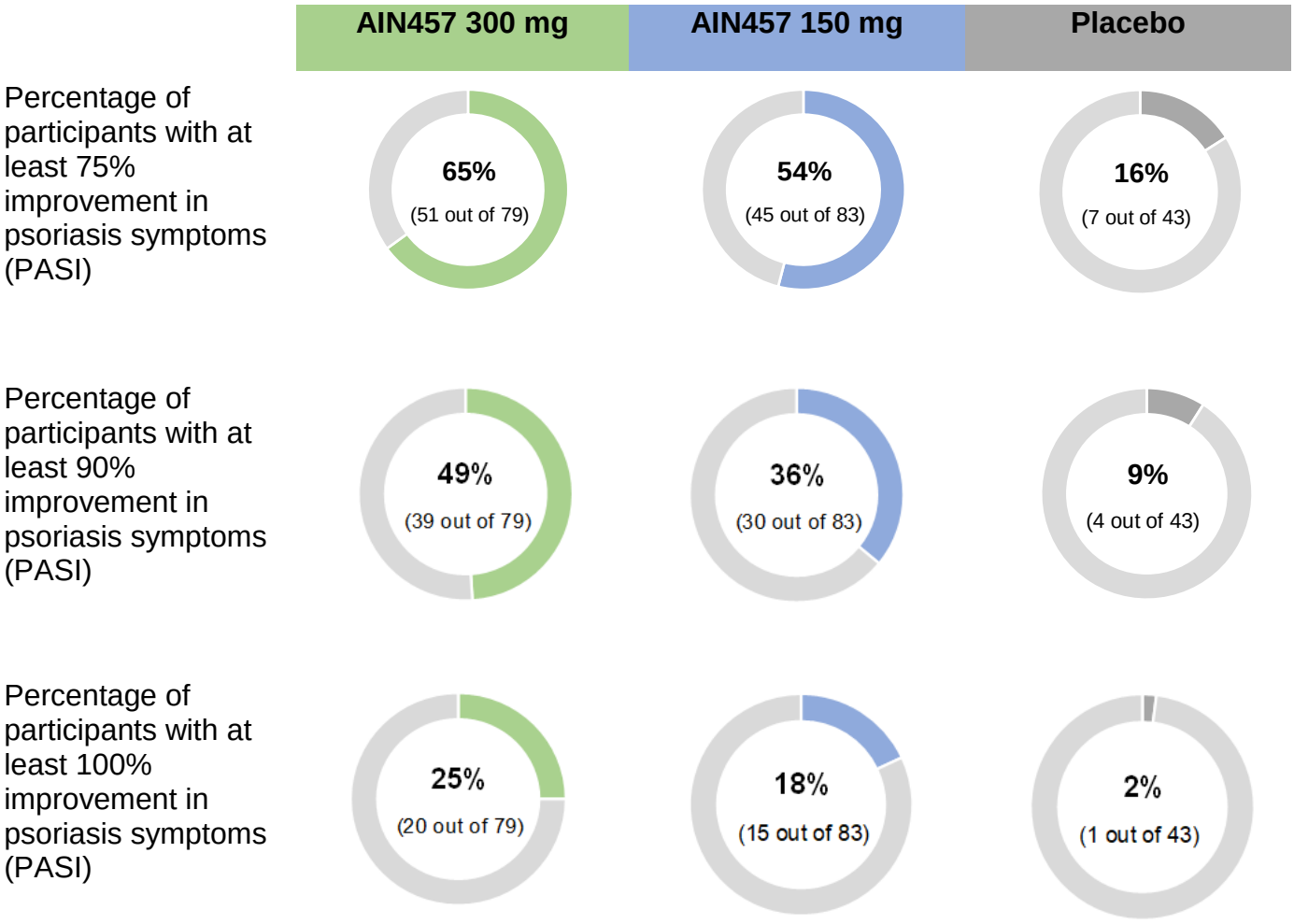


How many participants who took AIN457 (secukinumab) had at least 50% and 70% improvement in their psoriatic arthritis symptoms after 16 weeks of treatment compared to placebo?



How many participants who took AIN457 (secukinumab) had improvement in their psoriasis symptoms after 16 weeks of treatment compared to placebo?

Researchers also wanted to look at improvement in participants' psoriasis symptoms. For this, they used a scale called the Psoriasis Area Severity Index, or PASI. It measures the severity of redness, scaling and thickness of the psoriasis plaques, and how much of the body area is affected.



Results for Part 2

In Part 2 of the trial, all participants took AIN457 (secukinumab). Participants who were on 300 mg AIN457 and those who were on 150 mg AIN457 and showed response at Part 1 (Week 16), continued to show response to treatment at Week 52. Participants who switched from placebo or 150 mg AIN457 to 300 mg AIN457 in Part 2, showed improvement in psoriatic symptoms at Week 52.

What medical problems did the participants have during the first 16 weeks of treatment?

Medical problems that happen in clinical trials are called “adverse events”.

A lot of research is needed to know whether a drug causes an adverse event. During a trial, all adverse events are recorded, whether or not they are thought to be caused by the trial drug. When new drugs are being studied, researchers keep track of all adverse events participants have.

This section is a summary of the adverse events that happened during the first 16 weeks (Part 1) of the treatment. In Part 1, participants received AIN457 (secukinumab) 300 mg or 150 mg or placebo. In Part 2, participants received AIN457 (secukinumab) 150 mg or 300 mg depending on whether they were responders or non-responders (see study design figure). The website listed at the end of this summary may have more information about the adverse events that happened in this trial.

An adverse event is an unwanted sign, symptom, or disease that participants have during a trial.

An adverse event is considered “serious” when it is life-threatening, causes lasting problems, or the participant needs hospital care. These problems may or may not be caused by the trial drug.

How many participants had adverse events during Part 1 (16 weeks)?

Not all participants in this trial had adverse events. 57% of participants (147 out of 258) had 1 or more adverse events. 2% of participants (6 out of 258) had serious adverse events in the trial.

During the trial, 1% of participants (2 out of 258) stopped the drug early because of adverse events. One participant in the placebo group died during this trial due to a fatal heart attack.

Percentage (Number) of Participants With Adverse Events During Treatment Part 1 (16 Weeks)

	AIN457 300 mg (Out of 103 participants)	AIN457 150 mg (Out of 103 participants)	Placebo (Out of 52 participants)
Any adverse event	57% (59)	59% (61)	52% (27)
Serious adverse event	2% (2)	2% (2)	4% (2)
Stopped drug early due to an adverse event	1% (1)	1% (1)	0
Death	0	0	2% (1)

What were the most common non-serious adverse events?

The most common non-serious adverse events that happened in at least 5% (5 out of 100) of participants in any treatment group are listed below:

Most Common Non-serious Adverse Events During Treatment Part 1 (16 Weeks)

	AIN457 300 mg (Out of 103 participants)	AIN457 150 mg (Out of 103 participants)	Placebo (Out of 52 participants)
Diarrhea	6% (6)	6% (6)	2% (1)
Common cold	6% (6)	2% (2)	0
Muscle, bone and joint pain	2% (2)	1% (1)	6% (3)
Joint pain	1% (1)	2% (2)	8% (4)
Pain in the arms or legs	1% (1)	3% (3)	6% (3)

What were the serious adverse events?

The serious adverse events that happened in at least 1% (1 out of 100) of participants in any treatment group are listed below:

Serious Adverse Events During Treatment Part 1 (16 Weeks)

	AIN457 300 mg (Out of 103 participants)	AIN457 150 mg (Out of 103 participants)	Placebo (Out of 52 participants)
Heart attack that led to death	0	0	2% (1)
Heart attack	0	1% (1)	0
Mild lung infection	0	0	2% (1)
Pain in area between stomach and thighs	1% (1)	0	0
Fits	1% (1)	0	0
Blood clot blocking the flow of blood and oxygen to the brain	0	0	2% (1)

	AIN457 300 mg (Out of 103 participants)	AIN457 150 mg (Out of 103 participants)	Placebo (Out of 52 participants)
Fainting	0	1% (1)	0
Asthma	0	1% (1)	0
Blood clot in the lungs	0	1% (1)	0
Blood clot	0	1% (1)	0

Safety Results for Part 2

During the entire 52 weeks of treatment, participants had no new or unexpected symptoms as a result of taking AIN457 (secukinumab). No deaths were reported during Part 2 of the trial.

How was this trial useful?

This trial helped researchers learn effects and safety of AIN457 (secukinumab) in participants from the US with psoriatic arthritis. The results were similar to what was seen in other trials across the world. Results from this trial may be used in other clinical trials for people with psoriatic arthritis.

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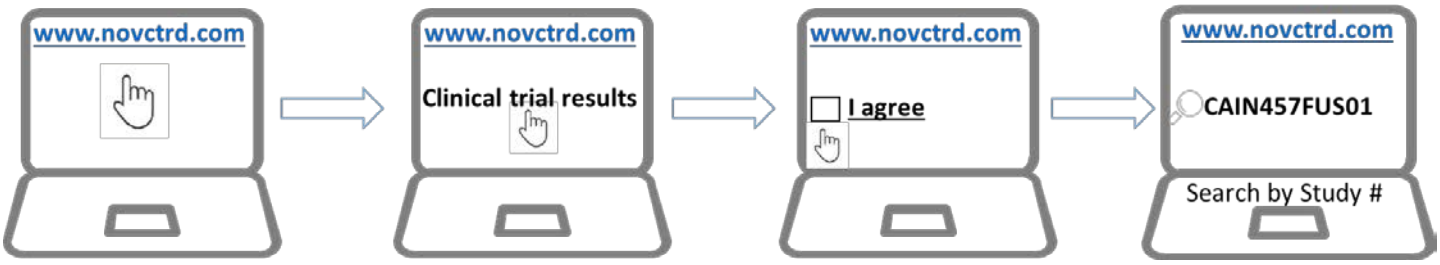
Where can I learn more about this trial?

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).



You can also find more information about this trial on the following website:

- www.clinicaltrials.gov Use the NCT identifier NCT02798211 in the search field.

Full clinical trial title: A randomized, double-blind, placebo-controlled, parallel-group, multicenter study to evaluate the safety and efficacy of secukinumab 300 mg and 150 mg in adult patients with active psoriatic arthritis after 16 weeks of treatment compared to placebo and to assess the safety, tolerability and efficacy up to 52 weeks

Thank you

Thank you for taking part in this trial. As a clinical trial participant, you belong to a large community of participants around the world. You helped researchers answer important health questions and test new medical treatments.

NOVARTIS

Novartis is a global healthcare company based in Switzerland that provides solutions to address the evolving needs of patients worldwide.

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