A phase 1 study to evaluate the safety, tolerability, pharmacokinetics, and pharmacodynamics of OMS1029 with single-dose intravenous and subcutaneous administration in healthy subjects

Published: 20-06-2022
Last updated: 18-01-2025

In this study we will investigate how safe the new compound OMS1029 is and how well it is tolerated when it is used by healthy subjects.We also investigate how quickly and to what extent OMS1029 is absorbed, transported, and eliminated from the body...

Ethical review	Approved WMO
Status	Completed
Health condition type	Autoimmune disorders
Study type	Interventional

Summary

ID

NL-OMON53550

Source
ToetsingOnline

Brief title
OMS1029 IV SC First-in-human SAD study

Condition

- Autoimmune disorders

Synonym
inflammatory autoimmune disease; Berger's disease

Research involving

Human

Sponsors and support

Primary sponsor: Omeros Corporation
Source(s) of monetary or material Support: pharmaceutical Industry

Intervention

Keyword: IV, OMS1029, SAD, SC

Outcome measures

Primary outcome

Safety:

Adverse events (AEs), clinical laboratory, vital signs, 12-lead

electrocardiogram (ECG), telemetric monitoring, physical examination, local

tolerability, and presence of ADAs in serum

Secondary outcome

PK:

Serum OMS1029 concentrations

Serum PK parameters estimated using noncompartmental analysis, as appropriate:

Cmax, tmax, kel, t1/2, AUC0-168, AUC0t, AUC0inf, %AUCextra, CL, CL/F, Vz,

Vz/F, and F (absolute bioavailability for overlapping IV and SC dose levels)

PD:

Ex vivo lectin pathway activity level at baseline and % reduction as a function

of time

Study description

Background summary

OMS1029 is a new compound that may potentially be used for the treatment of autoimmune diseases such as Berger*s disease. Berger's disease is an autoimmune disease characterized by inflammation of the kidneys.
OMS1029 is an antibody which inhibits the MASP-2 protein by binding to it. An antibody is a protein which influences the functioning of the immune system by binding to certain cell components. By inhibiting the MASP-2 protein only a specific part of the immune system is inhibited, while the rest of the immune system is unaffected. Blocking MASP-2 inhibits inflammatory and blood clotting responses to tissue injury. In this mannerOMS1029 can potentially be used to treat autoimmune diseases that are affected by this pathway. It is expected that the effect on MASP-2 after a single injection of OMS1029 is long-lasting (at least one month) and therefore, monitoring will occur over a longer period of time, for about 5 months. It was decided to prolong the study, due to a longer than expected observed half-life of OMS1029, causing a longer period in which OMS1029 is in the body.

Study objective

In this study we will investigate how safe the new compound OMS1029 is and how well it is tolerated when it is used by healthy subjects.

We also investigate how quickly and to what extent OMS1029 is absorbed, transported, and eliminated from the body. In addition, we look at the formation of antibodies against OMS1029.

We compare the effects of OMS1029 with the effects of a placebo.

OMS1029 has not been used by humans before. It has been extensively tested in the laboratory and on animals.

Study design

For the study it is necessary that the volunteers stay in the research center for 1 period of 9 days (8 nights). This will be followed by 6 short visits to the research center and a follow-up visit.

Day 1 is the day when the volunteers receive the study compound. They are expected at the research center the day before the day of administration of the study compound. They will leave the research center on Day 8 of the study.

They will be given 0.01, 0.03, 0.1 or 0.3 mg/kg OMS1029 or placebo as an intravenous infusion of 30 minutes. Or 0.3 or 0.6 mg/kg OMS1029 or placebo will be given as an injection under the skin in the left lower abdomen.
This means that 0.01, 0.03, 0.1, 0.3, 0.3 or 0.6 mg of OMS1029 will be administered per 1 kg of body weight, so the actual dose will depend on the body weight.

Intervention

Group 1 day 1 OMS1029 0.01 mg/kg or placebo injection once into the bloodstream
Group 2 day 1 OMS1029 0.03 mg/kg or placebo injection once into the bloodstream
Group 3 day 1 OMS1029 0.1 mg/kg or placebo injection once into the bloodstream
Group 4 day 1 OMS1029 0.3 mg/kg or placebo injection once into the bloodstream
Group 5 day 1 OMS1029 0.3 mg/kg or placebo once injection subcutaneously
Group 6 day 1 OMS1029 0.6 mg/kg or placebo once injection subcutaneously

Study burden and risks

As OMS1029 will be administered to humans for the first time in this study, side effects of OMS1029 in humans are not known yet. OMS1029 has been studied extensively in the laboratory and in animals. Based on the way this study compound works, the following side effects may be associated with OMS1029:
• Hypersensitivity reactions that can be in the form of itching, difficulty breathing, swelling, gastrointestinal symptoms, skin rash, and drop in blood pressure. In very rare cases, the volunteer could develop immune related adverse events and suffer a life-threatening allergic reaction. If the volunteer does experience any such reaction, the responsible doctor should be told immediately so that the volunteer can receive the appropriate treatment.
• Birth defects if given during pregnancy.
• Infection or worsening of existing infection by certain bacteria.
• Heart rate increase.
• Injection site reactions such as redness, bruising, soreness or pain, intravenous infusion reactions such as chills, fever, flushing, muscle pain, back or abdominal pain, nausea/vomiting, headache, high or low blood pressure, fast heart rate, swelling, and shortness of breath.

Contacts

Public
Omeros Corporation

Waterfront Research Center, Elliott Avenue West 201
Seattle WA 98119
US
Scientific
Omeros Corporation

Waterfront Research Center, Elliott Avenue West 201
Seattle WA 98119
US

Trial sites

Listed location countries

Netherlands

Eligibility criteria

Age
Adults (18-64 years)

Inclusion criteria

1. Sex: male or female.
2. Age: 18 to 60 years, inclusive, at screening.
3. Body mass index (BMI): 18.0 to 30.0 kg/m2, inclusive, at screening.
4. Weight: 50 to 110 kg, inclusive, at screening.
5. Status: healthy subjects.
6. At screening, females must not be pregnant or lactating; nonpregnancy will be confirmed for all females by a serum pregnancy test (minimum sensitivity 25 IU/L or equivalent units of β-human chorionic gonadotropin [β-hCG]) at screening and at admission.
7. Females are a) not of childbearing potential (ie, surgically sterilized or postmenopausal for >1 year); OR b) women of childbearing potential (WOCBP), and, if sexually active with a fertile male partner, must agree to use adequate contraception (see Section 3.4.8.1) from 4 weeks prior to Day 1 until 90 days following the final follow-up visit.
8. Males, if not documented surgically sterilized (eg, vasectomy and azoospermia) and sexually active with WOCBP partners, must agree to use adequate contraception (see Section 3.4.8.1) from admission (Day 1) until 90 days after the final follow-up visit. In addition, males must be willing to refrain from sperm donation during this time.
9. All prescribed medication must have been stopped at least 14 days prior to admission to the clinical research center. An exception is made for hormonal contraceptives, which may be used throughout the study.
10. All over-the-counter medication, vitamin preparations and other food supplements, or herbal medications (eg, St. John*s Wort) must have been stopped at least 7 days prior to admission to the clinical research center. An exception is made for paracetamol, which is allowed up to admission to the clinical research center. Furthermore, from admission onwards, the Investigator may permit a limited amount of paracetamol for the treatment of headache or any other pain.

11. Ability and willingness to abstain from alcohol during confinement and from 48 hours prior to admission and each ambulant visit to the clinical research center; and to limit alcohol use to no more than 2 units per day on average on all other study days (1 unit of alcohol equals approximately 250 mL of beer, 100 mL of wine, or 35 mL of spirits).
12. Good physical and mental health on the basis of medical history, physical examination, clinical laboratory, ECG, telemetric monitoring (as applicable), and vital signs, as judged by the Investigator.
13. Competent, willing, and able to sign and understand the informed consent and any required privacy authorization prior to the initiation of any study procedures including a request that a subject fast for any laboratory evaluations and comply with protocol requirements.

Exclusion criteria

1. Previous randomization in the current study.
2. Employee of ICON or the Sponsor, or their immediate family member. Immediate family is defined as current spouse, parent, natural or legally adopted child (including a stepchild living in the household), grandparent, or grandchild of Omeros or ICON employee.
3. Received a complement inhibitor within 6 months of screening.
4. History of relevant drug and/or food allergies. This includes any confirmed significant allergic reactions (anaphylaxis or angioedema) to any drug, OMS1029 excipients, or multiple drug allergies (non-active hay fever is allowed per the Investigator*s discretion).
5. Using tobacco and nicotine containing products within 30 days prior to the screening.
6. History of alcohol abuse or drug addiction (including soft drugs like cannabis products) within 1 years of screening or the unwillingness to agree to abstain from alcohol and drugs throughout the study.
7. Positive drug and alcohol screen (opiates, methadone, cocaine, amphetamines [including ecstasy], cannabinoids, barbiturates, benzodiazepines, tricyclic antidepressants, and alcohol) at screening and admission to the clinical research center.
8. Average intake of more than 24 units of alcohol per week (1 unit of alcohol equals approximately 250 mL of beer, 100 mL of wine, or 35 mL of spirits).
9. Positive screen for SARS-CoV-2 (if required by local regulation and guidelines), hepatitis B surface antigen (HBsAg), hepatitis C virus (HCV) antibodies, or human immunodeficiency virus (HIV) 1 and 2 antibodies.
10. Participation in a drug study within 30 days prior to study drug administration in the current study. Participation in 4 or more other drug studies in the 12 months prior to study drug administration in the current study.
11. Donation or loss of more than 450 mL of blood within 60 days prior to study drug administration. Donation or loss of more than 1500 mL of blood (for male

subjects)/more than 1000 mL of blood (for female subjects) in the 10 months prior to study drug administration in the current study.
12. Plasma or platelet donation within 14 days prior to Day 1.
13. History of asplenia, hyposplenism, or splenectomy.
14. History of any significant medical, hematologic, liver, autoimmune, neurologic, or psychiatric disorder that in the opinion of the Investigator would make the patient unsuitable for participation in the study.
15. Any known skin condition that would affect SC dosing or interpretation of injection or infusion site reactions.
16. Any major surgery, in the opinion of the Investigator, that is planned during the study.
17. Inability to be venipunctured and/or tolerate venous access. This includes unsuitable veins for infusion or blood sampling.
18. Pregnancy or intent to conceive during the course of the study.
19. Inability to comply with all protocol assessments including follow-up visits.
20. Any other sound medical, psychiatric and/or social reason as determined by the Investigator.
21. Significant active bacterial or viral infection within the 2 weeks prior to screening.
22. Significant and/or acute illness within 5 days prior to study drug administration that may impact safety assessments, in the opinion of the Investigator.

Study design

Design

Study type:	Interventional
Intervention model:	Other
Allocation:	Non-randomized controlled trial
Masking:	Open (masking not used)
Control:	Placebo
Primary purpose:	Treatment

Recruitment

NL

Recruitment status:	Completed
Start date (anticipated):	14-07-2022
Enrollment:	48

Type:	Actual

Ethics review

Approved WMO Date:	20-06-2022
Application type:	First submission
Review commission:	BEBO: Stichting Beoordeling Ethiek Bio-Medisch Onderzoek (Assen)
Approved WMO Date:	12-07-2022
Application type:	First submission
Review commission:	BEBO: Stichting Beoordeling Ethiek Bio-Medisch Onderzoek (Assen)
Approved WMO Date:	13-09-2022
Application type:	Amendment
Review commission:	BEBO: Stichting Beoordeling Ethiek Bio-Medisch Onderzoek (Assen)
Approved WMO Date:	15-09-2022
Application type:	Amendment
Review commission:	BEBO: Stichting Beoordeling Ethiek Bio-Medisch Onderzoek (Assen)
Approved WMO Date:	02-02-2023
Application type:	Amendment
Review commission:	BEBO: Stichting Beoordeling Ethiek Bio-Medisch Onderzoek (Assen)
Approved WMO Date:	16-02-2023
Application type:	Amendment
Review commission:	BEBO: Stichting Beoordeling Ethiek Bio-Medisch Onderzoek (Assen)

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
EudraCT	EUCTR2022-001576-33-NL
CCMO	NL81332.056.22

Study results

Date completed: 28-06-2023

Results posted: 27-06-2024

First publication
13-06-2024