A Phase 1/2, First-in-Human, Open-Label, Dose Escalation Study of Talquetamab, a Humanized GPRC5D x CD3 Bispecific Antibody, in Subjects with Relapsed or Refractory Multiple Myeloma

Published: 19-11-2018
Last updated: 19-09-2024

This study has been transitioned to CTIS with ID 2023-504581-29-00 check the CTIS register for the current data. Primary* Part 1 (Dose Escalation): To characterize the safety of JNJ-64407564 and recommend thePhase 2 dose(s) and schedule* Part 2 (...

Ethical review	Approved WMO
Status	Recruiting
Health condition type	Haematopoietic neoplasms (excl leukaemias and lymphomas)
Study type	Interventional

Summary

ID

NL-OMON54560

Source
ToetsingOnline

Brief title
Talquetamab

Condition

- Haematopoietic neoplasms (excl leukaemias and lymphomas)

Synonym
Multiple Myeloma

Research involving
Human

Sponsors and support

Primary sponsor: Janssen-Cilag
Source(s) of monetary or material Support: Door de opdrachtgever

Intervention

Keyword: Dose Escalation, Dose Expansion, Multiple Myeloma, Talquetamab

Outcome measures

Primary outcome

* Part 1 (Dose Escalation): Frequency and type of dose-limiting toxicity (DLT), and frequency and severity of adverse events, serious adverse events, and laboratory abnormalities

* Part 2 (Dose Expansion): Frequency and severity of adverse events, serious adverse events, and laboratory abnormalities

* Part 3: Overall Response Rate (partial response or better) as defined by the IMWG criteria based on review by the Independent Review Committee.

Secondary outcome

For part 1 and 2:

- Pharmacokinetic parameters and pharmacodynamic markers including, but not limited to, depletion of GPRC5D expressing cells, systemic cytokine concentrations, and markers of T cell activation

- Presence of anti-JNJ-64407564 antibodies

- Assess the overall response rate (ORR) (at least a partial response [PR] or better), clinical benefit rate (CBR), duration of and time to response (DOR and TTR), and progression-free survival (PFS), as defined by the International Myeloma Working Group (IMWG) response criteria

For part 3:

- duration of response

- Very Good Partial Response or better/Complete Response or better/stringend

Complete Response as defined by IMWG response criteria

- Time To response

- Progression free survival

- Overall survival

- MRD-negative status

- Occurrence and severity of adverse events, serious adverse events, and

laboratory values

- Pharmacokinetic parameters in a population PK analysis

- Presence and activity of anti-talquetamab antibodies

- Change from baseline in overall HRQoL, symptoms, and functioning

- Overall response rate in patients with high-risk molecular features

Study description

Background summary

A Phase 1/2, First-in-Human, Open-Label, Dose Escalation Study of JNJ-64407564, a Humanized DuoBody® Antibody, in Subjects with Relapsed or Refractory Multiple Myeloma
Multiple myeloma is a malignant plasma cell disorder characterized by osteolytic lesions, increased susceptibility to infections, and renal failure, and is the third most common hematological malignancy.
Treatment options for multiple myeloma have substantially improved over time and vary depending on the aggressiveness of the disease, underlying prognostic factors, physical condition of the patient, and existing co-morbidities.
Despite these therapeutic achievements, the disease recurs and is associated with additional risk factors such as comorbidities or increasing age. Thus, multiple myeloma remains an incurable malignancy and an unmet medical need with

significant morbidity and mortality warranting the need for novel therapeutic approaches.

G protein-coupled receptor family C group 5-member D (GPRC5D) is an orphan receptor whose ligand and signaling mechanisms are yet to be identified. Levels of GPRC5D expression in patients with multiple myeloma correlated well with plasma cell burden and genetic aberrations such as retinoblastoma (Rb)-1 deletion. This expression of GPRC5D on the plasma-cell lineage designates it as a potential target for T lymphocyte (T cell)-mediated therapy to treat plasma cell disorders like multiple myeloma.

This is the first time in human (FIH) study of the humanized immunoglobulin G4 proline, alanine, alanine (IgG4 PAA) bispecific DuoBody® antibody, JNJ-64407564, which was developed to evaluate the therapeutic potential of targeting GPRC5D for T cell redirection. The antibody binds to the CD3 receptor complex on T cells and to GPRC5D on plasma cells. It is hypothesized that by inducing enhanced T cell mediated cytotoxicity through recruitment of CD3-expressing T cells to the GPRC5D-expressing cells, treatment with JNJ-64407564 will be an effective therapy for patients with multiple myeloma.

Study objective

This study has been transitioned to CTIS with ID 2023-504581-29-00 check the CTIS register for the current data.

Primary
* Part 1 (Dose Escalation): To characterize the safety of JNJ-64407564 and recommend thePhase 2 dose(s) and schedule
* Part 2 (Dose Expansion): To further characterize the safety of JNJ-64407564 at the recommended Phase 2 dose(s) (RP2Ds)
* Part 3 (Phase 2): To evaluate the efficacy of talquetamab at the RP2D

Secondary (part 1 and 2)
- To characterize the pharmacokinetics and pharmacodynamics of JNJ-64407564
- To assess the immunogenicity of JNJ-64407564
- To evaluate the preliminary antitumor activity of JNJ-64407564 at the RP2D(s) in Part 2

Secondary (part 3)
- To further assess the efficacy of talquetamab at the RP2D
- To evaluate MRD at the RP2D
- To further assess the safety and tolerability of talquetamab at the RP2D
- To characterize the PK of talquetamab at the RP2D
- To assess the immunogenicity of talquetamab
- To assess PROs after treatment with talquetamab
- To evaluate the efficacy of talquetamab in high risk molecular subgroups

Study design

This is a FIH, Phase 1/2, open-label, multicenter study of JNJ-64407564 administered to adult subjects with relapsed or refractory multiple myeloma. The study will be conducted in 3 parts: dose escalation (Part 1), dose expansion (Part 2), efficacy (part 3). The overall aim of the study is to evaluate the safety of JNJ-64407564 and to evaluate preliminary antitumor activity. Safety will be monitored by the SET.

Part 1 (dose escalation) will begin at the minimum anticipated biologic effect level (MABEL)-based starting dose. Subsequent dose levels will be selected based on a statistical model and using all available data to identify one or more putative RP2D(s), defined as the dose(s) and schedule(s) of JNJ-64407564 for characterization in Part 2. The study was initiated with a biweekly dosing schedule. A weekly dosing schedule is being initiated by the sponsor after review of emerging safety and pharmacokinetic data from the biweekly dosing schedule that showed subjects may not have sufficient JNJ-64407564 exposure beyond Day 8 following the first dose. The maximum sample size is approximately 85 subjects, but the
actual number of subjects treated will depend on the number of dose levels explored and the number of subjects enrolled at each dose level.

Biweekly dosing cohort: Dose escalation began at the starting dose level of 0.5 µg/kg and the subsequent dose levels were selected based on a statistical model and using all available data to identify safe and tolerable putative RP2D(s).

Weekly dosing cohort: Dose escalation will begin at a starting dose level that has already been determined to be safe for biweekly dosing during the accelerated phase of dose escalation, and the subsequent dose levels will be selected based on a statistical model and using all available data to identify safe and tolerable putative RP2D(s).

Addition 1 APRIL 2019:
With amendement 8 a twice-weekly cohort is introduced:
The first dose will start at a level that has been determined to be safe in the weekly cohort escalation.
JNJ-64407564 will be administered at day 1, 4, 8, 11, 15 and 18 in a 21-day cycle.

A minimum interval of 48 (subcutane administration) or 36 hour (IV administration) after the first and second subject*s first dose will be required. The sponsor will operationalize enrollment such that this 48/36-hour period is maintained across the sites. Initial dose(s) will be administered in the hospital setting to allow for continuous safety monitoring and pharmacokinetic assessments; subsequent doses will be administered in an outpatient setting.

In Part 2 (dose expansion), subjects will be treated at the putative RP2D(s) for JNJ-64407564 determined in Part 1. Approximately 20 subjects may be treated at each of the putative RP2D(s) to further characterize safety and preliminary antitumor activity.

Disease status will be evaluated according to the International Myeloma Working Group (IMWG) consensus recommendations for multiple myeloma treatment response criteria. Subjects will continue to receive study drug until disease progression, unacceptable toxicity, withdrawal of consent, otherwise deemed necessary by the investigator or the sponsor, or end of study. The end of study is defined as the
last study assessment for the last subject on study.

Addition 08OCT2020:
Enrollment for Part 3 will begin after approximately 20 subjects have been treated with SC talquetamab at 405 µg/kg for at least 1 cycle. The sponsor may also determine that additional subjects are required to further evaluate safety and dose prior to proceeding to Part 3.

Addition 15Jul2021:
Cohort C will be added to part 3 of the study. Patients will receive biweekly Talquetamab at 800 µg/kg SC. Amendement INT-13 will allow patients to switch from a weekly 400 µg/kg SC dosing schedule to a biweekly 800 µg/kg SC dosing schedule in Part 3 of the study, when a subject has had a response of CR or better for a minimum of 6 months and if approved by the sponsor.

Addition 02Feb2023:
Total number of patients updated to 718. Update in exclusion criteria 3.

Intervention

Biweekly dosing: The study was initiated using a biweekly dosing schedule in which JNJ-64407564 will be administered on Days 1 and 15 in each 28-day cycle. Dose escalation began at the MABEL-based starting dose of 0.5 µg/kg. Review of the preliminary biweekly pharmacokinetic data indicated that weekly dosing should also be explored.

Weekly dosing: Weekly dosing will begin using the weekly dosing schedule. JNJ-64407564 will be administered on Days 1, 8, and 15 in each 21-day cycle. Dose escalation will begin at a dose level that has been determined to be safe during dose escalation for biweekly dosing.

A priming dose schedule may be considered to mitigate drug-related toxicities such as cytokine release syndrome (CRS) after one case (ie, first incidence) of a Grade >=2 CRS event occurs. This decision will be determined by the SET. The first priming dose will be chosen based on emerging data.

Addition 1 APRIL 2019:
With amendement 8 a twice-weekly cohort is introduced:
The first dose will start at a level that has been determined to be safe in the weekly cohort escalation.
JNJ-64407564 will be administered at day 1, 4, 8, 11, 15 and 18 in a 21-day cycle.

Adidition 08 OCTOBER 2020:
For part 1 and 2: there is a possibility for a monthly dosing regimen.
For part 3: a weekly SC dosing regimen will be followed. Talquetamab will be administered on days 1, 8, 15 en 22 in every 28-day cycle

Addition 18Dec2020:
Introduction of a second GPRC5DxCD3 concentration of 90 mg/mL (Liquid in Vial) in addition to the current concentration of 10 mg/mL (Frozen Liquid in Vial).

Addition 15Jul2021:
Cohort C will be added to part 3 of the study. Patients will receive biweekly Talquetamab at 800 µg/kg SC. Amendement INT-13 will allow patients to switch from a weekly 400 µg/kg SC dosing schedule to a biweekly 800 µg/kg SC dosing schedule in Part 3 of the study, when a subject has had a response of CR or better for a minimum of 6 months and if approved by the sponsor.

Study burden and risks

This is the first study of JNJ-64407564; as such, only preliminary information is available regarding toxicities associated with JNJ-64407564 in humans. The potential safety risks of JNJ-64407564 are based on:
1) results of nonclinical studies;
2) mechanism of action;
3) route of administration, and
4) results from the 3 subjects treated with JNJ-64407564 to date (see Section 1.8).

A risk assessment could not be conducted in the cynomolgus monkey due to poor cross-reactivity with JNJ-64407564. In the pivotal 1-month GLP toxicity study to characterize the potential hazard with the surrogate molecule, JNJ-64024701, no adverse findings were noted up to 30 mg/kg (total of 4 weekly doses). In summary, some noteworthy findings included non-adverse, transient depletion in total lymphocytes, consistent with the drug*s pharmacological action, and minimal increase in globulins and unstained cells toward the end of the study (Day 23 to 28). The confined harmacological and toxicological activity with the surrogate molecule, at doses considered supra-physiological, points to very limited target distribution in normal tissues/monkey. Taken together, the findings with the surrogate molecule should be considered in light of the technical limitations: the surrogate molecule does not fully represent the study drug, JNJ-64407564, and a healthy monkey potentially carries a lower

target burden than a patient with multiple myeloma. Additionally, by stimulating the endogenous immune system there is the potential for toxic effects on other tissues or organs. As such, special attention should be given to both immunological / immunogenicity-related toxicities.

The therapeutic benefit of the study drug has also not been determined in humans. Based on preclinical studies targeting GPRC5D, JNJ-64407564 has shown efficacy in depleting multiple myeloma cells in an in vitro cytotoxicity assay and significantly inhibited and regressed tumor growth in xenograft rodent models in vivo. These results indicate that JNJ-64407564 may affect clinical outcomes for patients with relapsed or refractory multiple myeloma.

Contacts

Public
Janssen-Cilag

Graaf Engelbertlaan 75
Breda 4837 DS
NL
Scientific
Janssen-Cilag

Graaf Engelbertlaan 75
Breda 4837 DS
NL

Trial sites

Listed location countries

Netherlands

Eligibility criteria

Age
Adults (18-64 years)
Elderly (65 years and older)

Inclusion criteria

1.>=18 years of age.
2.Documented initial diagnosis of multiple myeloma according to IMWG diagnostic criteria (attachment 8 of the protocol)
3. Part 1: Subjects with measurable multiple myeloma who have progressed on, or could not tolerate, all available established therapies.
Part 2: Subjects with multiple myeloma measurable by central laboratory assessment who have progressed on, or could not tolerate, all available established therapies. If central laboratory assessments are not available, relevant local laboratory measurements must exceed the minimum required level by at least 25%.
Part 3: Measurable disease: Cohort A, Cohort B, and Cohort C: Multiple myeloma must be measurable by central laboratory assessment. If central laboratory assessments are not available, relevant local laboratory measurements must exceed the minimum required level by at least 25%. Cohort A and Cohort C: have previously received >=3 prior lines of therapy that included at least one PI, one IMiD, and an anti-CD38 monoclonal antibody, and have not been exposed to T cell redirection therapies such as CAR-T or bispecific antibodies. Cohort B: have previously received >=3 prior lines of therapy that included at least one PI, one IMiD, and an anti-CD38 monoclonal antibody, and have been exposed to T cell redirection therapies such as CAR-T or bispecific antibodies.
4.Eastern Cooperative Oncology Group (ECOG) performance status score, of 0 or 1 for part 1 and 2 and 0-3 for part 3
5. Pretreatment clinical laboratory values meeting the predefined criteria, during the Screening Phase (see table on pg 120 of protocol)
6. Women of childbearing potential (WOCBP) must have a negative pregnancy test at screening and prior to the first dose of study drug using a highly sensitive pregnancy test either serum (β human chorionic gonadotropin [β-hCG]) or urine. (a woman is considered of childbearing potential (WOCBP) ie, fertile, following menarche and until becoming post-menopausal unless permanently sterile. Permanent sterilization methods include hysterectomy, bilateral salpingectomy and bilateral oophorectomy.),
7.Women:
Women must be (as defined in Attachment 16) either one of the following:
a) Not of childbearing potential
b) Of childbearing potential and
- Practicing true abstinence OR
- Have a sole partner who is vasectomized OR
- Practicing at least 1 highy effective user-independent method of contraception (see Attachment 16)
Subject must agree to continue to above from the time of signing the informed consent form (ICF), while receiving study drug, and until 100 days after the last dose of study drug. Women of childbearing potential must agree to pregnancy testing (serum or urine) within 100 days after the last study drug

administration.
Men
Men must wear a condom (with or without spermicidal foam/gel/cream/suppository) when engaging in any activity that allows for passage of ejaculate to another person, during the study and for 100 days after the last dose of study drug.
His female partner, if of childbearing potential, must also be practicing a highly effective methdod of contraception (see Attachment 16).
If the male subject is vasectomized, he still must wear a condom (with or without spermicidal foam/gel/cream/suppository) but his female partner is not required to use contraception.
8. Sign an informed consent form (ICF) indicating that he or she, understands the purpose of and procedures required for the study, and, is willing to and able participate in the study. Consent is to be obtained, prior to the initiation of any study-related tests or procedures that are, not part of standard-of-care for the subject's disease.
9. Willing and able to adhere to the prohibitions and restrictions, specified in this protocol.
10. Women and men must agree to not donate eggs (ova, oocytes) or sperm, respectively, during the study and for 100 days after the last dose of study drug.
11. Subject must agree to not donate blood or blood components during the study and for 100 days after the last dose of study drug.

Exclusion criteria

1. 1. Prior Grade 3 or higher CRS related to any T cell redirection (eg, CD-3 redirection technology or CAR-T cell therapy) or any prior GPRC5D targeting therapy.
2. Prior antitumor therapy as follows, prior to the first dose of study drug:,
• Gene modified adoptive cell therapy (eg, chimeric antigen receptor modified T cells, natural killer [NK] cells) within 3 months.
• Targeted therapy, epigenetic therapy, or treatment with an, investigational drug or an invasive investigational medical device within, 21 days or at least 5 half-lives, whichever is less., •Monoclonal antibody treatment for multiple myeloma within 21 days.,
• Cytotoxic therapy within 21 days., • Proteasome inhibitor therapy within 14 days.,
• Immunomodulatory agent therapy within 7 days.
• Radiotherapy within 14 days. However, if palliative focal radiation is used, the subject is eligible irrespective of, the end date of radiotherapy.,
• Part 3 only:
o Cohort A and cohort C: exposed to a CAR-T or T cell redirection therapy at any time.
o Cohort B: T cell redirection therapy within 3 months
3. Participants who received or plan to receive any live, attenuated

vaccine within 4 weeks prior to the first dose, during treatment, or within 4 weeks of the last dose of talquetamab. Non-live or nonreplicating vaccines approved or authorized for emergency use (eg,COVID-19) by local health authorities are allowed.
4. Toxicities from previous anticancer therapies should have resolved to, baseline levels or to Grade 1 or less except for alopecia or peripheral, neuropathy.,
5. Received a cumulative dose of corticosteroids equivalent to >=140 mg of prednisone within the 14-day period before the first dose of study, drug.,
6. Received either of the following:
-An allogenic stem cell transplant within 6 months before first dose of study drug. Subjects who received an allogeneic transplant must be off all immunosuppressive medications for 6 weeks without signs of GVHD.:
-An autologous stem cell transplant <=12 weeks before first dose of study drug,
7.Central nervous system (CNS) involvement or clinical signs of meningeal involvement of multiple myeloma. If either is suspected, negative whole brain magnetic resonance imaging (MRI) and lumbar cytology are required. ,
8. Plasma cell leukemia (>2.0 x 10 to the 9th/L plasma cells by standard, differential), Waldenström's macroglobulinemia, POEMS syndrome, (polyneuropathy, organomegaly, endocrinopathy, monoclonal protein, [M-protein], and skin changes), or primary amyloid light chain (AL) amyloidosis.,
9. Known to be seropositive for human immunodeficiency virus or, acquired immune deficiency syndrome.,
10. Hepatitis B infection as defined according to the American Society of, Clinical Oncology guidelines. In the event the infection status is unclear,, quantitative levels are necessary to determine the infection status., Active Hepatitis C infection as measured by positive HCV-RNA testing., Subjects with a history of Hepatitis C virus antibody positivity must, undergo HCV-RNA testing.,
11. Pulmonary compromise requiring supplemental oxygen use to, maintain adequate oxygenation.,
12. Known allergies, hypersensitivity, or intolerance to talquetamab or, its excipients.,
13. Any serious underlying medical condition, such as:, • Evidence of serious active viral, bacterial, or uncontrolled systemic, fungal infection, • Active autoimmune disease or a documented history of autoimmune, disease, • Psychiatric conditions (eg, alcohol or drug abuse), severe dementia, or altered, mental status, • Any other issue that would impair the ability of the subject to receive, or tolerate the planned treatment at the investigational site, to, understand informed consent or any condition for which, in the opinion, of the investigator, participation would not be in the best interest of the, subject (eg, compromise the well-being) or that could prevent, limit, or, confound the protocol-specified assessments.,
14. Pregnant, breast-feeding, or planning to become pregnant while, enrolled in this study or within 100 days after the last dose of study, drug.,
15. Plans to father a child while enrolled in this study or within 100 days, after the last dose of study drug.,

16. Major surgery within 2 weeks of the first dose, or will not have fully, recovered from surgery, or has surgery planned during the time the, subject is expected to participate in the study or within 2 weeks after, the last dose of study drug administration.

Any potential subject who meets any of the following criteria will be excluded from participating in Part 3:
17. Stroke or seizure within 6 months prior to signing the ICF.
18. The following cardiac conditions:
o New York Heart Association Stage III or IV congestive heart failure
o Myocardial infarction or coronary artery bypass graft (CABG) <=6 months prior to enrollment
o History of clinically significant ventricular arrhythmia or unexplained syncope, not believed to be vasovagal in nature or due to dehydration
o History of severe non-ischemic cardiomyopathy.
19. Active malignancies (ie, progressing or requiring treatment change in the last 24 months) other than the disease being treated under study.

(Note: subjects with planned, surgical procedures to be conducted under local anesthesia may, participate.), NOTE: Investigators should ensure that all study inclusion/exclusion, criteria have been met at screening and prior to the first dose of study, drug. If a subject's clinical status changes (including any available, laboratory results or receipt of additional medical records) after, screening but before the first dose of study drug is given such that he or, she no longer meets all eligibility criteria, supportive treatment may be, administered according to local standards of care, if necessary, so that, eligibility criteria may be met and laboratory test(s) may be repeated, once, to determine if the subject qualifies for the study. If, inclusion/exclusion criteria are not met after further evaluation, the subject should be excluded from participation in the study.

Study design

Design

Study phase:	2
Study type:	Interventional
Masking:	Open (masking not used)
Control:	Uncontrolled
Primary purpose:	Treatment

Recruitment

NL

Recruitment status:	Recruiting
Start date (anticipated):	02-09-2019
Enrollment:	24
Type:	Actual

Medical products/devices used

Product type:	Medicine
Brand name:	Talquetamab
Generic name:	NAP

Ethics review

Approved WMO Date:	19-11-2018
Application type:	First submission
Review commission:	METC Amsterdam UMC
Approved WMO Date:	06-02-2019
Application type:	First submission
Review commission:	METC Amsterdam UMC
Approved WMO Date:	05-04-2019
Application type:	Amendment
Review commission:	METC Amsterdam UMC
Approved WMO Date:	16-05-2019
Application type:	Amendment
Review commission:	METC Amsterdam UMC
Approved WMO Date:	07-08-2019
Application type:	Amendment
Review commission:	METC Amsterdam UMC
Approved WMO	

Date:	25-09-2019
Application type:	Amendment
Review commission:	METC Amsterdam UMC
Approved WMO Date:	07-10-2019
Application type:	Amendment
Review commission:	METC Amsterdam UMC
Approved WMO Date:	15-10-2019
Application type:	Amendment
Review commission:	METC Amsterdam UMC
Approved WMO Date:	14-01-2020
Application type:	Amendment
Review commission:	METC Amsterdam UMC
Approved WMO Date:	16-01-2020
Application type:	Amendment
Review commission:	METC Amsterdam UMC
Approved WMO Date:	02-04-2020
Application type:	Amendment
Review commission:	METC Amsterdam UMC
Approved WMO Date:	14-04-2020
Application type:	Amendment
Review commission:	METC Amsterdam UMC
Approved WMO Date:	22-05-2020
Application type:	Amendment
Review commission:	METC Amsterdam UMC
Approved WMO Date:	20-07-2020
Application type:	Amendment
Review commission:	METC Amsterdam UMC
Approved WMO	

Date:	23-10-2020
Application type:	Amendment
Review commission:	METC Amsterdam UMC
Approved WMO Date:	09-12-2020
Application type:	Amendment
Review commission:	METC Amsterdam UMC
Approved WMO Date:	04-01-2021
Application type:	Amendment
Review commission:	METC Amsterdam UMC
Approved WMO Date:	29-01-2021
Application type:	Amendment
Review commission:	METC Amsterdam UMC
Approved WMO Date:	23-02-2021
Application type:	Amendment
Review commission:	METC Amsterdam UMC
Approved WMO Date:	23-03-2021
Application type:	Amendment
Review commission:	METC Amsterdam UMC
Approved WMO Date:	06-06-2021
Application type:	Amendment
Review commission:	METC Amsterdam UMC
Approved WMO Date:	02-07-2021
Application type:	Amendment
Review commission:	METC Amsterdam UMC
Approved WMO Date:	19-07-2021
Application type:	Amendment
Review commission:	METC Amsterdam UMC
Approved WMO	

Date:	08-09-2021
Application type:	Amendment
Review commission:	METC Amsterdam UMC
Approved WMO Date:	22-12-2021
Application type:	Amendment
Review commission:	METC Amsterdam UMC
Approved WMO Date:	18-01-2022
Application type:	Amendment
Review commission:	METC Amsterdam UMC
Approved WMO Date:	02-02-2022
Application type:	Amendment
Review commission:	METC Amsterdam UMC
Approved WMO Date:	23-09-2022
Application type:	Amendment
Review commission:	METC Amsterdam UMC
Approved WMO Date:	13-10-2022
Application type:	Amendment
Review commission:	METC Amsterdam UMC
Approved WMO Date:	10-02-2023
Application type:	Amendment
Review commission:	METC Amsterdam UMC
Approved WMO Date:	03-03-2023
Application type:	Amendment
Review commission:	METC Amsterdam UMC
Approved WMO Date:	03-08-2023
Application type:	Amendment
Review commission:	METC Amsterdam UMC
Approved WMO	

Date:	24-10-2023
Application type:	Amendment
Review commission:	METC Amsterdam UMC
Approved WMO Date:	14-12-2023
Application type:	Amendment
Review commission:	METC Amsterdam UMC

Study registrations

Followed up by the following (possibly more current) registration

No registrations found.

Other (possibly less up-to-date) registrations in this register

No registrations found.

In other registers

Register	ID
EU-CTR	CTIS2023-504581-29-00
EudraCT	EUCTR2017-002400-26-NL
ClinicalTrials.gov	NCT03399799
CCMO	NL67205.029.18