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## Sponsor

Novartis Pharmaceuticals

## Generic Drug Name

Secukinumab

## Trial Indication(s)

Juvenile Idiopathic Arthritis (JIA) subtypes of Juvenile Psoriatic Arthritis (JPsA) and Enthesitis Related Arthritis (ERA)

## Protocol Number

CAIN457F2304E1

## Protocol Title

An extension study of subcutaneous secukinumab to evaluate the long-term efficacy, safety and tolerability up to 4 years in patients with Juvenile Idiopathic Arthritis subtypes of Juvenile Psoriatic Arthritis and Enthesitis Related Arthritis

## Clinical Trial Phase

Phase 3

## Phase of Drug Development

Phase IV

## Study Start/End Dates

Study Start Date: June 07, 2019 (Actual)
Primary Completion Date: November 07, 2024 (Actual)
Study Completion Date: November 07, 2024 (Actual)

## Reason for Termination (If applicable)

Not applicable

## Study Design/Methodology

This study is an extension of a previous core study (CAIN457F2304) aiming to assess the long-term efficacy, safety, and tolerability of secukinumab treatment in patients who completed the core study and chose to participate in the extension study. The primary objective was to gather comprehensive data on the efficacy and safety of secukinumab over an extended period.

At Week 104 of the core study, eligible patients could opt to roll over to the extension study and continue receiving secukinumab at either 75 mg or 150 mg, as they were at the Week 100 visit of the core study. The treatment involved subcutaneous injections using pre-filled syringes (PFS). The duration of patient participation could range from a minimum of one year to a maximum of four years, or until one of the following conditions was met: the drug was locally approved, marketed, and reimbursed, secukinumab could be provided free of charge to patients in compliance with local guidelines, or a maximum of 4 years study duration.

During the extension study (starting from Week 108), to maintain a high proportion of clinically meaningful response during the entire duration of the extension study, the dosing options available, at the Investigator's discretion, were as follows:

- The dose could be escalated from 75 mg to 150 mg for patients whose signs and symptoms were not fully controlled with the current dose of 75 mg and might improve with a higher dose as judged by the investigator
- Further, the dose could be escalated to 300 mg for patients weighing 50 kg and over currently on the 150 mg dose whose signs and symptoms were not fully controlled and might improve further with an increase in dose as judged by the investigator
- Dose escalation from secukinumab 75 mg to 300 mg had to be done in two steps (first 150 mg then 300 mg if the patient weighed 50 kg or over and based on the investigator’s judgement), also considering the gap between the two escalations to review the response

## Centers

24 centers in 9 countries: Germany(3), Spain(2), Russia(5), Belgium(2), Poland(1), Turkey(4), United States(3), Italy(2), South Africa(2)

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## Objectives:

### Primary Objectives

- To evaluate the long-term efficacy of secukinumab (provided as PFS) with respect to Juvenile Idiopathic Arthritis American College of Rheumatology (JIA ACR) 30 response over time up to Week 312 in patients with active JPsA and ERA subtypes of JIA and who completed the Phase III study CAIN457F2304

### Secondary Objectives

- To evaluate the long-term safety, tolerability, and immunogenicity of secukinumab as assessed by vital signs, clinical laboratory variables and adverse event monitoring over time up to Week 312 and follow-up period
- To evaluate the long-term effect of secukinumab treatment with respect to:
    - JIA ACR50/70/90/100 and inactive disease status
    - Each JIA ACR core components
    - Change from baseline of core study CAIN457F2304 in:
        - Juvenile Arthritis Disease Activity Score (JADAS)
        - Total Enthesitis count
        - Total Dactylitis count
- To evaluate pharmacokinetics (PK) of secukinumab

## Test Product (s), Dose(s), and Mode(s) of Administration

Secukinumab solution for subcutaneous injections was provided in PFS. Initially, participants continued to receive secukinumab at either 75 mg (secukinumab 75mg in 0.5mL) or 150 mg (secukinumab 150mg in 1mL) every 4 weeks, consistent with their dosage at the Week 100 visit of the core study. The dose could be escalated from 75 mg to 150 mg for patients whose signs and symptoms were not fully controlled, as judged by the investigator, with the current 75 mg dose. Furthermore, the dose could also be escalated to 300 mg subcutaneously every 4 weeks for patients weighing 50kg and over who were currently on the 150 mg dose and whose signs and symptoms were not well-controlled, as judged by the investigator. The dose escalation from secukinumab 75 mg subcutaneously to 300 mg subcutaneously was to be implemented in two steps (first 150 mg subcutaneously and then 300 mg subcutaneously based on the investigator's judgment).

At each study treatment time point, one or two subcutaneous injections in the form of PFS were administered.

## Statistical Methods

The primary efficacy variable is the clinical response to treatment according to JIA ACR30 improvement in disease activity over time up to Week 312 in patients with active JPsA and ERA subtypes of JIA and who completed the Phase III study CAIN457F2304. JIA ACR response criteria denote the response (i.e., improvement) in signs and symptoms of the disease of a patient compared to baseline of the core study. No formal hypotheses were planned for this study. Treatment efficacy was evaluated by the 95% confidence interval of the proportion of patients responding to treatment according to the JIA ACR criteria. Results are presented for the Full Analysis Set (FAS) based on observed data.

All the secondary efficacy variables were analyzed on the FAS for all applicable analysis visits based on the observed data.

## Study Population: Key Inclusion/Exclusion Criteria

Key Inclusion Criteria:

- Patients had to have participated in the core study CAIN457F2304 and completed the entire treatment period up to and including Week 104.
- Patients had to be deemed by the investigator to benefit from continued secukinumab therapy.

Key Exclusion Criteria:

- Patients with plans for administration of live vaccines during the extension study period were excluded.
- Patients taking any other concomitant biologic immunomodulating agent(s) except secukinumab were excluded.
- Patients who were deemed not to be benefiting from the study treatment based on lack of improvement or worsening of their symptoms were excluded.

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# Participant Flow Table

## Overall Study

| | Group 1- Secukinumab 75 mg | Group 2 - Secukinumab 150 mg | Total |
|---|---|---|---|
| **Arm/Group Description** | Participants were planned to initially receive secukinumab 75mg subcutaneously once every four weeks. If the signs and symptoms of the participants were not adequately controlled with the 75mg dose, as determined by the investigator, the dose could be escalated to 150mg subcutaneously. For patients weighing 50kg and over, the dose could further be escalated to 300mg subcutaneously every four weeks. The dose escalation from secukinumab 75mg subcutaneously to 300mg subcutaneously was to be implemented in two steps, with the first step being an increase to 150mg subcutaneously, followed by another escalation to 300mg subcutaneously, based on the judgement of the investigator. | Participants were planned to initially receive secukinumab 150mg subcutaneously once every four weeks. If the signs and symptoms of the participants were not adequately controlled with the 150mg dose, as determined by the investigator, the dose could be escalated to 300mg subcutaneously. | |
| **Started** | 19 | 36 | 55 |
| **Secukinumab escalated to 150 mg** | 6 | 0 | 6 |
| **Secukinumab escalated to 300 mg** | 2 | 14 | 16 |
| **Treated** | 19 | 35 | 54 |
| **Completed** | 10 | 12 | 22 |
| **Not Completed** | 9 | 24 | 33 |
| Adverse Event | 0 | 1 | 1 |
| Lack of Efficacy | 2 | 4 | 6 |

| | | | |
|---|---|---|---|
| Post study access to treatment | 3 | 11 | 14 |
| Physician Decision | 1 | 4 | 5 |
| Subject Decision | 2 | 4 | 6 |
| Guardian decision | 1 | 0 | 1 |

## Baseline Characteristics

| | Group 1- Secukinumab 75 mg | Group 2 - Secukinumab 150 mg | Total |
|---|---|---|---|
| **Arm/Group Description** | Participants were planned to initially receive secukinumab 75mg subcutaneously once every four weeks. If the signs and symptoms of the participants were not adequately controlled with the 75mg dose, as determined by the investigator, the dose could be escalated to 150mg subcutaneously. For patients weighing 50kg and over, the dose could further be escalated to 300mg subcutaneously every four weeks. The dose escalation from secukinumab 75mg subcutaneously to 300mg subcutaneously was to be implemented in two steps, with the first step being an increase to 150mg subcutaneously, followed by another escalation to 300mg | Participants were planned to initially receive secukinumab 150mg subcutaneously once every four weeks. If the signs and symptoms of the participants were not adequately controlled with the 150mg dose, as determined by the investigator, the dose could be escalated to 300mg subcutaneously. | |

| | | | |
|---|---|---|---|
| | subcutaneously, based on the judgement of the investigator. | | |
| **Number of Participants [units: participants]** | 19 | 35 | 54 |
| Baseline Analysis Population Description | Participants who enrolled in the extension study. One patient enrolled with planned treatment secukinumab150 mg discontinued the study before receiving study treatment. This patient was not included in the analysis. | | |
| **Age Continuous**<br>(units: Years)<br>Analysis Population Type: Participants<br>Mean ± Standard Deviation | | | |
| | 9.5±3.49 | 14.1±2.02 | 12.5±3.40 |
| **Sex: Female, Male**<br>(units: Participants)<br>Analysis Population Type: Participants<br>Count of Participants (Not Applicable) | | | |
| Female | 8 | 10 | 18 |
| Male | 11 | 25 | 36 |
| **Race/Ethnicity, Customized**<br>(units: Participants)<br>Analysis Population Type: Participants<br>Count of Participants (Not Applicable) | | | |
| White | 19 | 33 | 52 |
| Other | 0 | 2 | 2 |

# Primary Outcome Result(s)

## Percentage of participants with Juvenile Idiopathic Arthritis American College of Rheumatology (JIA ACR) 30 response

Description The JIA ACR response criteria consisted of 6 core criteria: - Physician global assessment of disease activity on a 0-100 mm VAS (0=very good and 100=very poor). - Parent's or patients' global assessment of overall well-being on a 0-100 mm VAS (0=very well and 100=very

| | |
|---|---|
| | poor). - Functional ability (CHAQ: Childhood Health Assessment Questionnaire): 30 questions across 8 domains assessing the child's functional abilities. The total score was calculated as the average of the scores for each domain. It ranged from 0 (no disability) to 3 (very severe disability). - Number of joints with active arthritis (as per ACR definition), ranging from 0 to 73. - Number of joints with limited range of motion, ranging from 0 to 69. - Index of inflammation: C-reactive Protein (CRP) levels The JIA ACR 30 response was achieved if 3 of any 6 core set variables improved by at least 30% from baseline of the core study, and no more than 1 variable worsening more than 30% |
| Time Frame | Baseline of the core study, Week 104 (start of extension study), 116, 128, 140, 156, 180, 208, 232, 260, 284 , 308 and 312. Study week is defined with respect to the core study. |
| Analysis Population Description | Participants who enrolled in the extension study. One patient enrolled with planned treatment secukinumab150 mg discontinued the study before receiving study treatment. This patient was not included in the analysis. At each time point, only participants with non-missing values were included in the analysis |

| | Group 1- Secukinumab 75 mg | Group 2 - Secukinumab 150 mg | Total Secukinumab dose |
|---|---|---|---|
| **Arm/Group Description** | Participants were planned to initially receive secukinumab 75mg subcutaneously once every four weeks. If the signs and symptoms of the participants were not adequately controlled with the 75mg dose, as determined by the investigator, the dose could be escalated to 150mg subcutaneously. For patients weighing 50kg and over, the dose could further be escalated to 300mg subcutaneously every four weeks. The dose escalation from secukinumab 75mg subcutaneously to 300mg subcutaneously was to be implemented in two steps, with the first step being an increase to 150mg subcutaneously, followed by another escalation to 300mg subcutaneously, based on the judgement of the investigator. | Participants were planned to initially receive secukinumab 150mg subcutaneously once every four weeks. If the signs and symptoms of the participants were not adequately controlled with the 150mg dose, as determined by the investigator, the dose could be escalated to 300mg subcutaneously. | Total participants from Group 1 and Group 2 |

| **Number of Participants Analyzed [units: participants]** | 19 | 35 | 54 |
|---|---|---|---|
| **Percentage of participants with Juvenile Idiopathic Arthritis American College of Rheumatology (JIA ACR) 30 response** (units: Percentage of Participants) | **Number (95% Confidence Interval)** | **Number (95% Confidence Interval)** | **Number (95% Confidence Interval)** |
| Week 104 | 100 (79.1 to 100) | 100 (87.7 to 100) | 100 (91.7 to 100) |
| Week 116 | 100 (79.1 to 100) | 96.9 (82.0 to 99.8) | 98.9 (88.2 to 99.9) |
| Week 128 | 100 (78.1 to 100) | 100 (86.3 to 100) | 100 (90.9 to 100) |
| Week 140 | 100 (78.1 to 100) | 100 (87.0 to 100) | 100 (91.3 to 100) |
| Week 156 | 94.7 (71.9 to 99.7) | 100 (87.0 to 100) | 98.1 (88.4 to 99.9) |
| Week 180 | 94.7 (71.9 to 99.7) | 97.0 (82.5 to 99.8) | 96.2 (85.7 to 99.3) |
| Week 208 | 100 (78.1 to 100) | 100 (86.3 to 100) | 100 (90.9 to 100) |
| Week 232 | 94.1 (69.2 to 99.7) | 100 (84.5 to 100) | 97.7 (86.5 to 99.9) |
| Week 260 | 92.9 (64.2 to 99.6) | 96.2 (78.4 to 99.8) | 95.0 (81.8 to 99.1) |
| Week 284 | 100 (73.2 to 100) | 95.7 (76.0 to 99.8) | 97.3 (84.2 to 99.9) |
| Week 308 | 100 (69.9 to 100) | 100 (77.1 to 100) | 100 (85.4 to 100) |
| Week 312 | 90.0 (54.1 to 99.5) | 100 (69.9 to 100) | 95.5 (75.1 to 99.8) |

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# Secondary Outcome Result(s)

## Percentage of participants with JIA ACR 50 response

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|---|---|
| Description | The JIA ACR response criteria consisted of 6 core criteria: - Physician global assessment of disease activity on a 0-100 mm VAS (0=very good and 100=very poor). - Parent's or patients' global assessment of overall well-being on a 0-100 mm VAS (0=very well and 100=very poor). - Functional ability (CHAQ): 30 questions across 8 domains assessing the child's functional abilities. The total score was calculated as the average of the scores for each domain (0 [no disability] to 3 [very severe disability]). - Number of joints with active arthritis (as per ACR definition), ranging from 0 to 73. - Number of joints with limited range of motion, ranging from 0 to 69. - Index of inflammation: CRP levels The JIA ACR 50 responses were achieved if 3 of any 6 core set variables improved by at least 50% from baseline of the core study, and no more than 1 variable worsening > 30% |
| Time Frame | Baseline of the core study, Week 104 (start of extension study), 116, 128, 140, 156, 180, 208, 232, 260, 284 , 308 and 312. Study week is defined with respect to the core study. |
| Analysis Population Description | Participants who enrolled in the extension study. One patient enrolled with planned treatment secukinumab150 mg discontinued the study before receiving study treatment. This patient was not included in the analysis. At each time point, only participants with non-missing values were included in the analysis |

| | Group 1- Secukinumab 75 mg | Group 2 - Secukinumab 150 mg | Total Secukinumab dose |
|---|---|---|---|
| **Arm/Group Description** | Participants were planned to initially receive secukinumab 75mg subcutaneously once every four weeks. If the signs and symptoms of the participants were not adequately controlled with the 75mg dose, as determined by the investigator, the dose could be escalated to 150mg subcutaneously. For patients weighing 50kg and over, the dose could further be escalated to 300mg subcutaneously every four weeks. The dose escalation from secukinumab 75mg subcutaneously to 300mg subcutaneously was to be implemented in two steps, with | Participants were planned to initially receive secukinumab 150mg subcutaneously once every four weeks. If the signs and symptoms of the participants were not adequately controlled with the 150mg dose, as determined by the investigator, the dose could be escalated to 300mg subcutaneously. | Total participants from Group 1 and Group 2 |

| | the first step being an increase to 150mg subcutaneously, followed by another escalation to 300mg subcutaneously, based on the judgement of the investigator. | | |
|---|---|---|---|
| **Number of Participants Analyzed [units: participants]** | 19 | 35 | 54 |
| **Percentage of participants with JIA ACR 50 response** (units: Percentage of participants) | **Number (95% Confidence Interval)** | **Number (95% Confidence Interval)** | **Number (95% Confidence Interval)** |
| Week 104 | 94.7 (71.9 to 99.7) | 94.3 (79.5 to 99.0) | 94.4 (83.7 to 98.6) |
| Week 116 | 100 (79.1 to 100) | 93.8 (77.8 to 98.9) | 96.1 (85.4 to 99.3) |
| Week 128 | 94.4 (74.2 to 98.7) | 93.5 (77.2 to 98.9) | 93.9 (82.1 to 98.4) |
| Week 140 | 100 (78.1 to 100) | 90.9 (74.5 to 97.6) | 94.1 (82.8 to 98.5) |
| Week 156 | 94.7 (71.9 to 99.7) | 87.9 (70.9 to 96.0) | 90.4 (78.2 to 96.4) |
| Week 180 | 94.7 (71.9 to 99.7) | 93.9 (78.4 to 98.9) | 94.2 (83.1 to 98.5) |
| Week 208 | 100 (78.1 to 100) | 90.3 (73.1 to 97.5) | 93.9 (82.1 to 98.4) |
| Week 232 | 94.1 (69.2 to 99.7) | 96.3 (79.1 to 99.8) | 95.5 (83.3 to 99.2) |
| Week 260 | 92.9 (64.2 to 99.6) | 96.2 (78.4 to 99.8) | 95.0 (81.8 to 99.1) |
| Week 284 | 100 (73.2 to 100) | 95.7 (76.0 to 99.8) | 97.3 (84.2 to 99.9) |
| Week 308 | 100 (69.9 to 100) | 100 (77.1 to 100) | 100 (85.4 to 100) |

| | | | |
|---|---|---|---|
| Week 312 | 90.0<br>(54.1 to 99.5) | 100<br>(69.9 to 100) | 95.5<br>(75.1 to 99.8) |

## Percentage of participants with JIA ACR 70 response

| | |
|---|---|
| Description | The JIA ACR response criteria consisted of 6 core criteria: - Physician global assessment of disease activity on a 0-100 mm VAS (0=very good and 100=very poor). - Parent's or patients' global assessment of overall well-being on a 0-100 mm VAS (0=very well and 100=very poor). - Functional ability (CHAQ): 30 questions across 8 domains assessing the child's functional abilities. The total score was calculated as the average of the scores for each domain (0 [no disability] to 3 [very severe disability]). - Number of joints with active arthritis (as per ACR definition), ranging from 0 to 73. - Number of joints with limited range of motion, ranging from 0 to 69. - Index of inflammation: CRP levels The JIA ACR 70 responses were achieved if 3 of any 6 core set variables improved by at least 70%, from baseline of the core study, and no more than 1 variable worsening > 30% |
| Time Frame | Baseline of the core study, Week 104 (start of extension study), 116, 128, 140, 156, 180, 208, 232, 260, 284 , 308 and 312. Study week is defined with respect to the core study. |
| Analysis Population Description | Participants who enrolled in the extension study. One patient enrolled with planned treatment secukinumab150 mg discontinued the study before receiving study treatment. This patient was not included in the analysis. At each time point, only participants with non-missing values were included in the analysis |

| | Group 1- Secukinumab 75 mg | Group 2 - Secukinumab 150 mg | Total Secukinumab dose |
|---|---|---|---|
| **Arm/Group Description** | Participants were planned to initially receive secukinumab 75mg subcutaneously once every four weeks. If the signs and symptoms of the participants were not adequately controlled with the 75mg dose, as determined by the investigator, the dose could be escalated to 150mg subcutaneously. For patients weighing 50kg and over, the dose could further be escalated to 300mg subcutaneously every four weeks. The dose escalation from secukinumab 75mg subcutaneously to 300mg | Participants were planned to initially receive secukinumab 150mg subcutaneously once every four weeks. If the signs and symptoms of the participants were not adequately controlled with the 150mg dose, as determined by the investigator, the dose could be escalated to 300mg subcutaneously. | Total participants from Group 1 and Group 2 |

| | subcutaneously was to be implemented in two steps, with the first step being an increase to 150mg subcutaneously, followed by another escalation to 300mg subcutaneously, based on the judgement of the investigator. | | |
|---|---|---|---|
| **Number of Participants Analyzed [units: participants]** | 19 | 35 | 54 |
| **Percentage of participants with JIA ACR 70 response** (units: Percentage of participants) | **Number (95% Confidence Interval)** | **Number (95% Confidence Interval)** | **Number (95% Confidence Interval)** |
| Week 104 | 94.7 (71.9 to 99.7) | 82.9 (65.7 to 92.8) | 87.0 (74.5 to 94.2) |
| Week 116 | 94.7 (71.9 to 99.7) | 90.6 (73.8 to 97.5) | 92.2 (80.3 to 97.5) |
| Week 128 | 94.4 (70.6 to 99.7) | 90.3 (73.1 to 97.5) | 91.8 (79.5 to 97.4) |
| Week 140 | 88.9 (63.9 to 98.1) | 84.8 (67.3 to 94.3) | 86.3 (73.1 to 93.8) |
| Week 156 | 94.7 (71.9 to 99.7) | 84.8 (67.3 to 94.3) | 88.5 (75.9 to 95.2) |
| Week 180 | 89.5 (65.5 to 98.2) | 81.8 (63.9 to 92.4) | 84.6 (71.4 to 92.7) |
| Week 208 | 94.4 (70.6 to 99.7) | 90.3 (73.1 to 97.5) | 91.8 (79.5 to 97.4) |
| Week 232 | 88.2 (62.3 to 97.9) | 85.2 (65.4 to 95.1) | 86.4 (72.0 to 94.3) |
| Week 260 | 92.9 (64.2 to 99.6) | 96.2 (78.4 to 99.8) | 95.0 (81.8 to 99.1) |
| Week 284 | 100 (73.2 to 100) | 95.7 (76.0 to 99.8) | 97.3 (84.2 to 99.9) |
| Week 308 | 100 (69.9 to 100) | 100 (77.1 to 100) | 100 (85.4 to 100) |

| | | | |
|---|---|---|---|
| Week 312 | 90.0<br>(54.1 to 99.5) | 83.3<br>(50.9 to 97.1) | 86.4<br>(64.0 to 96.4) |

## Percentage of participants with JIA ACR 90 response

| | |
|---|---|
| Description | The JIA ACR response criteria consisted of 6 core criteria: - Physician global assessment of disease activity on a 0-100 mm VAS (0=very good and 100=very poor). - Parent's or patients' global assessment of overall well-being on a 0-100 mm VAS (0=very well and 100=very poor). - Functional ability (CHAQ): 30 questions across 8 domains assessing the child's functional abilities. The total score was calculated as the average of the scores for each domain (0 [no disability] to 3 [very severe disability]). - Number of joints with active arthritis (as per ACR definition), ranging from 0 to 73. - Number of joints with limited range of motion, ranging from 0 to 69. - Index of inflammation: CRP levels The JIA ACR 90 responses were achieved if 3 of any 6 core set variables improved by at least 90% from baseline of the core study, and no more than 1 variable worsening > 30% |
| Time Frame | Baseline of the core study, Week 104 (start of extension study), 116, 128, 140, 156, 180, 208, 232, 260, 284 , 308 and 312. Study week is defined with respect to the core study. |
| Analysis Population Description | Participants who enrolled in the extension study. One patient enrolled with planned treatment secukinumab150 mg discontinued the study before receiving study treatment. This patient was not included in the analysis. At each time point, only participants with non-missing values were included in the analysis |

| | Group 1- Secukinumab 75 mg | Group 2 - Secukinumab 150 mg | Total Secukinumab dose |
|---|---|---|---|
| **Arm/Group Description** | Participants were planned to initially receive secukinumab 75mg subcutaneously once every four weeks. If the signs and symptoms of the participants were not adequately controlled with the 75mg dose, as determined by the investigator, the dose could be escalated to 150mg subcutaneously. For patients weighing 50kg and over, the dose could further be escalated to 300mg subcutaneously every four weeks. The dose escalation from secukinumab 75mg subcutaneously to 300mg | Participants were planned to initially receive secukinumab 150mg subcutaneously once every four weeks. If the signs and symptoms of the participants were not adequately controlled with the 150mg dose, as determined by the investigator, the dose could be escalated to 300mg subcutaneously. | Total participants from Group 1 and Group 2 |

| | subcutaneously was to be implemented in two steps, with the first step being an increase to 150mg subcutaneously, followed by another escalation to 300mg subcutaneously, based on the judgement of the investigator. | | |
|---|---|---|---|
| **Number of Participants Analyzed [units: participants]** | 19 | 35 | 54 |
| **Percentage of participants with JIA ACR 90 response** (units: Percentage of participants) | **Number (95% Confidence Interval)** | **Number (95% Confidence Interval)** | **Number (95% Confidence Interval)** |
| Week 104 | 84.2 (59.5 to 95.8) | 74.3 (56.4 to 86.9) | 77.8 (64.1 to 87.5) |
| Week 116 | 73.7 (48.6 to 89.9) | 75.0 (56.2 to 87.9) | 74.5 (60.1 to 85.2) |
| Week 128 | 83.3 (57.7 to 95.6) | 77.4 (58.5 to 89.7) | 79.6 (65.2 to 89.3) |
| Week 140 | 83.3 (57.7 to 95.6) | 72.7 (54.2 to 86.1) | 76.5 (62.2 to 86.8) |
| Week 156 | 73.7 (48.6 to 89.9) | 75.8 (57.4 to 88.3) | 75.0 (60.8 to 85.5) |
| Week 180 | 84.2 (59.5 to 95.8) | 69.7 (51.1 to 83.8) | 75.0 (60.8 to 85.5) |
| Week 208 | 77.8 (51.9 to 92.6) | 71.0 (51.8 to 85.1) | 73.5 (58.7 to 84.6) |
| Week 232 | 76.5 (49.8 to 92.2) | 81.5 (61.3 to 93.0) | 79.5 (64.2 to 89.7) |
| Week 260 | 71.4 (42.0 to 90.4) | 84.6 (64.3 to 95.0) | 80.0 (63.9 to 90.4) |
| Week 284 | 85.7 (56.2 to 97.5) | 95.7 (76.0 to 99.8) | 91.9 (77.0 to 97.9) |
| Week 308 | 91.7 (59.8 to 99.6) | 88.2 (62.3 to 97.9) | 89.7 (71.5 to 97.3) |

| | | | |
|---|---|---|---|
| Week 312 | 80.0<br>(44.2 to 96.5) | 83.3<br>(50.9 to 97.1) | 81.8<br>(59.0 to 94.0) |

## Percentage of participants with JIA ACR 100 response

| | |
|---|---|
| Description | The JIA ACR response criteria consisted of 6 core criteria: - Physician global assessment of disease activity on a 0-100 mm VAS (0=very good and 100=very poor). - Parent's or patients' global assessment of overall well-being on a 0-100 mm VAS (0=very well and 100=very poor). - Functional ability (CHAQ): 30 questions across 8 domains assessing the child's functional abilities. The total score was calculated as the average of the scores for each domain (0 [no disability] to 3 [very severe disability]). - Number of joints with active arthritis (as per ACR definition), ranging from 0 to 73. - Number of joints with limited range of motion, ranging from 0 to 69. - Index of inflammation: CRP levels The JIA ACR 100 responses were achieved if 3 of any 6 core set variables improved with 100% from baseline of the core study, and no more than 1 variable worsening > 30% |
| Time Frame | Baseline of the core study, Week 104 (start of extension study), 116, 128, 140, 156, 180, 208, 232, 260, 284 , 308 and 312. Study week is defined with respect to the core study. |
| Analysis Population Description | Participants who enrolled in the extension study. One patient enrolled with planned treatment secukinumab150 mg discontinued the study before receiving study treatment. This patient was not included in the analysis. At each time point, only participants with non-missing values were included in the analysis |

| | Group 1- Secukinumab 75 mg | Group 2 - Secukinumab 150 mg | Total Secukinumab dose |
|---|---|---|---|
| **Arm/Group Description** | Participants were planned to initially receive secukinumab 75mg subcutaneously once every four weeks. If the signs and symptoms of the participants were not adequately controlled with the 75mg dose, as determined by the investigator, the dose could be escalated to 150mg subcutaneously. For patients weighing 50kg and over, the dose could further be escalated to 300mg subcutaneously every four weeks. The dose escalation from secukinumab 75mg subcutaneously to 300mg | Participants were planned to initially receive secukinumab 150mg subcutaneously once every four weeks. If the signs and symptoms of the participants were not adequately controlled with the 150mg dose, as determined by the investigator, the dose could be escalated to 300mg subcutaneously. | Total participants from Group 1 and Group 2 |

| | subcutaneously was to be implemented in two steps, with the first step being an increase to 150mg subcutaneously, followed by another escalation to 300mg subcutaneously, based on the judgement of the investigator. | | |
|---|---|---|---|
| **Number of Participants Analyzed [units: participants]** | 19 | 35 | 54 |
| **Percentage of participants with JIA ACR 100 response** (units: Percentage of participants) | **Number (95% Confidence Interval)** | **Number (95% Confidence Interval)** | **Number (95% Confidence Interval)** |
| Week 104 | 63.2 (38.6 to 82.8) | 57.1 (39.5 to 73.2) | 59.3 (45.1 to 72.1) |
| Week 116 | 63.2 (38.6 to 82.8) | 62.5 (43.7 to 78.3) | 62.7 (48.1 to 75.5) |
| Week 128 | 66.7 (41.2 to 85.6) | 54.8 (36.3 to 72.2) | 59.2 (44.3 to 72.7) |
| Week 140 | 66.7 (41.2 to 85.6) | 57.6 (39.4 to 74.0) | 60.8 (46.1 to 73.8) |
| Week 156 | 63.2 (38.6 to 82.8) | 60.6 (42.2 to 76.6) | 61.5 (47.0 to 74.4) |
| Week 180 | 57.9 (34.0 to 78.9) | 54.5 (36.6 to 71.5) | 55.8 (41.4 to 69.3) |
| Week 208 | 72.2 (46.4 to 89.3) | 58.1 (39.3 to 74.9) | 63.3 (48.3 to 76.2) |
| Week 232 | 58.8 (33.5 to 80.6) | 63.0 (42.5 to 79.9) | 61.4 (45.5 to 75.3) |
| Week 260 | 71.4 (42.0 to 90.4) | 65.4 (44.4 to 82.1) | 67.5 (50.8 to 80.9) |
| Week 284 | 78.6 (48.8 to 94.3) | 78.3 (55.8 to 91.7) | 78.4 (61.3 to 89.6) |
| Week 308 | 91.7 (59.8 to 99.6) | 76.5 (49.8 to 92.2) | 82.8 (63.5 to 93.5) |

| | | | |
|---|---|---|---|
| Week 312 | 80.0<br>(44.2 to 96.5) | 75.0<br>(42.8 to 93.3) | 77.3<br>(54.2 to 91.3) |

## Number of participants with inactive disease status

| | |
|---|---|
| Description | Inactive disease status was confirmed in a patient when all the following conditions were met: - No joints with active arthritis - No uveitis - CRP value within normal limits for the laboratory where tested or, if elevated, not attributable to JIA - Physician's global assessment of disease activity score ≤ 10mm - Duration of morning stiffness attributable to JIA lasting ≥15 minutes. |
| Time Frame | Baseline of the core study, Week 104 (start of extension study), 116, 128, 140, 156, 180, 208, 232, 260, 284 , 308 and 312. Study week is defined with respect to the core study. |
| Analysis Population Description | Participants who enrolled in the extension study. One patient enrolled with planned treatment secukinumab150 mg discontinued the study before receiving study treatment. This patient was not included in the analysis. At each time point, only participants with non-missing values were included in the analysis |

| | Group 1- Secukinumab 75 mg | Group 2 - Secukinumab 150 mg | Total Secukinumab dose |
|---|---|---|---|
| **Arm/Group Description** | Participants were planned to initially receive secukinumab 75mg subcutaneously once every four weeks. If the signs and symptoms of the participants were not adequately controlled with the 75mg dose, as determined by the investigator, the dose could be escalated to 150mg subcutaneously. For patients weighing 50kg and over, the dose could further be escalated to 300mg subcutaneously every four weeks. The dose escalation from secukinumab 75mg subcutaneously to 300mg subcutaneously was to be implemented in two steps, with the first step being an increase to 150mg subcutaneously, followed | Participants were planned to initially receive secukinumab 150mg subcutaneously once every four weeks. If the signs and symptoms of the participants were not adequately controlled with the 150mg dose, as determined by the investigator, the dose could be escalated to 300mg subcutaneously. | Total participants from Group 1 and Group 2 |

| | by another escalation to 300mg subcutaneously, based on the judgement of the investigator. | | |
|---|---|---|---|
| **Number of Participants Analyzed [units: participants]** | 19 | 35 | 54 |
| **Number of participants with inactive disease status** (units: Percentage of Participants) | **Number (95% Confidence Interval)** | **Number (95% Confidence Interval)** | **Number (95% Confidence Interval)** |
| Week 104 | 63.2 (38.6 to 82.8) | 65.7 (47.7 to 80.3) | 64.8 (50.6 to 77.0) |
| Week 116 | 68.4 (43.5 to 86.4) | 71.9 (53.0 to 85.6) | 70.6 (56.0 to 82.1) |
| Week 128 | 66.7 (41.2 to 85.6) | 64.5 (45.4 to 80.2) | 65.3 (50.3 to 77.9) |
| Week 140 | 72.2 (46.4 to 89.3) | 63.6 (45.1 to 79.0) | 66.7 (52.0 to 77.9) |
| Week 156 | 68.4 (43.5 to 86.4) | 72.7 (54.2 to 86.1) | 71.2 (56.7 to 82.5) |
| Week 180 | 68.4 (43.5 to 86.4) | 54.5 (36.6 to 71.5) | 59.6 (45.1 to 72.7) |
| Week 208 | 61.1 (36.1 to 81.7) | 67.7 (48.5 to 82.7) | 65.3 (50.3 to 77.9) |
| Week 232 | 70.6 (44.0 to 88.6) | 66.7 (46.0 to 82.8) | 68.2 (52.3 to 80.9) |
| Week 260 | 71.4 (42.0 to 90.4) | 65.4 (44.4 to 82.1) | 67.5 (50.8 to 80.9) |
| Week 284 | 78.6 (48.8 to 94.3) | 78.3 (55.8 to 91.7) | 78.4 (61.3 to 89.6) |
| Week 308 | 83.3 (50.9 to 97.1) | 82.4 (55.8 to 95.3) | 82.8 (63.5 to 93.5) |
| Week 312 | 70.0 (35.4 to 91.9) | 75.0 (42.8 to 93.3) | 72.7 (49.6 to 88.4) |

## Change from baseline of core study CAIN457F2304 in JIA ACR Core Component - Physician global assessment of disease activity

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|---|---|
| Description | The JIA ACR response criteria consisted of 6 core criteria, one of which was the physician global assessment of disease activity. this assessment was conducted using a 100 mm VAS score, where 0 represented the best disease activity and 100 the worst. The change from baseline of the core study of the physician global assessment of disease activity was measured, with a negative change indicating improvement. |
| Time Frame | Baseline of the core study, Week 104 (start of extension study), 116, 128, 140, 156, 180, 208, 232, 260, 284 , 308 and 312. Study week is defined with respect to the core study. |
| Analysis Population Description | Participants who enrolled in the extension study. One patient enrolled with planned treatment secukinumab150 mg discontinued the study before receiving study treatment. This patient was not included in the analysis. At each time point, only participants with non-missing values were included in the analysis |

| | Group 1- Secukinumab 75 mg | Group 2 - Secukinumab 150 mg | Total Secukinumab dose |
|---|---|---|---|
| **Arm/Group Description** | Participants were planned to initially receive secukinumab 75mg subcutaneously once every four weeks. If the signs and symptoms of the participants were not adequately controlled with the 75mg dose, as determined by the investigator, the dose could be escalated to 150mg subcutaneously. For patients weighing 50kg and over, the dose could further be escalated to 300mg subcutaneously every four weeks. The dose escalation from secukinumab 75mg subcutaneously to 300mg subcutaneously was to be implemented in two steps, with the first step being an increase to 150mg subcutaneously, followed | Participants were planned to initially receive secukinumab 150mg subcutaneously once every four weeks. If the signs and symptoms of the participants were not adequately controlled with the 150mg dose, as determined by the investigator, the dose could be escalated to 300mg subcutaneously. | Total participants from Group 1 and Group 2 |

| | by another escalation to 300mg subcutaneously, based on the judgement of the investigator. | | |
|---|---|---|---|
| **Number of Participants Analyzed [units: participants]** | 19 | 35 | 54 |
| **Change from baseline of core study CAIN457F2304 in JIA ACR Core Component - Physician global assessment of disease activity** (units: Score on a Scale) | **Mean ± Standard Deviation** | **Mean ± Standard Deviation** | **Mean ± Standard Deviation** |
| Week 104 | -40.0 ± 18.39 | -42.2 ± 20.43 | -41.4 ± 19.59 |
| Week 116 | -40.3 ± 18.42 | -41.1 ± 20.35 | -40.8 ± 19.46 |
| Week 128 | -40.4 ± 18.55 | -41.9 ± 21.33 | -41.3 ± 20.17 |
| Week 140 | -39.0 ± 16.75 | -42.4 ± 19.18 | -41.2 ± 18.26 |
| Week 156 | -39.7 ± 17.09 | -40.8 ± 20.72 | -40.4 ± 19.50 |
| Week 180 | -38.5 ± 18.20 | -38.9 ± 21.71 | -38.8 ± 20.31 |
| Week 208 | -39.0 ± 17.06 | -41.8 ± 19.45 | -40.8 ± 18.48 |
| Week 232 | -38.4 ± 18.20 | -42.9 ± 20.86 | -41.1 ± 19.78 |
| Week 260 | -37.6 ± 28.75 | -45.4 ± 20.74 | -42.7 ± 23.78 |
| Week 284 | -43.6 ± 18.96 | -42.8 ± 20.53 | -43.1 ± 19.68 |
| Week 308 | -43.8 ± 18.76 | -40.3 ± 20.51 | -41.7 ± 19.53 |
| Week 312 | -44.2 ± 26.58 | -47.4 ± 22.05 | -46.0 ± 23.67 |

## Change from baseline of core study CAIN457F2304 in JIA ACR Core Component - Parent's or patients' global assessment of overall well-being

| | |
|---|---|
| Description | The JIA ACR response criteria included six core components, one of which was the parent's or patients' global assessment of overall well-being. This assessment was conducted using a 100 mm VAS score, where 0 represented “very well” and 100 “very poor”. The change from baseline of the core study in the parent's or patients' global assessment of overall well-being was measured, with a negative change indicating improvement |
| Time Frame | Baseline of the core study, Week 104 (start of extension study), 116, 128, 140, 156, 180, 208, 232, 260, 284 , 308 and 312. Study week is defined with respect to the core study. |

| | |
|---|---|
| Analysis Population Description | Participants who enrolled in the extension study. One patient enrolled with planned treatment secukinumab150 mg discontinued the study before receiving study treatment. This patient was not included in the analysis. At each time point, only participants with non-missing values were included in the analysis |

| | Group 1- Secukinumab 75 mg | Group 2 - Secukinumab 150 mg | Total Secukinumab dose |
|---|---|---|---|
| **Arm/Group Description** | Participants were planned to initially receive secukinumab 75mg subcutaneously once every four weeks. If the signs and symptoms of the participants were not adequately controlled with the 75mg dose, as determined by the investigator, the dose could be escalated to 150mg subcutaneously. For patients weighing 50kg and over, the dose could further be escalated to 300mg subcutaneously every four weeks. The dose escalation from secukinumab 75mg subcutaneously to 300mg subcutaneously was to be implemented in two steps, with the first step being an increase to 150mg subcutaneously, followed by another escalation to 300mg subcutaneously, based on the judgement of the investigator. | Participants were planned to initially receive secukinumab 150mg subcutaneously once every four weeks. If the signs and symptoms of the participants were not adequately controlled with the 150mg dose, as determined by the investigator, the dose could be escalated to 300mg subcutaneously. | Total participants from Group 1 and Group 2 |
| **Number of Participants Analyzed [units: participants]** | 19 | 35 | 54 |
| **Change from baseline of core study CAIN457F2304 in JIA ACR Core Component - Parent's or patients' global assessment of overall well-being** (units: Score on a Scale) | **Mean ± Standard Deviation** | **Mean ± Standard Deviation** | **Mean ± Standard Deviation** |

| | | | |
|---|---|---|---|
| Week 104 | -47.1 ± 25.90 | -38.6 ± 27.74 | -41.6 ± 27.17 |
| Week 116 | -45.4 ± 25.70 | -37.7 ± 26.39 | -40.5 ± 26.15 |
| Week 128 | -46.8 ± 25.02 | -39.1 ± 26.69 | -41.8 ± 26.11 |
| Week 140 | -41.1 ± 27.57 | -38.7 ± 27.06 | -38.7 ± 27.06 |
| Week 156 | -46.1 ± 25.41 | -39.2 ± 27.15 | -41.8 ± 26.49 |
| Week 180 | -45.5 ± 27.24 | -39.8 ± 27.48 | -41.9 ± 27.27 |
| Week 208 | -47.6 ± 25.70 | -40.3 ± 28.13 | -43.0 ± 27.23 |
| Week 232 | -39.6 ± 27.23 | -43.4 ± 28.20 | -41.9 ± 27.57 |
| Week 260 | -44.8 ± 34.52 | -42.8 ± 29.31 | -43.5 ± 30.80 |
| Week 284 | -51.6 ± 24.97 | -43.2 ± 31.23 | -46.4 ± 28.96 |
| Week 308 | -49.8 ± 24.23 | -48.5 ± 31.93 | -49.1 ± 28.53 |
| Week 312 | -48.9 ± 28.45 | -53.5 ± 30.31 | -51.4 ± 28.87 |

## Change from baseline of core study CAIN457F2304 in JIA ACR Core Component - Functional ability (CHAQ)

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|---|---|
| Description | The JIA ACR response criteria included six core components, one of which was the functional ability, measured by the CHAQ. The CHAQ questionnaire consisted of 30 questions across 8 domains: dressing/grooming, arising, eating, walking, hygiene, reach, grip, and activities. Each domain was scored on a 4-point scale, and the total score was calculated as the average of the scores for each domain. The total score ranged from 0 (no disability) to 3 (very severe disability). The change from baseline of the core study in the CHAQ was measured, with a negative change indicating improvement. |
| Time Frame | Baseline of the core study, Week 104 (start of extension study), 116, 128, 140, 156, 180, 208, 232, 260, 284 , 308 and 312. Study week is defined with respect to the core study. |
| Analysis Population Description | Participants who enrolled in the extension study. One patient enrolled with planned treatment secukinumab150 mg discontinued the study before receiving study treatment. This patient was not included in the analysis. At each time point, only participants with non-missing values were included in the analysis |

| | Group 1- Secukinumab 75 mg | Group 2 - Secukinumab 150 mg | Total Secukinumab dose |
|---|---|---|---|

| **Arm/Group Description** | Participants were planned to initially receive secukinumab 75mg subcutaneously once every four weeks. If the signs and symptoms of the participants were not adequately controlled with the 75mg dose, as determined by the investigator, the dose could be escalated to 150mg subcutaneously. For patients weighing 50kg and over, the dose could further be escalated to 300mg subcutaneously every four weeks. The dose escalation from secukinumab 75mg subcutaneously to 300mg subcutaneously was to be implemented in two steps, with the first step being an increase to 150mg subcutaneously, followed by another escalation to 300mg subcutaneously, based on the judgement of the investigator. | Participants were planned to initially receive secukinumab 150mg subcutaneously once every four weeks. If the signs and symptoms of the participants were not adequately controlled with the 150mg dose, as determined by the investigator, the dose could be escalated to 300mg subcutaneously. | Total participants from Group 1 and Group 2 |
|---|---|---|---|
| **Number of Participants Analyzed [units: participants]** | 19 | 35 | 54 |
| **Change from baseline of core study CAIN457F2304 in JIA ACR Core Component - Functional ability (CHAQ)** (units: Score on a Scale) | **Mean ± Standard Deviation** | **Mean ± Standard Deviation** | **Mean ± Standard Deviation** |
| Week 104 | -0.599 ± 0.5490 | -0.636 ± 0.5967 | -0.623 ± 0.5754 |
| Week 116 | -0.605 ± 0.5469 | -0.617 ± 0.5811 | -0.613 ± 0.5631 |
| Week 128 | -0.647 ± 0.5196 | -0.685 ± 0.5570 | -0.672 ± 0.5388 |
| Week 140 | -0.590 ± 0.4809 | -0.648 ± 0.5638 | -0.627 ± 0.5318 |
| Week 156 | -0.645 ± 0.5275 | -0.644 ± 0.5763 | -0.644 ± 0.5537 |
| Week 180 | -0.658 ± 0.5541 | -0.625 ± 0.5779 | -0.637 ± 0.5641 |

| | | | |
|---|---|---|---|
| Week 208 | -0.667 ± 0.4832 | -0.625 ± 0.5293 | -0.640 ± 0.5082 |
| Week 232 | -0.610 ± 0.5411 | -0.681 ± 0.5825 | -0.653 ± 0.5615 |
| Week 260 | -0.741 ± 0.5035 | -0.649 ± 0.6205 | -0.681 ± 0.5773 |
| Week 284 | -0.777 ± 0.5052 | -0.652 ± 0.6329 | -0.699 ± 0.5837 |
| Week 308 | -0.865 ± 0.4811 | -0.794 ± 0.6311 | -0.823 ± 0.5655 |
| Week 312 | -0.888 ± 0.5050 | -1.000 ± 0.6077 | -0.949 ± 0.5532 |

## Change from baseline of core study CAIN457F2304 in JIA ACR Core Component - Number of joints with active arthritis

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|---|---|
| Description | The JIA ACR response criteria included six core components, one of which was the number of joints with active arthritis. This was determined using the ACR definition, which identifies active arthritis as any joint with swelling or, in the absence of swelling, limitation of motion accompanied by either pain on motion or tenderness not due to deformity. The active joint count ranged from 0 to 73. The change from baseline of the core study in the number of active joints was measured, with a negative change indicating improvement. |
| Time Frame | Baseline of the core study, Week 104 (start of extension study), 116, 128, 140, 156, 180, 208, 232, 260, 284 , 308 and 312. Study week is defined with respect to the core study. |
| Analysis Population Description | Participants who enrolled in the extension study. One patient enrolled with planned treatment secukinumab150 mg discontinued the study before receiving study treatment. This patient was not included in the analysis. At each time point, only participants with non-missing values were included in the analysis |

| | Group 1- Secukinumab 75 mg | Group 2 - Secukinumab 150 mg | Total Secukinumab dose |
|---|---|---|---|
| **Arm/Group Description** | Participants were planned to initially receive secukinumab 75mg subcutaneously once every four weeks. If the signs and symptoms of the participants were not adequately controlled with the 75mg dose, as determined by the investigator, the dose could be escalated to 150mg subcutaneously. For patients weighing 50kg and over, | Participants were planned to initially receive secukinumab 150mg subcutaneously once every four weeks. If the signs and symptoms of the participants were not adequately controlled with the 150mg dose, as determined by the investigator, the dose could be escalated to 300mg subcutaneously. | Total participants from Group 1 and Group 2 |

| | the dose could further be escalated to 300mg subcutaneously every four weeks. The dose escalation from secukinumab 75mg subcutaneously to 300mg subcutaneously was to be implemented in two steps, with the first step being an increase to 150mg subcutaneously, followed by another escalation to 300mg subcutaneously, based on the judgement of the investigator. | | |
|---|---|---|---|
| **Number of Participants Analyzed [units: participants]** | 19 | 35 | 54 |
| **Change from baseline of core study CAIN457F2304 in JIA ACR Core Component - Number of joints with active arthritis** (units: Joints) | **Mean ± Standard Deviation** | **Mean ± Standard Deviation** | **Mean ± Standard Deviation** |
| Week 104 | -8.4 ± 11.03 | -6.9 ± 5.26 | -7.4 ± 7.72 |
| Week 116 | -8.4 ± 11.48 | -6.6 ± 4.50 | -7.3 ± 7.79 |
| Week 128 | -8.7 ± 11.81 | -7.3 ± 5.35 | -7.8 ± 8.24 |
| Week 140 | -8.4 ± 11.81 | -7.0 ± 5.44 | -7.5 ± 8.17 |
| Week 156 | -8.1 ± 9.77 | -7.1 ± 5.61 | -7.5 ± 7.32 |
| Week 180 | -8.3 ± 11.66 | -7.0 ± 5.69 | -7.5 ± 8.29 |
| Week 208 | -7.0 ± 6.12 | -6.7 ± 5.38 | -6.8 ± 5.60 |
| Week 232 | -7.4 ± 8.48 | -7.0 ± 5.68 | -7.1 ± 6.80 |
| Week 260 | -7.9 ± 10.14 | -7.5 ± 5.57 | -7.7 ± 7.36 |
| Week 284 | -8.4 ± 11.61 | -7.0 ± 5.57 | -7.5 ± 8.25 |
| Week 308 | -8.0 ± 9.70 | -6.5 ± 4.52 | -7.1 ± 7.01 |
| Week 312 | -8.9 ± 11.59 | -7.5 ± 5.14 | -8.1 ± 8.48 |

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## Change from baseline of core study CAIN457F2304 in JIA ACR Core Component - Number of joints with limited range of motion

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|---|---|
| Description | The JIA ACR response criteria included six core components, one of which was the number of joints with limited range of motion. A total of 69 joints were assessed for limitation of motion. The change from baseline of the core study in the number of joints with limited range of motion was measured, with a negative change indicating improvement. |
| Time Frame | Baseline of the core study, Week 104 (start of extension study), 116, 128, 140, 156, 180, 208, 232, 260, 284 , 308 and 312. Study week is defined with respect to the core study. |
| Analysis Population Description | Participants who enrolled in the extension study. One patient enrolled with planned treatment secukinumab150 mg discontinued the study before receiving study treatment. This patient was not included in the analysis. At each time point, only participants with non-missing values were included in the analysis |

| | Group 1- Secukinumab 75 mg | Group 2 - Secukinumab 150 mg | Total Secukinumab dose |
|---|---|---|---|
| **Arm/Group Description** | Participants were planned to initially receive secukinumab 75mg subcutaneously once every four weeks. If the signs and symptoms of the participants were not adequately controlled with the 75mg dose, as determined by the investigator, the dose could be escalated to 150mg subcutaneously. For patients weighing 50kg and over, the dose could further be escalated to 300mg subcutaneously every four weeks. The dose escalation from secukinumab 75mg subcutaneously to 300mg subcutaneously was to be implemented in two steps, with the first step being an increase to 150mg subcutaneously, followed by another escalation to 300mg subcutaneously, based on the judgement of the investigator. | Participants were planned to initially receive secukinumab 150mg subcutaneously once every four weeks. If the signs and symptoms of the participants were not adequately controlled with the 150mg dose, as determined by the investigator, the dose could be escalated to 300mg subcutaneously. | Total participants from Group 1 and Group 2 |

| **Number of Participants Analyzed [units: participants]** | 19 | 35 | 54 |
|---|---|---|---|
| **Change from baseline of core study CAIN457F2304 in JIA ACR Core Component - Number of joints with limited range of motion** (units: Joints) | **Mean ± Standard Deviation** | **Mean ± Standard Deviation** | **Mean ± Standard Deviation** |
| Week 104 | -5.5 ± 6.20 | -5.3 ± 4.23 | -5.4 ± 4.96 |
| Week 116 | -5.4 ± 6.24 | -5.7 ± 4.19 | -5.6 ± 4.99 |
| Week 128 | -5.5 ± 6.41 | -6.0 ± 4.60 | -5.8 ± 5.28 |
| Week 140 | -5.7 ± 6.31 | -6.0 ± 4.99 | -5.9 ± 5.43 |
| Week 156 | -5.2 ± 5.68 | -4.3 ± 8.19 | -4.6 ± 7.32 |
| Week 180 | -5.3 ± 6.37 | -5.5 ± 4.83 | -5.4 ± 5.38 |
| Week 208 | -5.1 ± 5.61 | -5.3 ± 3.92 | -5.2 ± 4.56 |
| Week 232 | -4.5 ± 5.42 | -5.6 ± 3.93 | -5.2 ± 4.53 |
| Week 260 | -5.2 ± 6.47 | -5.9 ± 3.93 | -5.7 ± 4.90 |
| Week 284 | -5.1 ± 5.72 | -6.0 ± 3.88 | -5.7 ± 4.61 |
| Week 308 | -5.2 ± 5.46 | -5.8 ± 3.05 | -5.5 ± 4.14 |
| Week 312 | -5.3 ± 6.77 | -6.3 ± 3.62 | -5.8 ± 5.17 |

## Change from baseline of core study CAIN457F2304 in JIA ACR Core Component - CRP levels

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|---|---|
| Description | The JIA ACR response criteria included six core components, one of which was CRP levels, an inflammation biomarker. Serum concentrations of CRP were determined, and the change from baseline of the core study was assessed, with negative changes indicating improvement. |
| Time Frame | Baseline of the core study, Week 104 (start of extension study), 116, 128, 140, 156, 180, 208, 232, 260, 284 , 308 and 312. Study week is defined with respect to the core study. |
| Analysis Population Description | Participants who enrolled in the extension study. One patient enrolled with planned treatment secukinumab150 mg discontinued the study before receiving study treatment. This patient was not included in the analysis. At each time point, only participants with non-missing values were included in the analysis |

| | Group 1- Secukinumab 75 mg | Group 2 - Secukinumab 150 mg | Total Secukinumab dose |
|---|---|---|---|
| **Arm/Group Description** | Participants were planned to initially receive secukinumab 75mg subcutaneously once every four weeks. If the signs and symptoms of the participants were not adequately controlled with the 75mg dose, as determined by the investigator, the dose could be escalated to 150mg subcutaneously. For patients weighing 50kg and over, the dose could further be escalated to 300mg subcutaneously every four weeks. The dose escalation from secukinumab 75mg subcutaneously to 300mg subcutaneously was to be implemented in two steps, with the first step being an increase to 150mg subcutaneously, followed by another escalation to 300mg subcutaneously, based on the judgement of the investigator. | Participants were planned to initially receive secukinumab 150mg subcutaneously once every four weeks. If the signs and symptoms of the participants were not adequately controlled with the 150mg dose, as determined by the investigator, the dose could be escalated to 300mg subcutaneously. | Total participants from Group 1 and Group 2 |
| **Number of Participants Analyzed [units: participants]** | 19 | 35 | 54 |
| **Change from baseline of core study CAIN457F2304 in JIA ACR Core Component - CRP levels** (units: milligram (mg) / liter (L)) | **Mean ± Standard Deviation** | **Mean ± Standard Deviation** | **Mean ± Standard Deviation** |
| Week 104 | -15.238 ± 38.0680 | -19.788 ± 36.2920 | -18.187 ± 36.6322 |
| Week 116 | -11.201 ± 40.1619 | -21.795 ± 37.5991 | -17.848 ± 38.5218 |
| Week 128 | -15.027 ± 40.3989 | -21.446 ± 38.2870 | -19.088 ± 38.7812 |
| Week 140 | -15.867 ± 36.7306 | -21.211 ± 37.0123 | -19.325 ± 36.6347 |

| | | | |
|---|---|---|---|
| Week 156 | -13.622 ± 34.4677 | -21.325 ± 37.3081 | -18.510 ± 36.1480 |
| Week 180 | -16.131 ± 38.0479 | -20.788 ± 36.9842 | -19.086 ± 37.0716 |
| Week 208 | -16.907 ± 40.1651 | -20.694 ± 38.1014 | -19.303 ± 38.4978 |
| Week 232 | -15.015 ± 41.4765 | -20.365 ± 38.9746 | -18.298 ± 39.5668 |
| Week 260 | -18.746 ± 48.0621 | -20.715 ± 42.7106 | -20.026 ± 44.0482 |
| Week 284 | -19.974 ± 47.7822 | -15.530 ± 59.2045 | -17.212 ± 54.5096 |
| Week 308 | -21.052 ± 53.0822 | -21.458 ± 47.6825 | -21.290 ± 49.0532 |
| Week 312 | -25.915 ± 55.0448 | -27.892 ± 53.5661 | -26.993 ± 52.9390 |

## Change from baseline of core study CAIN457F2304 of 27-joint Juvenile Arthritis Disease Activity Score (JADAS-27)

| | |
|---|---|
| Description | The JADAS-27 was used for assessment of disease activity, and it included 4 measures: -Physician global assessment of disease activity (VAS range: 0 to 10; where 0=very good and 100=very poor) -Parent/participant global assessment of well-being (VAS range: 0 to 10; 0=very well and 100=very poor) -Count of joints with active disease (range: 0 to 27; where 0= no disease activity and 27= maximum disease activity) -Index of inflammation determined by CRP concentration, calculated as: (CRP (mg/l) −10)/10. Before calculation, CRP values <10 mg/l were converted to 10 and CRP values >110 mg/l were converted to 110. The normalized scale ranged from 0 to 10; where 0= no disease activity and 10= maximum disease activity. JADAS-27 score was calculated as the sum of the score of its 4 components, ranging from 0 to 57 where 0= no disease activity and 57= maximum disease activity. The change from baseline of the core study was assessed. A negative change from baseline indicated improvement. |
| Time Frame | Baseline of the core study, Week 104 (start of extension study), 116, 128, 140, 156, 180, 208, 232, 260, 284 , 308 and 312. Study week is defined with respect to the core study. |
| Analysis Population Description | Participants who enrolled in the extension study. One patient enrolled with planned treatment secukinumab150 mg discontinued the study before receiving study treatment. This patient was not included in the analysis. At each time point, only participants with non-missing values were included in the analysis |

| | Group 1- Secukinumab 75 mg | Group 2 - Secukinumab 150 mg | Total Secukinumab dose |
|---|---|---|---|
| **Arm/Group Description** | Participants were planned to initially receive secukinumab 75mg subcutaneously once every four weeks. If the signs | Participants were planned to initially receive secukinumab 150mg subcutaneously once every four weeks. If the signs | Total participants from Group 1 and Group 2 |

| | | | |
|---|---|---|---|
| | and symptoms of the participants were not adequately controlled with the 75mg dose, as determined by the investigator, the dose could be escalated to 150mg subcutaneously. For patients weighing 50kg and over, the dose could further be escalated to 300mg subcutaneously every four weeks. The dose escalation from secukinumab 75mg subcutaneously to 300mg subcutaneously was to be implemented in two steps, with the first step being an increase to 150mg subcutaneously, followed by another escalation to 300mg subcutaneously, based on the judgement of the investigator. | and symptoms of the participants were not adequately controlled with the 150mg dose, as determined by the investigator, the dose could be escalated to 300mg subcutaneously. | |
| **Number of Participants Analyzed [units: participants]** | 19 | 35 | 54 |
| **Change from baseline of core study CAIN457F2304 of 27-joint Juvenile Arthritis Disease Activity Score (JADAS-27)** (units: Score on a Scale) | **Mean ± Standard Deviation** | **Mean ± Standard Deviation** | **Mean ± Standard Deviation** |
| Week 104 | -14.436 ± 7.2274 | -13.731 ± 7.4131 | -13.979 ± 7.2876 |
| Week 116 | -13.984 ± 7.9693 | -13.632 ± 7.0546 | -13.763 ± 7.3314 |
| Week 128 | -14.478 ± 7.7217 | -14.277 ± 7.3964 | -14.348 ± 7.4314 |
| Week 140 | -14.050 ± 7.6609 | -14.104 ± 7.3246 | -14.085 ± 7.3683 |
| Week 156 | -14.027 ± 6.1256 | -14.158 ± 7.4052 | -14.111 ± 6.9032 |
| Week 180 | -14.235 ± 7.6622 | -13.737 ± 7.5190 | -13.919 ± 7.5002 |
| Week 208 | -13.501 ± 5.7531 | -13.869 ± 7.3790 | -13.734 ± 6.7665 |
| Week 232 | -13.064 ± 6.3732 | -14.669 ± 7.6410 | -14.049 ± 7.1443 |
| Week 260 | -13.454 ± 8.9326 | -15.096 ± 7.9790 | -14.521 ± 8.2484 |

| | | | |
|---|---|---|---|
| Week 284 | -15.358 ± 7.3767 | -14.445 ± 8.4302 | -14.791 ± 7.9550 |
| Week 308 | -14.437 ± 6.4218 | -14.647 ± 8.3114 | -14.560 ± 7.4623 |
| Week 312 | -15.310 ± 8.3332 | -17.122 ± 8.2219 | -16.298 ± 8.1255 |

## Change from baseline of core study CAIN457F2304 of 71-joint Juvenile Arthritis Disease Activity Score (JADAS-71)

| | |
|---|---|
| Description | The JADAS-27 was used for assessment of disease activity, and it included 4 measures: -Physician global assessment of disease activity (VAS range: 0 to 10; where 0=very good and 100=very poor) -Parent/participant global assessment of well-being (VAS range: 0 to 10; 0=very well and 100=very poor) -Count of joints with active disease (range: 0 to 71; where 0= no disease activity and 71= maximum disease activity) -Index of inflammation determined by CRP concentration, calculated as: (CRP (mg/l) −10)/10. Before calculation, CRP values <10 mg/l were converted to 10 and CRP values >110 mg/l were converted to 110. The normalized scale ranged from 0 to 10; where 0= no disease activity and 10= maximum disease activity. JADAS-27 score was calculated as the sum of the score of its 4 components, ranging from 0 to 101 where 0= no disease activity and 101= maximum disease activity. The change from baseline of the core study was assessed. A negative change from baseline indicated improvement. |
| Time Frame | Baseline of the core study, Week 104 (start of extension study), 116, 128, 140, 156, 180, 208, 232, 260, 284 , 308 and 312. Study week is defined with respect to the core study. |
| Analysis Population Description | Participants who enrolled in the extension study. One patient enrolled with planned treatment secukinumab150 mg discontinued the study before receiving study treatment. This patient was not included in the analysis. At each time point, only participants with non-missing values were included in the analysis |

| | Group 1- Secukinumab 75 mg | Group 2 - Secukinumab 150 mg | Total Secukinumab dose |
|---|---|---|---|
| **Arm/Group Description** | Participants were planned to initially receive secukinumab 75mg subcutaneously once every four weeks. If the signs and symptoms of the participants were not adequately controlled with the 75mg dose, as determined by the investigator, the dose could be escalated to 150mg subcutaneously. For patients weighing 50kg and over, the dose could further be | Participants were planned to initially receive secukinumab 150mg subcutaneously once every four weeks. If the signs and symptoms of the participants were not adequately controlled with the 150mg dose, as determined by the investigator, the dose could be escalated to 300mg subcutaneously. | Total participants from Group 1 and Group 2 |

| | escalated to 300mg subcutaneously every four weeks. The dose escalation from secukinumab 75mg subcutaneously to 300mg subcutaneously was to be implemented in two steps, with the first step being an increase to 150mg subcutaneously, followed by another escalation to 300mg subcutaneously, based on the judgement of the investigator. | | |
|---|---|---|---|
| **Number of Participants Analyzed [units: participants]** | 19 | 35 | 54 |
| **Change from baseline of core study CAIN457F2304 of 71-joint Juvenile Arthritis Disease Activity Score (JADAS-71)** (units: Score on a Scale) | **Mean ± Standard Deviation** | **Mean ± Standard Deviation** | **Mean ± Standard Deviation** |
| Week 104 | -17.962 ± 13.2770 | -16.503 ± 9.0939 | -17.016 ± 10.6497 |
| Week 116 | -17.510 ± 14.0289 | -16.226 ± 8.2331 | -16.704 ± 10.6429 |
| Week 128 | -18.595 ± 14.2989 | -17.083 ± 9.1148 | -17.619 ± 11.0980 |
| Week 140 | -17.384 ± 13.8172 | -16.861 ± 9.0858 | -17.046 ± 10.8540 |
| Week 156 | -17.448 ± 11.6294 | -16.855 ± 9.1102 | -17.072 ± 9.9946 |
| Week 180 | -17.709 ± 13.9552 | -16.556 ± 9.4998 | -16.977 ± 11.2105 |
| Week 208 | -16.723 ± 8.8183 | -16.675 ± 9.0536 | -16.693 ± 8.8753 |
| Week 232 | -16.005 ± 10.7335 | -17.262 ± 9.3685 | -16.776 ± 9.8143 |
| Week 260 | -17.239 ± 13.8602 | -18.019 ± 9.7594 | -17.746 ± 11.1907 |
| Week 284 | -19.144 ± 13.7107 | -17.141 ± 10.3338 | -17.899 ± 11.5806 |
| Week 308 | -18.520 ± 12.0126 | -17.000 ± 9.1449 | -17.629 ± 10.2499 |
| Week 312 | -19.810 ± 14.3124 | -19.622 ± 9.0748 | -19.707 ± 11.4427 |

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## Change from baseline of core study CAIN457F2304 in total enthesitis count

| | |
|---|---|
| Description | The following 16 entheseal sites were assessed for the presence or absence of tenderness (enthesitis) on each side of the body: • Anterior Entheses: Greater trochanter of the Femur; Medial condyle of the femur; Lateral condyle of the femur • Posterior Entheses: Greater tuberosity of humerus; medial epicondyle of humerus; lateral epicondyle of humerus, Achilles tendon; and calcaneal insertion of the plantar fascia. Tenderness on examination was recorded as either present (1) or absent (0) for each of the 16 sites, The total enthesitis count ranged from 0 to 16. The change from baseline of the core study was assessed. A negative change from baseline indicated improvement |
| Time Frame | Baseline of the core study, Week 104 (start of extension study), 116, 128, 140, 156, 180, 208, 232, 260, 284 , 308 and 312. Study week is defined with respect to the core study. |
| Analysis Population Description | Participants who enrolled in the extension study. One patient enrolled with planned treatment secukinumab150 mg discontinued the study before receiving study treatment. This patient was not included in the analysis. At each time point, only participants with non-missing values were included in the analysis |

| | Group 1- Secukinumab 75 mg | Group 2 - Secukinumab 150 mg | Total Secukinumab dose |
|---|---|---|---|
| **Arm/Group Description** | Participants were planned to initially receive secukinumab 75mg subcutaneously once every four weeks. If the signs and symptoms of the participants were not adequately controlled with the 75mg dose, as determined by the investigator, the dose could be escalated to 150mg subcutaneously. For patients weighing 50kg and over, the dose could further be escalated to 300mg subcutaneously every four weeks. The dose escalation from secukinumab 75mg subcutaneously to 300mg subcutaneously was to be implemented in two steps, with the first step being an increase to 150mg subcutaneously, followed by another escalation to 300mg | Participants were planned to initially receive secukinumab 150mg subcutaneously once every four weeks. If the signs and symptoms of the participants were not adequately controlled with the 150mg dose, as determined by the investigator, the dose could be escalated to 300mg subcutaneously. | Total participants from Group 1 and Group 2 |

| | | | |
|---|---|---|---|
| | subcutaneously, based on the judgement of the investigator. | | |
| **Number of Participants Analyzed [units: participants]** | 19 | 35 | 54 |
| **Change from baseline of core study CAIN457F2304 in total enthesitis count** (units: Enthesitis count) | **Mean ± Standard Deviation** | **Mean ± Standard Deviation** | **Mean ± Standard Deviation** |
| Week 104 | -2.5 ± 2.57 | -2.3 ± 2.30 | -2.4 ± 2.37 |
| Week 116 | -2.4 ± 2.36 | -2.3 ± 2.50 | -2.4 ± 2.42 |
| Week 128 | -2.4 ± 2.43 | -2.3 ± 1.97 | -2.3 ± 2.13 |
| Week 140 | -2.5 ± 2.36 | -2.7 ± 2.43 | -2.6 ± 2.38 |
| Week 156 | -2.7 ± 3.03 | -2.5 ± 2.36 | -2.2 ± 2.62 |
| Week 180 | -2.6 ± 2.59 | -2.5 ± 2.54 | -2.5 ± 2.53 |
| Week 208 | -2.4 ± 2.81 | -2.3 ± 2.56 | 2.53 ± 2.63 |
| Week 232 | -2.5 ± 2.85 | -2.0 ± 2.28 | -2.2 ± 2.49 |
| Week 260 | -2.5 ± 3.54 | -2.0 ± 1.36 | -2.2 ± 2.37 |
| Week 284 | -2.9 ± 3.05 | -2.0 ± 1.52 | -2.4 ± 2.21 |
| Week 308 | -3.2 ± 3.07 | -2.1 ± 1.25 | -2.5 ± 2.21 |
| Week 312 | -2.5 ± 2.32 | -2.1 ± 1.44 | -2.3 ± 1.86 |

## Change from baseline of core study CAIN457F2304 in total dactylitis count

| | |
|---|---|
| Description | The dactylitis count was the number of fingers and toes presenting with swelling and inflammation. Swelling and inflammation on examination was recorded as either present (1) or absent (0) for each of the 20 sites, The total dactylitis count ranged from 0 to 20. The change from baseline of the core study was assessed. A negative change from baseline indicated improvement |
| Time Frame | Baseline of the core study, Week 104 (start of extension study), 116, 128, 140, 156, 180, 208, 232, 260, 284 , 308 and 312. Study week is defined with respect to the core study. |
| Analysis Population Description | Participants who enrolled in the extension study. One patient enrolled with planned treatment secukinumab150 mg discontinued the study before receiving study treatment. This patient was not included in the analysis. At each time point, only participants with non-missing values were included in the analysis |

| | Group 1- Secukinumab 75 mg | Group 2 - Secukinumab 150 mg | Total Secukinumab dose |
|---|---|---|---|
| **Arm/Group Description** | Participants were planned to initially receive secukinumab 75mg subcutaneously once every four weeks. If the signs and symptoms of the participants were not adequately controlled with the 75mg dose, as determined by the investigator, the dose could be escalated to 150mg subcutaneously. For patients weighing 50kg and over, the dose could further be escalated to 300mg subcutaneously every four weeks. The dose escalation from secukinumab 75mg subcutaneously to 300mg subcutaneously was to be implemented in two steps, with the first step being an increase to 150mg subcutaneously, followed by another escalation to 300mg subcutaneously, based on the judgement of the investigator. | Participants were planned to initially receive secukinumab 150mg subcutaneously once every four weeks. If the signs and symptoms of the participants were not adequately controlled with the 150mg dose, as determined by the investigator, the dose could be escalated to 300mg subcutaneously. | Total participants from Group 1 and Group 2 |
| **Number of Participants Analyzed [units: participants]** | 18 | 35 | 53 |
| **Change from baseline of core study CAIN457F2304 in total dactylitis count** (units: Dactylitis count) | **Mean ± Standard Deviation** | **Mean ± Standard Deviation** | **Mean ± Standard Deviation** |
| Week 104 | -1.3 ± 1.94 | -0.4 ± 1.97 | -0.7 ± 1.99 |
| Week 116 | -1.5 ± 2.04 | -0.5 ± 2.05 | -0.9 ± 2.08 |
| Week 128 | -1.8 ± 2.39 | -0.5 ± 2.23 | -0.9 ± 2.35 |
| Week 140 | -1.6 ± 2.42 | -0.6 ± 2.09 | -1.0 ± 2.24 |
| Week 156 | -1.6 ± 2.23 | -0.7 ± 2.07 | -1.0 ± 2.15 |

| | | | |
|---|---|---|---|
| Week 180 | -1.8 ± 2.41 | 0.0 ± 4.15 | -0.6 ± 3.71 |
| Week 208 | -1.6 ± 2.42 | -0.3 ± 0.87 | -0.8 ± 1.70 |
| Week 232 | -1.5 ± 2.42 | -0.4 ± 0.88 | -0.8 ± 1.70 |
| Week 260 | -1.2 ± 2.04 | -0.3 ± 0.84 | -0.6 ± 1.43 |
| Week 284 | -1.2 ± 2.13 | -0.3 ± 0.95 | -0.6 ± 1.52 |
| Week 308 | -0.9 ± 1.70 | 0.1 ± 0.56 | -0.3 ± 1.22 |
| Week 312 | -1.1 ± 1.83 | -0.2 ± 0.39 | -0.6 ± 1.29 |

## Serum concentrations of secukinumab over time

| | |
|---|---|
| Description | Serum concentration of secukinumab over time. Blood samples for pharmacokinetics were taken pre-dose at the scheduled time points. |
| Time Frame | Pre-dose at Week 128, 140, 156, 180, 208, 232, 260, 284 , 308 and 312. Study week is defined with respect to the core study. |
| Analysis Population Description | Participants who enrolled in the extension study and received at least one dose of study treatment with quantifiable pharmacokinetic (PK) measurements of secukinumab. Participants with dose escalations were not included in the analysis post up-titration. |

| | Group 1- Secukinumab 75 mg | Group 2 - Secukinumab 150 mg | Total Secukinumab dose |
|---|---|---|---|
| **Arm/Group Description** | Participants were planned to initially receive secukinumab 75mg subcutaneously once every four weeks. If the signs and symptoms of the participants were not adequately controlled with the 75mg dose, as determined by the investigator, the dose could be escalated to 150mg subcutaneously. For patients weighing 50kg and over, the dose could further be escalated to 300mg subcutaneously every four weeks. The dose escalation from | Participants were planned to initially receive secukinumab 150mg subcutaneously once every four weeks. If the signs and symptoms of the participants were not adequately controlled with the 150mg dose, as determined by the investigator, the dose could be escalated to 300mg subcutaneously. | Total participants from Group 1 and Group 2 |

| | secukinumab 75mg subcutaneously to 300mg subcutaneously was to be implemented in two steps, with the first step being an increase to 150mg subcutaneously, followed by another escalation to 300mg subcutaneously, based on the judgement of the investigator. | | |
|---|---|---|---|
| **Number of Participants Analyzed [units: participants]** | 16 | 26 | 42 |
| **Serum concentrations of secukinumab over time** (units: microgram (ug)/milliliter (mL)) | **Mean ± Standard Deviation** | **Mean ± Standard Deviation** | **Mean ± Standard Deviation** |
| Week 128 | 21.4 ± 8.57 | 26.4 ± 9.78 | 24.8 ± 9.58 |
| Week 156 | 20.8 ± 8.76 | 26.6 ± 11.6 | 24.3 ± 10.8 |
| Week 180 | 21.0 ± 10.4 | 25.2 ± 9.28 | 23.7 ± 9.75 |
| Week 208 | 20.5 ± 6.82 | 26.7 ± 11.4 | 24.3 ± 10.2 |
| Week 232 | 19.7 ± 7.06 | 24.2 ± 11.6 | 22.5 ± 10.2 |
| Week 260 | 16.0 ± 6.94 | 25.4 ± 8.99 | 21.5 ± 9.32 |
| Week 284 | 13.5 ± 7.99 | 27.5 ± 7.48 | 21.7 ± 10.3 |
| Week 308 | 12.5 ± 5.31 | 27.5 ± 14.7 | 18.8 ± 12.4 |
| Week 312 | 14.6 ± 4.79 | 25.4 ± 18.5 | 19.5 ± 13.4 |

## Number of participants with treatment-emergent Anti-Drug Antibodies (ADAs) of secukinumab

| | |
|---|---|
| Description | Number of participants with treatment-emergent Anti-Drug Antibodies (ADAs) of secukinumab. Blood samples were collected for immunogenicity (anti-AIN457 antibodies) assessments. |
| Time Frame | From baseline of the core study up to Week 312. Study week is defined with respect to the core study. |
| Analysis Population Description | Participants who enrolled in the extension study and received at least one dose of study treatment with immunogenicity (anti-AIN457 antibodies) measurements of secukinumab in both the core and extension study |

| | Group 1- Secukinumab 75 mg | Group 2 - Secukinumab 150 mg | Total Secukinumab dose |
|---|---|---|---|
| **Arm/Group Description** | Participants were planned to initially receive secukinumab 75mg subcutaneously once every four weeks. If the signs and symptoms of the participants were not adequately controlled with the 75mg dose, as determined by the investigator, the dose could be escalated to 150mg subcutaneously. For patients weighing 50kg and over, the dose could further be escalated to 300mg subcutaneously every four weeks. The dose escalation from secukinumab 75mg subcutaneously to 300mg subcutaneously was to be implemented in two steps, with the first step being an increase to 150mg subcutaneously, followed by another escalation to 300mg subcutaneously, based on the judgement of the investigator. | Participants were planned to initially receive secukinumab 150mg subcutaneously once every four weeks. If the signs and symptoms of the participants were not adequately controlled with the 150mg dose, as determined by the investigator, the dose could be escalated to 300mg subcutaneously. | Total participants from Group 1 and Group 2 |
| **Number of Participants Analyzed [units: participants]** | 19 | 35 | 54 |
| **Number of participants with treatment-emergent Anti-Drug Antibodies (ADAs) of secukinumab** (units: Participants) | **Count of Participants (Not Applicable)** | **Count of Participants (Not Applicable)** | **Count of Participants (Not Applicable)** |
| | 0 (%) | 6 (17.14%) | 6 (11.11%) |

## Other Pre-Specified Outcome Result(s)

No data identified.

## Post-Hoc Outcome Result(s)

No data identified.

## Safety Results

| | |
|---|---|
| **Time Frame** | From first dose of secukinumab in the extension study up to 84 days after last dose of secukinumab, assessed up to approximately 4 years |
| **Additional Description** | Any sign or symptom during the trial, including those starting after the first dose the extension study, and events present prior to the first dose in the extension study but worsened, and within 84 days after last dose. Analyses were conducted in the safety set (all participants who received at least one dose of study drug). AEs were reported according to the dose the participants were receiving when the AE started. For non-serious AEs, only those with a frequency exceeding 5% are reported. |
| **Source Vocabulary for Table Default** | MedDRA (27.1) |
| **Collection Approach for Table Default** | Systematic Assessment |

## All-Cause Mortality

| | **Any secukinumab 75 mg N = 19** | **Any secukinumab 150 mg N = 43** | **Any secukinumab 300 mg N = 16** | **Any secukinumab N = 54** |
|---|---|---|---|---|
| **Arm/Group Description** | Participants who received secukinumab 75 mg dose at any point | Participants who received secukinumab 150 mg dose at any point | Participants who received secukinumab 300 mg dose at any point | Participants who received secukinumab, regardless of dose, at |

| | | | | |
|---|---|---|---|---|
| | during the extension study | during the extension study | during the extension study | any point during the extension study |
| **Total Number Affected** | 0 | 0 | 0 | 0 |
| **Total Number At Risk** | 19 | 43 | 16 | 54 |

## Serious Adverse Events

| | |
|---|---|
| **Time Frame** | From first dose of secukinumab in the extension study up to 84 days after last dose of secukinumab, assessed up to approximately 4 years |
| **Additional Description** | Any sign or symptom during the trial, including those starting after the first dose the extension study, and events present prior to the first dose in the extension study but worsened, and within 84 days after last dose. Analyses were conducted in the safety set (all participants who received at least one dose of study drug). AEs were reported according to the dose the participants were receiving when the AE started. For non-serious AEs, only those with a frequency exceeding 5% are reported. |
| **Source Vocabulary for Table Default** | MedDRA (27.1) |
| **Collection Approach for Table Default** | Systematic Assessment |

| | **Any secukinumab 75 mg N = 19** | **Any secukinumab 150 mg N = 43** | **Any secukinumab 300 mg N = 16** | **Any secukinumab N = 54** |
|---|---|---|---|---|
| **Arm/Group Description** | Participants who received secukinumab 75 mg dose at any point during the extension study | Participants who received secukinumab 150 mg dose at any point during the extension study | Participants who received secukinumab 300 mg dose at any point during the extension study | Participants who received secukinumab, regardless of dose, at any point during the extension study |
| **Total # Affected by any Serious Adverse Event** | 0 | 4 | 0 | 4 |

| | | | | |
|---|---|---|---|---|
| **Total # at Risk by any Serious Adverse Event** | 19 | 43 | 16 | 54 |
| **Gastrointestinal disorders** | | | | |
| Crohn's disease | 0 (0.00%) | 1 (2.33%) | 0 (0.00%) | 1 (1.85%) |
| **Infections and infestations** | | | | |
| Acute sinusitis | 0 (0.00%) | 1 (2.33%) | 0 (0.00%) | 1 (1.85%) |
| **Injury, poisoning and procedural complications** | | | | |
| Concussion | 0 (0.00%) | 1 (2.33%) | 0 (0.00%) | 1 (1.85%) |
| Head injury | 0 (0.00%) | 1 (2.33%) | 0 (0.00%) | 1 (1.85%) |
| Subdural haematoma | 0 (0.00%) | 1 (2.33%) | 0 (0.00%) | 1 (1.85%) |
| **Nervous system disorders** | | | | |
| Cerebral haemorrhage | 0 (0.00%) | 1 (2.33%) | 0 (0.00%) | 1 (1.85%) |
| Subarachnoid haemorrhage | 0 (0.00%) | 1 (2.33%) | 0 (0.00%) | 1 (1.85%) |
| **Renal and urinary disorders** | | | | |
| Nephrolithiasis | 0 (0.00%) | 1 (2.33%) | 0 (0.00%) | 1 (1.85%) |
| Urethral haemorrhage | 0 (0.00%) | 1 (2.33%) | 0 (0.00%) | 1 (1.85%) |

## Other (Not Including Serious) Adverse Events

| | |
|---|---|
| **Time Frame** | From first dose of secukinumab in the extension study up to 84 days after last dose of secukinumab, assessed up to approximately 4 years |

| | |
|---|---|
| **Additional Description** | Any sign or symptom during the trial, including those starting after the first dose the extension study, and events present prior to the first dose in the extension study but worsened, and within 84 days after last dose. Analyses were conducted in the safety set (all participants who received at least one dose of study drug). AEs were reported according to the dose the participants were receiving when the AE started. For non-serious AEs, only those with a frequency exceeding 5% are reported. |
| **Source Vocabulary for Table Default** | MedDRA (27.1) |
| **Collection Approach for Table Default** | Systematic Assessment |
| **Frequent Event Reporting Threshold** | 5% |

| | **Any secukinumab 75 mg N = 19** | **Any secukinumab 150 mg N = 43** | **Any secukinumab 300 mg N = 16** | **Any secukinumab N = 54** |
|---|---|---|---|---|
| **Arm/Group Description** | Participants who received secukinumab 75 mg dose at any point during the extension study | Participants who received secukinumab 150 mg dose at any point during the extension study | Participants who received secukinumab 300 mg dose at any point during the extension study | Participants who received secukinumab, regardless of dose, at any point during the extension study |
| **Total # Affected by any Other Adverse Event** | 15 | 28 | 11 | 43 |
| **Total # at Risk by any Other Adverse Event** | 19 | 43 | 16 | 54 |
| **Blood and lymphatic system disorders** | | | | |
| Iron deficiency anaemia | 1 (5.26%) | 1 (2.33%) | 0 (0.00%) | 2 (3.70%) |
| Neutropenia | 1 (5.26%) | 0 (0.00%) | 0 (0.00%) | 1 (1.85%) |
| **Congenital, familial and genetic disorders** | | | | |

| | | | | |
|---|---|---|---|---|
| Familial mediterranean fever | 1 (5.26%) | 0 (0.00%) | 0 (0.00%) | 1 (1.85%) |
| **Ear and labyrinth disorders** | | | | |
| Ear pain | 1 (5.26%) | 0 (0.00%) | 0 (0.00%) | 1 (1.85%) |
| **Eye disorders** | | | | |
| Astigmatism | 0 (0.00%) | 0 (0.00%) | 2 (12.50%) | 2 (3.70%) |
| **Gastrointestinal disorders** | | | | |
| Abdominal pain upper | 3 (15.79%) | 4 (9.30%) | 0 (0.00%) | 6 (11.11%) |
| Colitis | 1 (5.26%) | 0 (0.00%) | 0 (0.00%) | 1 (1.85%) |
| Diarrhoea | 1 (5.26%) | 5 (11.63%) | 1 (6.25%) | 7 (12.96%) |
| Nausea | 0 (0.00%) | 3 (6.98%) | 0 (0.00%) | 3 (5.56%) |
| Vomiting | 1 (5.26%) | 2 (4.65%) | 0 (0.00%) | 3 (5.56%) |
| **General disorders and administration site conditions** | | | | |
| Gait disturbance | 1 (5.26%) | 0 (0.00%) | 0 (0.00%) | 1 (1.85%) |
| Pyrexia | 0 (0.00%) | 3 (6.98%) | 0 (0.00%) | 3 (5.56%) |
| Swelling face | 1 (5.26%) | 0 (0.00%) | 0 (0.00%) | 1 (1.85%) |
| **Infections and infestations** | | | | |
| Acute sinusitis | 1 (5.26%) | 1 (2.33%) | 0 (0.00%) | 2 (3.70%) |
| Bacterial infection | 0 (0.00%) | 0 (0.00%) | 1 (6.25%) | 1 (1.85%) |
| Bronchitis | 1 (5.26%) | 2 (4.65%) | 0 (0.00%) | 3 (5.56%) |
| COVID-19 | 1 (5.26%) | 9 (20.93%) | 3 (18.75%) | 13 (24.07%) |
| Cystitis | 0 (0.00%) | 1 (2.33%) | 1 (6.25%) | 1 (1.85%) |
| Ear infection | 0 (0.00%) | 0 (0.00%) | 1 (6.25%) | 1 (1.85%) |
| Eye infection | 0 (0.00%) | 0 (0.00%) | 1 (6.25%) | 1 (1.85%) |

| | | | | |
|---|---|---|---|---|
| Gastroenteritis | 0 (0.00%) | 4 (9.30%) | 0 (0.00%) | 4 (7.41%) |
| Gastrointestinal infection | 0 (0.00%) | 1 (2.33%) | 1 (6.25%) | 2 (3.70%) |
| Herpes simplex | 1 (5.26%) | 0 (0.00%) | 0 (0.00%) | 1 (1.85%) |
| Influenza | 1 (5.26%) | 1 (2.33%) | 0 (0.00%) | 2 (3.70%) |
| Nasopharyngitis | 2 (10.53%) | 8 (18.60%) | 4 (25.00%) | 13 (24.07%) |
| Oral herpes | 1 (5.26%) | 0 (0.00%) | 0 (0.00%) | 1 (1.85%) |
| Pharyngitis | 0 (0.00%) | 4 (9.30%) | 0 (0.00%) | 4 (7.41%) |
| Pneumonia | 0 (0.00%) | 0 (0.00%) | 1 (6.25%) | 1 (1.85%) |
| Rhinitis | 1 (5.26%) | 1 (2.33%) | 0 (0.00%) | 2 (3.70%) |
| Sinusitis | 2 (10.53%) | 2 (4.65%) | 1 (6.25%) | 5 (9.26%) |
| Tinea pedis | 1 (5.26%) | 0 (0.00%) | 0 (0.00%) | 1 (1.85%) |
| Tonsillitis | 0 (0.00%) | 3 (6.98%) | 1 (6.25%) | 4 (7.41%) |
| Tooth abscess | 1 (5.26%) | 0 (0.00%) | 0 (0.00%) | 1 (1.85%) |
| Upper respiratory tract infection | 2 (10.53%) | 5 (11.63%) | 0 (0.00%) | 7 (12.96%) |
| Vaccination site cellulitis | 1 (5.26%) | 0 (0.00%) | 0 (0.00%) | 1 (1.85%) |
| Varicella | 1 (5.26%) | 0 (0.00%) | 0 (0.00%) | 1 (1.85%) |
| **Injury, poisoning and procedural complications** | | | | |
| Contusion | 1 (5.26%) | 3 (6.98%) | 0 (0.00%) | 4 (7.41%) |
| Fall | 0 (0.00%) | 0 (0.00%) | 1 (6.25%) | 1 (1.85%) |
| Ligament sprain | 1 (5.26%) | 1 (2.33%) | 0 (0.00%) | 2 (3.70%) |
| Radius fracture | 0 (0.00%) | 0 (0.00%) | 1 (6.25%) | 1 (1.85%) |
| Wrist fracture | 1 (5.26%) | 0 (0.00%) | 0 (0.00%) | 1 (1.85%) |
| **Investigations** | | | | |
| Alanine aminotransferase increased | 0 (0.00%) | 1 (2.33%) | 2 (12.50%) | 3 (5.56%) |
| Bacterial test positive | 0 (0.00%) | 0 (0.00%) | 1 (6.25%) | 1 (1.85%) |

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|---|---|---|---|---|
| Basophil count increased | 0 (0.00%) | 0 (0.00%) | 1 (6.25%) | 1 (1.85%) |
| Blood alkaline phosphatase increased | 0 (0.00%) | 0 (0.00%) | 1 (6.25%) | 1 (1.85%) |
| Blood bicarbonate decreased | 0 (0.00%) | 0 (0.00%) | 1 (6.25%) | 1 (1.85%) |
| Blood bilirubin increased | 1 (5.26%) | 0 (0.00%) | 0 (0.00%) | 1 (1.85%) |
| Blood glucose increased | 0 (0.00%) | 0 (0.00%) | 1 (6.25%) | 1 (1.85%) |
| Blood phosphorus increased | 0 (0.00%) | 0 (0.00%) | 1 (6.25%) | 1 (1.85%) |
| Blood triglycerides increased | 0 (0.00%) | 0 (0.00%) | 1 (6.25%) | 1 (1.85%) |
| Crystal urine present | 0 (0.00%) | 0 (0.00%) | 1 (6.25%) | 1 (1.85%) |
| Eosinophil count increased | 0 (0.00%) | 0 (0.00%) | 2 (12.50%) | 2 (3.70%) |
| Eosinophil percentage increased | 0 (0.00%) | 0 (0.00%) | 1 (6.25%) | 1 (1.85%) |
| Gamma-glutamyltransferase increased | 0 (0.00%) | 0 (0.00%) | 1 (6.25%) | 1 (1.85%) |
| High density lipoprotein decreased | 0 (0.00%) | 0 (0.00%) | 1 (6.25%) | 1 (1.85%) |
| Protein urine present | 1 (5.26%) | 0 (0.00%) | 0 (0.00%) | 1 (1.85%) |
| **Metabolism and nutrition disorders** | | | | |
| Body fat disorder | 0 (0.00%) | 0 (0.00%) | 1 (6.25%) | 1 (1.85%) |
| Folate deficiency | 1 (5.26%) | 0 (0.00%) | 0 (0.00%) | 1 (1.85%) |
| Hypertriglyceridaemia | 1 (5.26%) | 1 (2.33%) | 0 (0.00%) | 2 (3.70%) |
| Malnutrition | 1 (5.26%) | 0 (0.00%) | 0 (0.00%) | 1 (1.85%) |
| Vitamin B12 deficiency | 1 (5.26%) | 0 (0.00%) | 0 (0.00%) | 1 (1.85%) |
| Vitamin D deficiency | 1 (5.26%) | 0 (0.00%) | 1 (6.25%) | 2 (3.70%) |
| **Musculoskeletal and connective tissue disorders** | | | | |
| Amplified musculoskeletal pain syndrome | 0 (0.00%) | 0 (0.00%) | 1 (6.25%) | 1 (1.85%) |
| Arthralgia | 4 (21.05%) | 7 (16.28%) | 3 (18.75%) | 11 (20.37%) |
| Arthritis | 0 (0.00%) | 2 (4.65%) | 1 (6.25%) | 2 (3.70%) |
| Back pain | 2 (10.53%) | 3 (6.98%) | 0 (0.00%) | 5 (9.26%) |

| | | | | |
|---|---|---|---|---|
| Enthesopathy | 1 (5.26%) | 1 (2.33%) | 0 (0.00%) | 2 (3.70%) |
| Exostosis | 0 (0.00%) | 0 (0.00%) | 1 (6.25%) | 1 (1.85%) |
| Groin pain | 1 (5.26%) | 0 (0.00%) | 1 (6.25%) | 2 (3.70%) |
| Joint swelling | 0 (0.00%) | 1 (2.33%) | 2 (12.50%) | 2 (3.70%) |
| Juvenile idiopathic arthritis | 0 (0.00%) | 3 (6.98%) | 0 (0.00%) | 3 (5.56%) |
| Pain in extremity | 1 (5.26%) | 8 (18.60%) | 0 (0.00%) | 8 (14.81%) |
| Scoliosis | 1 (5.26%) | 0 (0.00%) | 0 (0.00%) | 1 (1.85%) |
| Temporomandibular pain and dysfunction syndrome | 1 (5.26%) | 1 (2.33%) | 0 (0.00%) | 2 (3.70%) |
| **Neoplasms benign, malignant and unspecified (incl cysts and polyps)** | | | | |
| Osteochondroma | 0 (0.00%) | 0 (0.00%) | 1 (6.25%) | 1 (1.85%) |
| **Nervous system disorders** | | | | |
| Headache | 0 (0.00%) | 3 (6.98%) | 1 (6.25%) | 4 (7.41%) |
| Syncope | 1 (5.26%) | 1 (2.33%) | 0 (0.00%) | 2 (3.70%) |
| **Psychiatric disorders** | | | | |
| Generalised anxiety disorder | 0 (0.00%) | 0 (0.00%) | 1 (6.25%) | 1 (1.85%) |
| **Renal and urinary disorders** | | | | |
| Haematuria | 1 (5.26%) | 1 (2.33%) | 0 (0.00%) | 2 (3.70%) |
| Urinary incontinence | 1 (5.26%) | 0 (0.00%) | 0 (0.00%) | 1 (1.85%) |
| **Respiratory, thoracic and mediastinal disorders** | | | | |
| Bronchospasm | 1 (5.26%) | 0 (0.00%) | 0 (0.00%) | 1 (1.85%) |
| Cough | 0 (0.00%) | 3 (6.98%) | 1 (6.25%) | 4 (7.41%) |
| Oropharyngeal pain | 1 (5.26%) | 3 (6.98%) | 0 (0.00%) | 4 (7.41%) |

| | | | | |
|---|---|---|---|---|
| Pharyngeal erythema | 0 (0.00%) | 0 (0.00%) | 1 (6.25%) | 1 (1.85%) |
| **Skin and subcutaneous tissue disorders** | | | | |
| Acne | 0 (0.00%) | 3 (6.98%) | 0 (0.00%) | 3 (5.56%) |
| Pruritus | 1 (5.26%) | 0 (0.00%) | 0 (0.00%) | 1 (1.85%) |
| Psoriasis | 0 (0.00%) | 1 (2.33%) | 1 (6.25%) | 1 (1.85%) |

## Other Relevant Findings

None

## Conclusion

Overall, secukinumab showed long-term sustained efficacy in patients ≥ 2 to < 18 years of age at core study baseline with Juvenile Idiopathic Arthritis (JIA) subtypes of Juvenile Psoriatic Arthritis (JPsA) and Enthesitis Related Arthritis (ERA) who enrolled in this extension study. The JIA American College of Rheumatology (ACR) 30 responses achieved by secukinumab 75 mg and 150 mg dose groups up to Week 104 during the core study were maintained in the total patient population.

The JIA ACR50/70/90/100 responses, inactive disease status, improvements in the JIA ACR core components, Juvenile Arthritis Disease Activity Score (JADAS)-27 and JADAS-71 scores, as well as the changes in total enthesitis and total dactylitis counts achieved up to Week 104 in the core study were all maintained in the total patient population.

The mean steady-state trough concentrations were similar to the steady-state concentrations observed in the core study through Week 104.

The incidence of treatment-emergent anti-drug antibodies (TE-ADA) was higher than observed in typical one-year, Phase 3 studies with secukinumab in all indications. This higher incidence may be due to the longer treatment period of six years.

Secukinumab demonstrated a favorable long-term safety profile in the pediatric patients (up to a total of 6 years exposure when considering secukinumab administration for up to 104 weeks in the preceding core study) enrolled in this extension study. The safety data were consistent with the core study and with the overall safety profile of secukinumab based on the existing experience across multiple indications, including psoriasis, psoriatic arthritis, axial spondyloarthritis (SpA) (both non-radiographic axial SpA and ankylosing spondylitis), and hidradenitis suppurativa.

When evaluating the results of this extension study, it is important to consider its limitations. This study enrolled a selected group of patients who had completed the core study and were deriving benefit from treatment with secukinumab. Furthermore, there was a decreasing number of patients throughout the course of this extension study (mostly due to post study access to treatment becoming available over time across countries) with only a small number of patients remaining towards the end of the study.

In conclusion, this extension study demonstrated that the efficacy and safety profiles of secukinumab observed in the core study were maintained long-term in the enrolled pediatric patient population.

## Date of Clinical Trial Report

15-Apr-2025