
Study Sponsor: UCB Biopharma SRL

Study Name: PASCAL

Treatment Studied: Certolizumab pegol (CZP)

Protocol Number: RA0043

Study Purpose: A study to learn how CZP moves throughout the body over time and about its safety in children with juvenile idiopathic arthritis

Thank you

UCB thanks all the participants of this study and their caregivers. All the participants and caregivers helped the researchers learn more about using certolizumab pegol (CZP) in people with juvenile idiopathic arthritis. CZP is also called CDP870.

This is a summary of the main results of this study. This study is sometimes called the PASCAL study. An independent, non-profit organization helped prepare this summary of the study results, which included feedback from patients.

We think it is important to share the results with the participants, their caregivers, and the public. We hope this summary helps the participants and their caregivers understand their important role in medical research.

The purpose of this summary is only to share information. If you or the child you care for needs medical advice, please contact your or your child's doctor. If you or your child participated in this study and have questions about the study results, please speak with study staff.

This summary was approved by UCB Biopharma SRL on 31 October 2024. The information in this summary is current as of this date.

Overview of this study



Why was the research needed?

Researchers are looking for a different way to treat juvenile idiopathic arthritis. Before a drug is available for all patients, researchers do clinical studies to find out how the drug works and how safe it is.



What treatment did the participants receive?

The participants in this study all received CZP. Depending on when they joined the study, some participants received a higher dose of CZP, and others received a lower dose of CZP.

What were the results of this study?

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

- **What were the levels of CZP in the participants' blood over time?**
Participants who received the lower dose of CZP had lower levels of CZP in their blood compared to participants who received the higher dose. The levels of CZP in the blood stayed about the same after Week 12 for each participant.
- **How did the participants' immune systems react to CZP?**
About 4 of every 5 participants had antibodies in their blood that target CZP. These are called **anti-drug antibodies**. Anti-drug antibodies can make drugs not work as well in some cases and can occasionally cause medical problems. But, none of these effects were seen in this study.
- **What medical problems did the participants have during the study?**
There were 95.3% of participants (184 out of 193) who had a medical problem during the study. The most common medical problem was a common cold.



More details about the results of this study are included later in this summary.

What medical problems did the doctors report as possibly related to study treatment?



There were 48.7% of participants (94 out of 193) who had medical problems that the study doctors reported as at least **possibly related** to study treatment. The most common medical problems that were at least possibly related to study treatment were pain where the injection was given (17 of 193 participants), worsening juvenile idiopathic arthritis (14 of 193 participants), and nose and throat infection (Upper respiratory tract infection, 12 of 193 participants).



Where can I learn more about this study?

You can find more information about this study on the websites listed on the last page. If a full report of the study results is available, it can also be found on those websites.



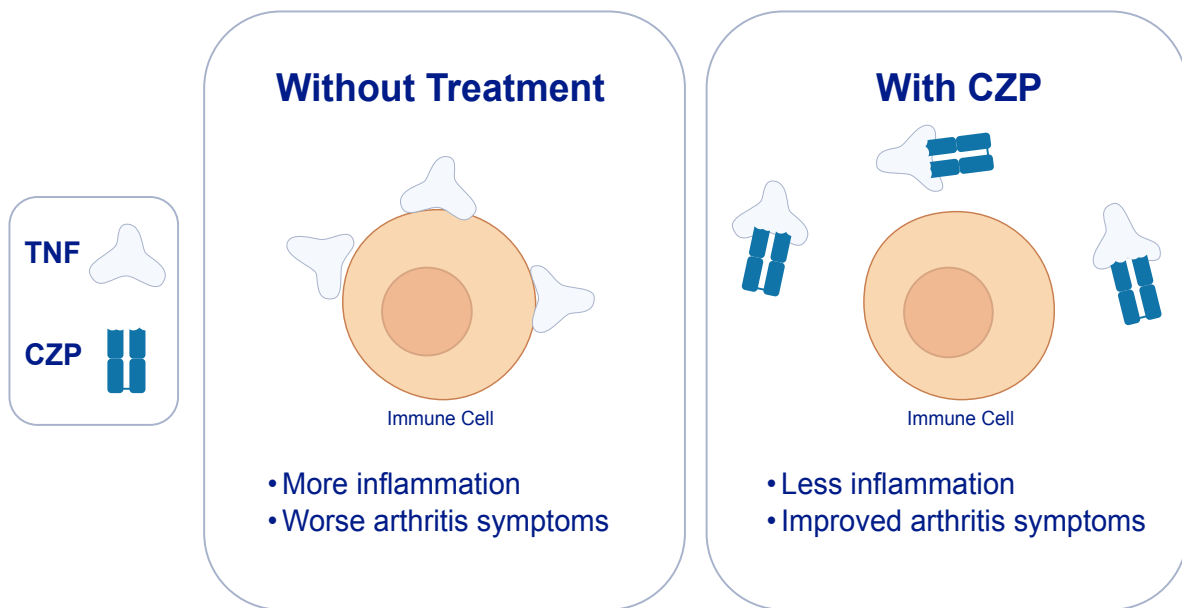
Why was the research needed?

Before a treatment is available to the public, researchers do clinical studies to get information about how well the treatment works and about how safe it is.

The researchers in this study wanted to learn if certolizumab pegol (**CZP**) worked in a large number of participants living with juvenile idiopathic arthritis. They also wanted to learn if the participants had any medical problems during the study.

Arthritis is a long-term condition that causes pain and inflammation in the joints that can result in irreversible joint damage. When arthritis happens in children without a known cause, it is known as **juvenile idiopathic arthritis**.

There are currently some treatments for juvenile idiopathic arthritis. But for some children, these treatments may not work or may cause medical problems. The study drug CZP is designed to work by blocking an immune system protein called **tumor necrosis factor (TNF)**. TNF normally helps immune cells respond to infections. But, in children with juvenile idiopathic arthritis, it can cause immune cells to make arthritis symptoms and inflammation worse.



CZP is approved in some countries for treating arthritis in adults. Researchers think that CZP could also work well for treating juvenile idiopathic arthritis.

In this study, researchers wanted to know how CZP moves throughout the body over time and how safe it is when given to children with juvenile idiopathic arthritis.



What were the main questions studied?

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

- What were the levels of CZP in the participants' blood over time?
- How did the participants' immune systems react to CZP?
- What medical problems did the participants have during the study?

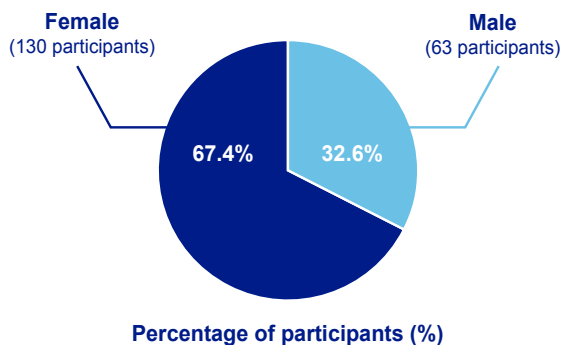
The researchers also wanted to know what medical problems happened that were at least possibly related to study treatment.



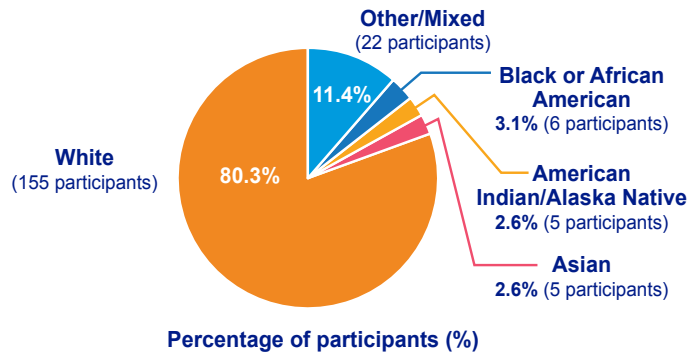
Who participated in the study?

There were 193 males and females with juvenile idiopathic arthritis who participated in this study. They were 3 to 17 years old when they joined.

Sex of participants
(out of 193 participants)



Race
(out of 193 participants)



Ethnicity

(out of 193 participants)

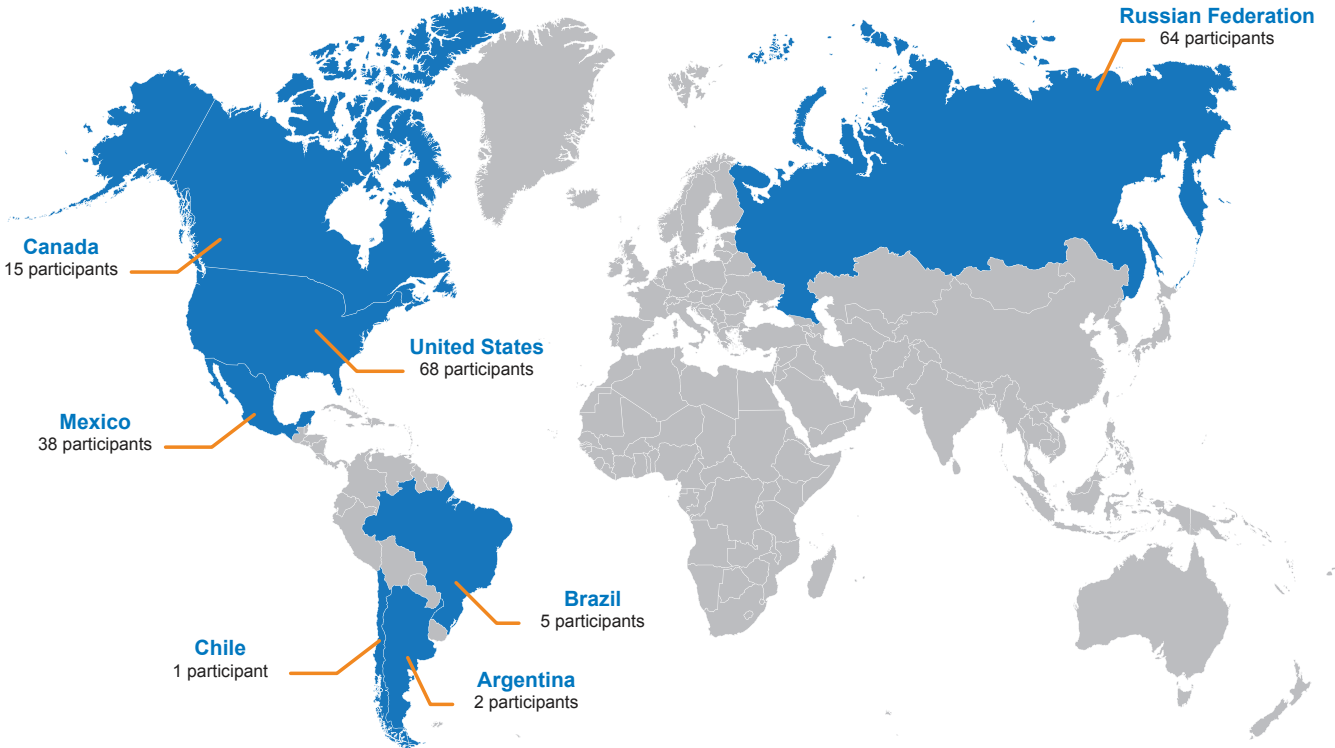


Hispanic or Latino, 28.5% (55 participants)



Not Hispanic or Latino, 71.5% (138 participants)

The study included participants in 7 countries:



Clinical Study Results

Participants must have had 1 of the following types of juvenile idiopathic arthritis:

- Polyarthritis rheumatoid factor-positive
- Polyarthritis rheumatoid factor-negative
- Extended oligoarthritis
- Juvenile psoriatic arthritis
- Enthesitis-related arthritis

In this study, the researchers included participants living with juvenile idiopathic arthritis who:

- Had been receiving treatment for their juvenile idiopathic arthritis for 6 months or more
- Had previously received certain drugs for their juvenile idiopathic arthritis, and had their disease stay about the same or get worse
- Had active arthritis in 5 or more joints in their body

Each participant received CZP until they decided to leave the study, their doctor decided they should stop receiving CZP for another reason, or the study ended. After participants stopped receiving CZP, study doctors checked up on their health for up to 12 weeks.

The whole study lasted a little more than 12 years. The study started in March 2012 and ended in April 2024.



What treatment did the participants receive?




The participants in this study received CZP by injection just under the skin. Doses of CZP were measured in milligrams (mg) and were different based on each participant's body weight.

The participants, study doctors, study staff, and UCB staff knew what the participants were receiving.

Some participants in this study received a lower dose of CZP, some participants received a higher dose, and some participants switched doses partway through the study.

Clinical Study Results

The chart below shows the treatments the researchers planned to study:

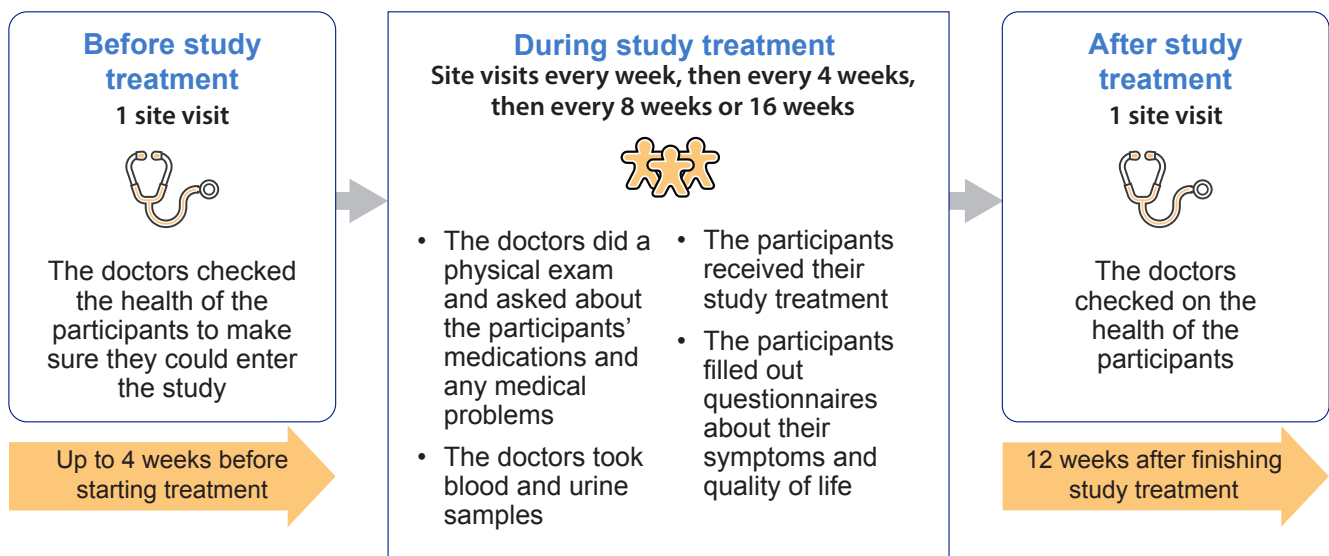
	CZP
	193 participants
	<p>Higher dose: Up to 400 mg of CZP for the first 3 doses, then up to 200 mg of CZP, depending on each participant's body weight</p> <p>Lower dose: Up to 200 mg of CZP for the first 3 doses, then up to 100 mg of CZP, depending on each participant's body weight</p> <p>CZP is given as an injection just under the skin</p>
	Once every 2 weeks for the first 3 doses, then once every 2 weeks or once every 4 weeks

The participants received treatment until their condition got worse, they had significant medical problems, or they left the study for another reason.

What happened during this study?

Each participant's parent or caregiver learned about the study and decided to let the participant join the study in a process called "informed consent".

The chart below shows what happened in this study for each participant:





What were the results of the study?

This is a summary of the main results from this study. These are the results from all the participants combined. The individual results of each participant might be different and are not in this summary.

Deciding which treatments work best usually takes results from several studies. Other studies may provide new information or different results. Always talk to a doctor before making any treatment decisions.

What were the levels of CZP in the participants' blood over time?

To answer this question, the researchers took samples of each participant's blood at different times throughout the study. Then, they measured the levels of CZP in the participants' blood samples.

Overall, the researchers found that the participants who received the lower dose of CZP had lower levels of CZP in their blood compared to the participants who received the higher dose. The levels of CZP in the blood stayed about the same within each participant after Week 12.

How did the participants' immune systems react to CZP?

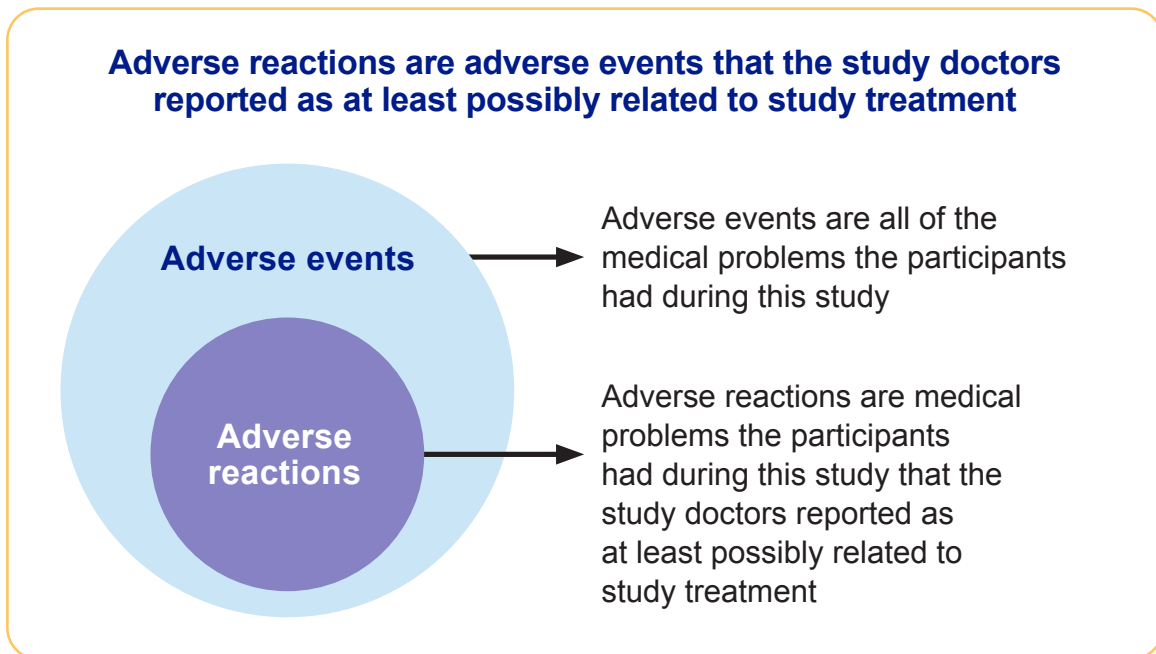
To answer this question, the researchers took samples of each participant's blood at different times throughout the study. Then, they measured the levels of antibodies that target CZP (**anti-drug antibodies**) in the participants' blood samples.

- An **antibody** is a protein that allows the immune system to find and fight off anything the body does not recognize.
- **Anti-drug antibodies** can occasionally cause medical problems and in some cases can also cause drugs to not work as well.

Overall, the researchers found that about 4 in every 5 participants had anti-drug antibodies in their blood after receiving CZP. This number was about the same for the participants who received the higher dose of CZP and those who received the lower dose of CZP. Overall, in this study, anti-drug antibodies did not affect how well CZP worked and did not cause medical problems.

What medical problems did the participants have during the study?




In this summary, there is information about 2 different types of medical problems that the participants had during the study. An **adverse event** is **any** medical problem that a participant has during a study. Doctors keep track of all adverse events that happen in studies, whether or not these may be related to study treatment. An **adverse reaction** is different from an adverse event because it is reported by the doctor as at least **possibly related** to study treatment. An adverse event or adverse reaction is considered “serious” when it is life-threatening, causes lasting problems, or requires hospital care.



Clinical Study Results

The information below is a summary of the **adverse events** that happened in this study. There were 95.3% of participants (184 of 193) who had an adverse event in this study.

Adverse events in this study

	Any dose of CZP (out of 193 participants)
How many participants had a serious adverse event?	23.8% (46 participants) 
How many participants had an adverse event?	95.3% (184 participants) 
How many participants left the study due to an adverse event?	12.4% (24 participants) 

The most common **serious** adverse events were:

- A type of lung infection called pneumonia
- Decrease in the number of red blood cells

The most common adverse events were:

- Common cold (Nasopharyngitis)
- Nose and throat infection (Upper respiratory tract infection)
- Headache



What medical problems did the study doctors report as possibly related to study treatment?

This section is a summary of the medical problems that the participants had during the study that the doctors reported as at least **possibly related** to study treatment. These medical problems are called “**adverse reactions**”.

Some participants had more than 1 adverse reaction.




This summary also includes information about serious adverse reactions. An adverse reaction is considered “serious” when it is life-threatening, causes lasting problems, or requires hospital care.

Other studies may or may not show that these medical problems were possibly related to study treatment. The results from several studies are often needed to decide if a treatment causes an adverse reaction. Always talk to a doctor before making any treatment decisions.

Did any adverse reactions happen during this study?

There were 48.7% of participants (94 of 193) who had an adverse reaction in this study.

Adverse reactions in this study

	Any dose of CZP (out of 193 participants)
How many participants had a serious adverse reaction?	5.2% (10 participants) 
How many participants had an adverse reaction?	48.7% (94 participants) 
How many participants left the study due to an adverse reaction?	5.7% (11 participants) 

What serious adverse reactions did the participants have?

There were 2 participants who died because of serious adverse reactions. One of these participants had 2 serious adverse reactions. These serious adverse reactions were:

- Tuberculosis that has spread from the lungs to other parts of the body (Disseminated tuberculosis)
- Tuberculosis that has spread from the lungs to the liver
- A life-threatening reaction to an infection that leads to very low blood pressure (Septic shock)

The most common serious adverse reaction was a type of lung infection called pneumonia. This happened in 1.0% of participants (2 out of 193).

There were other serious adverse reactions, but these happened in only 1 participant each. Some of the participants had more than 1 serious adverse reaction.

What adverse reactions did the participants have?

The most common adverse reaction was pain where the injection was given.

The table below shows the adverse reactions that happened in 5.0% or more of participants. There were other adverse reactions, but those happened in fewer participants.

Adverse reactions in 5.0% or more of participants

Adverse reaction	Any dose of CZP (out of 193 participants)
Pain where the injection was given	8.8% (17)
Worsening juvenile idiopathic arthritis	7.3% (14)
Nose and throat infection (Upper respiratory tract infection)	6.2% (12)
Headache	5.2% (10)

What did the researchers learn from this study?

The results of this study have helped researchers learn more about using CZP in people living with juvenile idiopathic arthritis. In this study, the researchers found that:

- The participants who received the lower dose of CZP had lower levels of CZP in their blood compared to the participants who received the higher dose.
- For all participants, the levels of CZP in the blood stayed about the same over the course of the study.
- About 4 out of every 5 participants had anti-drug antibodies that target CZP in their blood, though it did not affect how well the drug worked or cause medical problems.
- The most common adverse event was a common cold.
- Almost half of the participants had an adverse reaction to CZP.

Deciding which treatments work best for patients almost always takes results from several studies. This summary shows only the main results from this one study. Other studies may provide new information or different results.

The purpose of this summary is only to share information. If you need medical advice about your or your child's health or situation, please contact your doctor.

At the time this document was approved, further clinical studies in juvenile idiopathic arthritis with CZP were not planned.



Where can I learn more about this study?

You can find more information about this study at the websites listed below:

- www.clinicaltrials.gov/ct2/show/study/NCT01550003
- www.clinicaltrialsregister.eu/ctr-search/search?query=2009-018027-33

If you have questions about this study, UCB contact information is available at <https://www.ucb.com/UCBCares>.

Study Information

Protocol Number: RA0043

Study Sponsor: UCB Biosciences GmbH sponsored this study. It is referred to as UCB in this summary.

Full Study Title: A Multicenter, Open-label Study to Assess the Pharmacokinetics, Safety and Efficacy of Certolizumab Pegol in Children and Adolescents With Moderately to Severely Active Polyarticular-course Juvenile Idiopathic Arthritis (JIA)

National Clinical Trial Number: NCT01550003

EudraCT Number: 2009-018027-33

Thank you

Participants in clinical studies 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.



This summary was last updated on 25 October 2024.
The final clinical study report is dated 16 September 2024.