# CLINICAL STUDY RESULTS

## A study to learn about the effects and safety of 2 different doses of fidrisertib compared with placebo in children and adults with a rare bone-forming condition

Overall, the results did not show an effect of fidrisertib on the study's clinical outcomes in children and adults with a rare bone-forming condition called fibrodysplasia ossificans progressiva compared with placebo, but it was safe and well tolerated.
The results shown in this summary represent one clinical study.
Other clinical studies may produce different results.

This lay summary was created by Ipsen with the assistance of a third-party writing service provider

## What was the study about?

This study, called FALKON, was a clinical study to learn about the effects and the safety of 2 different doses of fidrisertib compared with placebo in children and adults with fibrodysplasia ossificans progressiva (FOP).

FOP is a very rare genetic condition in which soft tissues, such as muscles, tendons, and ligaments, gradually turn into bone. People with FOP can experience flare-ups, which are episodes of swelling and pain in soft tissues. These flare-ups often lead to the formation of new bone in places where bone should not normally form. This process is called heterotopic ossification, which means "bone formation in the wrong place". Heterotopic ossification can reduce movement and cause loss of mobility when it develops around or across joints.

FOP is caused by a harmful change in a gene called ACVR1. A gene is a set of precise instructions for making a specific protein in a cell; we inherit genes from our parents. The ACVR1 gene provides instructions for making a protein called ALK2, which helps regulate bone growth. In people with FOP, the changed ALK2 protein is overactive, leading to abnormal bone formation (heterotopic ossification).

Currently, no treatments are available to prevent heterotopic ossification in FOP.

Fidrisertib, also called IPN60130, is a new potential treatment that was being developed for FOP. It works by inhibiting the activity of the receptor for ALK2 and researchers thought it may have prevented heterotopic ossification in people with FOP.

The aim of the FALKON study was to assess the effect of fidrisertib in reducing heterotopic ossification in children and adults with FOP compared with placebo.

The study also assessed the safety of fidrisertib in children and adults with FOP.

The study took place between December 2021 and March 2026 at 25 study sites in Argentina, Australia, Belgium, Canada, China, France, Italy, Japan, South Korea, Mexico, the Netherlands, Portugal, Spain, Sweden, and the USA.

The study was stopped early by the sponsor (a pharmaceutical company called Ipsen) because fidrisertib did not have sufficient effect in reducing heterotopic ossification

from the results of Part A, and the study met pre-planned criteria for early termination.

## Who took part in this study?

113
PARTICIPANTS

60
BOYS/ MEN

53
GIRLS/ WOMEN

18 YEARS
AVERAGE AGE

To take part in the study, participants had to:

- be aged at least 5 years,
- be diagnosed with FOP due to certain harmful changes in ACVR1 (the gene that causes FOP), and
- have worsening of their disease during the year before entering this study.

Participants could not take part in the study if:

- they had health conditions or had received treatments that could affect the result of the study.

## What treatments were used in this study?

| Study Treatment | Placebo |
|---|---|
| Fidrisertib was given as capsules by mouth once a day. The capsules were used to make up 2 dosing regimens: a low dose regimen and a high dose regimen. The dose within each regimen was adjusted for each participant based on their weight. | Placebo was given as capsules by mouth once a day. |

A placebo looks like the study treatment and is given in the same way but does not have any medicine in it. Researchers sometimes use a placebo to understand if the changes seen were due to the study treatment or if they happened by chance.

This study had 3 periods:

**Period 1. Screening period:** The study doctor checked if participants could take part in this study within 42 days before starting the study treatment.

**Period 2. Treatment period:** This period was conducted in 3 parts:

**Part A:** Participants were assigned by chance to 1 of 3 treatment groups using a computer system. This process is called randomisation. It means that each participant could be assigned to any group, and it helps to make sure that the participants were divided into groups in a balanced and fair way. Every participant had an equal chance of being assigned to each group.
The treatment groups in this part were:

- Fidrisertib low dose group
- Fidrisertib high dose group
- Placebo group

Participants of at least 15 years of age were included first. Younger children (5 to 14 years old) started the study later, after an independent group of experts reviewed the first 6 months of safety results and found that the treatment was safe in the older participants.

Participants took treatment in Part A for 12 months.

**Part B:** Participants who completed Part A could be included in Part B. Participants who took fidrisertib in Part A received the same dose (low or high dose fidrisertib) in Part B. Those who took placebo in Part A were equally assigned by chance to 1 of 2 treatment groups:

- Fidrisertib low dose group
- Fidrisertib high dose group

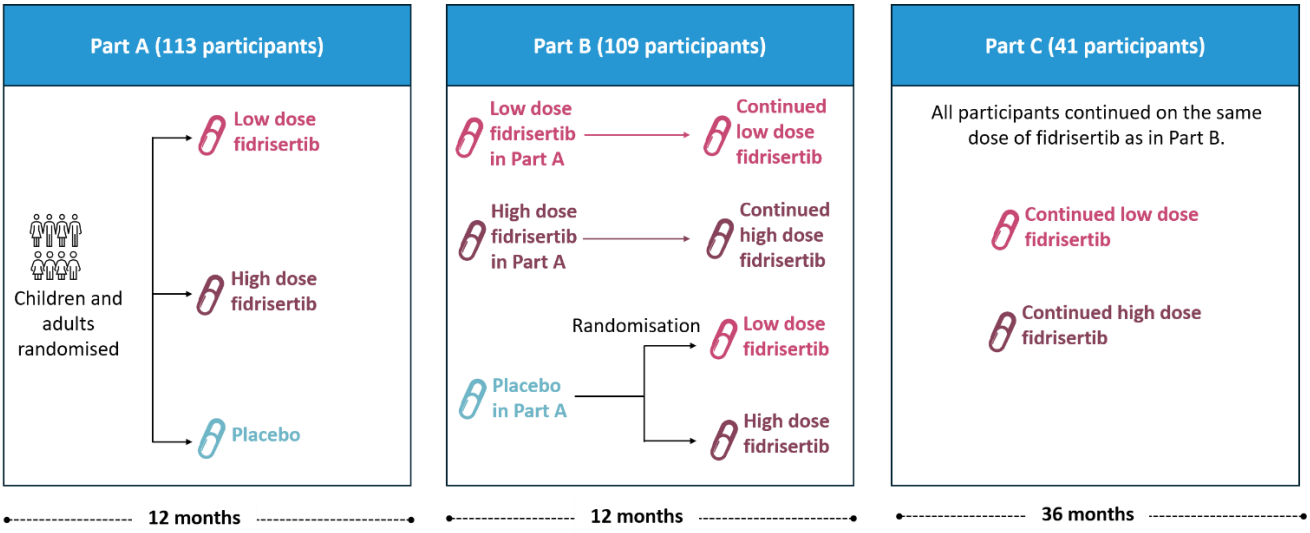
Participants took treatment in Part B for 12 months.

**Part C:** Participants who completed Part B could continue the same dose of fidrisertib for additional 36 months.
This study was “double blind”. This means that neither participants nor the researchers knew who was given which treatment. Studies are sometimes done this way to make sure that study results are not biased by this information.

The study was stopped early by the sponsor because fidrisertib did not have sufficient effect in reducing heterotopic ossification from the results of Part A, and the study met pre planned criteria for early termination.

**Period 3. Follow-up period:** The researchers monitored the health of the study participants through a phone call, or a participants’ visit to the study site 1 month after the last treatment.

The figure on the next page shows how the treatment was received.




## What did researchers find out in the study?

Fidrisertib did not have an effect in reducing heterotopic ossification in children and adults with FOP compared with placebo.

Fidrisertib was observed to be safe and well-tolerated in children and adults with FOP.

### What was the effect of fidrisertib in reducing the formation of heterotopic ossification (bone formation in the wrong place) in children and adults with FOP compared with placebo?

To answer this question, researchers assessed the change in the amount (volume) of heterotopic ossification after 12 months of treatment. The change in heterotopic ossification was measured using computed tomography (CT) scans taken before starting treatment and after 12 months of treatment. CT scans use X-rays to create detailed pictures of the body, to measure new bone formation.

The results showed that there was no meaningful difference in the amount of heterotopic ossification after 12 months of treatment with fidrisertib compared with placebo. This means that fidrisertib did not reduce the amount of heterotopic ossification compared with placebo.

### How safe was fidrisertib in children and adults with FOP?

The answer to this question is presented in the section 'How did the treatment make participants feel?' below.

## What other questions did researchers ask in the study?

### What was the effect of fidrisertib on the volume of new heterotopic ossification lesions in participants who took fidrisertib compared with placebo after 12 months?

There were no meaningful changes on the average volume of new heterotopic ossification lesions in participants that took fidrisertib compared with placebo after 12 months.

### What was the effect of fidrisertib on the number of body areas that form new heterotopic ossification in participants who took fidrisertib compared with placebo in 12 months?

There was no meaningful difference in the number of body areas that form new heterotopic ossification in participants who took fidrisertib compared with placebo in 12 months.

### What was the effect of fidrisertib on the number of participants who had new heterotopic ossification in participants who took fidrisertib compared with placebo in 12 months?

There was no meaningful difference in the number of participants who had new heterotopic ossification in participants who took fidrisertib compared with placebo in 12 months.

### What was the effect of fidrisertib in reducing pain compared with placebo during 12 months of treatment?

There was no meaningful difference in pain intensity in participants who took fidrisertib compared with placebo during 12 months of treatment.

## How did the treatment make participants feel?

To answer this question, researchers measured the number of participants who experienced at least one medical problem (also called an 'adverse event'). Medical problems included any health changes reported during the study, whether or not the researchers thought they were related to the study treatment. A medical problem was considered 'serious' when it was life-threatening, caused lasting problems, or led to hospitalisation.

The researchers also measured heart-related measurements, vital signs, physical examinations, body weight and height, eye examinations, and laboratory parameters.

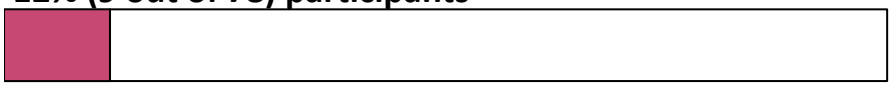
In **Period 2, Part A (treatment period),** 85% (66 out of 78) of participants who received fidrisertib and 86% (30 out of 35) of participants who received placebo experienced at least one medical problem.


Participants who received fidrisertib and had at least one medical problem


Participants who received placebo and had at least one medical problem

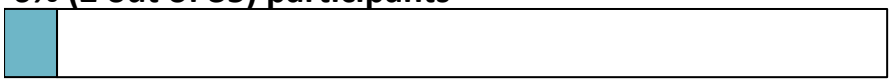
In **Period 2, Part A (treatment period)**, 12% (9 out of 78) of participants who received fidrisertib and 6% (2 out of 35) of participants who received placebo experienced at least one serious medical problem.

**12% (9 out of 78) participants**



Participants who received fidrisertib and had at least one serious medical problem

**6% (2 out of 35) participants**



Participants who received placebo and had at least one serious medical problem

Overall, across **Period 2, Parts A, B and C,** 84% (95 out of 113) of participants who received fidrisertib experienced at least one medical problem.

13% (15 out of 113) of participants who received fidrisertib experienced serious medical problems.

No medically important changes were seen in measurements related to the heart, vital signs, physical examinations, body weight and height, eye examinations, and laboratory parameters.

If the study doctor thinks an adverse event may be related to the study treatment, it is called a ‘side effect’. A side effect is considered ‘serious’ when it is life-threatening, causes lasting problems, or leads to hospitalisation.

Here, we only display the side effects that were reported during the study. The websites listed at the end of this summary may have more information about the medical problems that happened in this study.

- No participants in this study experienced a serious side effect.
- No participants died during the study.

In **Period 2, Part A (treatment period),** 27% (30 out of 113 participants) experienced a side effect.

- **30% (23 out of 78 participants)** who received **fidrisertib**
- **20% (7 out of 35 participants)** who received **placebo**

No participant stopped taking part in the study because of a side effect.

The most commonly reported side effects reported in at least 3 participants in either treatment group in **Part A** are shown below.

| Side Effects | Fidrisertib (78 Participants) | Placebo (35 Participants) |
|---|---|---|
| **Headache** | 5% (4 out of 78)  | 9% (3 out of 35)  |
| **Increase in liver test value of a liver enzyme* in the blood** | 4% (3 out of 78)  | 0% (0 out of 35)  |
| **A leaky heart valve that lets blood flow backward in the heart** | 4% (3 out of 78)  | 3% (1 out of 35)  |

*An enzyme is a type of protein.

Overall, across **Period 2, Parts A, B and C,** 27% (31 out of 113) of participants who received fidrisertib experienced a side effect. The most common side effect was an increase in liver test value of a liver enzyme in the blood, in 4% (5 out of 113) of participants.

## More information

To learn more about this study, please visit:

- ClinicalTrials.gov and search for study NCT05039515 or
- Clinicaltrialsregister.eu/ctr-search/search and search for study 2020-002858-24 or
- Search for clinical trials - EMA (euclinicaltrials.eu) and search for 2024-511469-13-00.

For more information about current treatments available, please speak to your healthcare provider. If you have any questions about this study, please contact the sponsor, Ipsen at:

clinical.trials@ipsen.com

## Future research

Currently, Ipsen is not planning further studies of fidrisertib.

## Study identification and other information

FULL STUDY TITLE: A phase 2 study to assess the efficacy and safety of 2 dosage regimens of oral fidrisertib (IPN60130) for the treatment of fibrodysplasia ossificans progressiva in male and female paediatric and adult participants

STUDY NUMBERS: Europe: 2020-002858-24| United States: NCT05039515|

PROTOCOL: D-CA-60130-452

OTHER INFORMATION: In Phase 2 studies, the study drug is given to a small number of participants with a disease or condition to gather information about how well the study drug works and how safe it is.

We thank all the volunteers who took part in this study. Without their support, advances in treatments for medical conditions would not be possible.

We would also like to thank the people who took the time to review this document to make it easier for a general audience to read.