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A non-blinded, Phase I study in healthy male volunteers to investigate how the investigational drug vamifeport is processed (taken up, converted, excreted) by the human body

Submission date	Recruitment status	[_] Prospectively registered
17/10/2023	No longer recruiting	[_] Protocol
Registration date	**Overall study status**	[_] Statistical analysis plan
18/10/2023	Completed	[X] Results
Last Edited	**Condition category**	[_] Individual participant data
20/06/2025	Other	

Plain English summary of protocol

Background and study aims

The purpose of this Phase I study is to determine the absorption, metabolism, and excretion of [14C] vamifeport and to characterise and determine the metabolites present in plasma, urine, and faeces in healthy male subjects following a single oral administration. This is done as part of fulfilling safety testing requirements and to evaluate the likelihood of negative effects on the kidney or liver and of interactions with other drugs. The results of this study may guide future study designs.

Vamifeport is a small-molecule drug under development for the treatment of thalassaemia and other conditions that involve excessive iron absorption, excessive and/or ineffective red blood cell formation, and may require regular red blood cell transfusions or therapeutic bloodletting in patients. Vamifeport acts by inhibiting ferroportin, a cellular iron transporter that mediates iron transfer into the bloodstream.

Who can participate?

Healthy male adult volunteers who fulfil all of the inclusion criteria and none of the exclusion criteria

What does the study involve?

After the study has been explained to the potential participants and they have signed the consent form, they are screened for eligibility according to the inclusion and exclusion criteria. Eligible participants are admitted to the study facility, where they take one oral dose of the radiolabelled investigational drug. Over a period of 5 to a maximum of 29 days, the investigational drug and its metabolites are measured in participants' blood and excreta (urine and faeces). For this, blood is withdrawn at several timepoints and all urine and faeces are

collected.
Once participants meet the discharge criteria, but no sooner than on day 5 after admission, they will be discharged from the study facility.

Where is the study run from?
Fortrea Clinical Research Unit [CRU] Limited (UK)

When is the study starting and how long is it expected to run for?
June 2022 to December 2022

Who is funding the study?
Vifor (International) Inc. (Switzerland)

Who is the main contact?
clinicaltrials@cslbehring.com

Contact information

Type(s)
Principal investigator

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Public, Scientific

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Additional identifiers

Clinical Trials Information System (CTIS)
Nil known

Integrated Research Application System (IRAS)
1005119

ClinicalTrials.gov (NCT)
Nil known

Protocol serial number
IRAS 1005119, Fortrea code: 8476207, protocol no.: VIT-2763-CP-104

Study information

Scientific Title
[14C]-Vamifeport - a Phase 1, open-label study of the absorption, metabolism, and excretion following a single oral dose in healthy male subjects

Study objectives
Due to the nature and purpose of the study no formal hypothesis testing is planned.
The purpose of this study is to determine the absorption, metabolism, and excretion of [14C]-vamifeport and to characterise and determine the metabolites present in plasma, urine, and faeces in healthy male subjects following a single oral administration. This is done as part of fulfilling the safety testing requirements as per ICH M3[4] and to evaluate the likelihood of effects of renal or hepatic impairment and for drug-drug interactions. The results of this study may guide future study designs.

Ethics approval required
Ethics approval required

Ethics approval(s)
1. approved 26/08/2022, Harrow Research Ethics Committee (2 Redman Place, Stratford, London, E20 1JQ, United Kingdom; +44 (0) 207 104 8154; harrow.rec@hra.nhs.uk), ref: 22/FT0087

2. approved 30/08/2022, MHRA (10 South Colonnade, Canary Wharf, London, E14 4PU, United Kingdom; +44 (0) 20 3080 6000; info@mhra.gov.uk), ref: CTA 13739/0212/001-0001

Study design
AME study in 8 adult healthy volunteers

Primary study design
Interventional

Study type(s)
Treatment

Health condition(s) or problem(s) studied

Healthy volunteers

Interventions
1. Inform potential participants about the study and obtain their informed consent to participate
2. Include participants in the study based on the inclusion and exclusion criteria
3. Assessments during screening, pre-dose and at different timepoints throughout the study: blood pressure, pulse rate, body temperature, clinical chemistry, haematology, urinalysis, 12-lead ECG, physical examination
4. Admit patients to the study site on day -1
5. Obtain pre-dose blood, urine and faeces samples to collect baseline PK, total radioactivity and metabolites data
6. Administer a single oral dose of 125 mg of [14C]-Vamifeport to participants in a fasted state on day 1
7. Obtain blood, urine and faeces samples for PK, total radioactivity and metabolites over a period of at least 7 and a maximum of 29 days
8. Obtain blood samples for potential future exploratory analyses over a period of 12 hours post-dose
9. Discharge participants from the study site on day 5 or later (once discharge criteria are met)

Intervention Type
Drug

Phase
Phase I

Drug/device/biological/vaccine name(s)
[14C]-Vamifeport

Primary outcome(s)
1. Recovery of total radioactivity - amount of dose administered recovered in urine (Ae) and urine (fe), faeces, and total excreta (urine + faeces), derived from urine and faeces analysis, up to Day 28
2. PK parameters including AUC0-infinity, AUC0-last, Cmax, Tmax, and T1/2 for Vamifeport in plasma and total radioactivity in plasma and whole blood as well as urinary recovery of Vamifeport (Ae and fe) and CLr, derived from plasma, blood, and urine analysis, up to Day 28

Key secondary outcome(s))
1. Further PK parameters, such as apparent terminal disposition phase rate constant, apparent total clearance, apparent volume distribution during the terminal disposition phase, and blood to plasma ratios; additional PK parameters may be calculated where appropriate, derived from plasma, blood, and urine analysis, up to Day 7
2. Quantitative metabolic profiles of Vamifeport in plasma and excreta, derived from plasma and excreta analysis, up to Day 7
3. Identification of Vamifeport major metabolites in plasma (>10% relative total drug exposure) and excreta (>10% of excreted dose), derived from plasma and excreta analysis, up to Day 7
4. Incidence and severity of AEs, collected from the signing of the informed consent form to final discharge of the study, up to Day 28
5. Incidence of laboratory abnormalities, based on haematology, clinical chemistry, and urinalysis test results, derived from blood and urine analysis, up to Day 14
6. 12-lead ECG parameters, assessed by the Investigator or designee during the study, up to Day 14

7. Vital signs measurements, assessed by the Investigator or designee during the study, up to Day 14

Completion date
15/12/2022

Eligibility

Key inclusion criteria
1. Males, of any race, between 35 and 65years of age, inclusive
2. Body mass index between 18.0 and 30.0kg/m2, inclusive
3. In good health, determined by no clinically significant findings from medical history, 12 lead ECG, vital signs measurements, and clinical laboratory evaluations (anaemia, congenital nonhaemolytic hyperbilirubinemia, e.g., suspicion of Gilbert's syndrome based on total and direct bilirubin, is not acceptable) at screening and checkin and from the physical examination at check-in, as assessed by the Investigator (or designee)
4. Males will agree to use contraception
5. Able to comprehend and willing to sign an ICF and to abide by the study restrictions
6. History of a minimum of 1 bowel movement per day

Participant type(s)
Healthy volunteer

Healthy volunteers allowed
No

Age group
Adult

Lower age limit
35 years

Upper age limit
65 years

Sex
Male

Total final enrolment
8

Key exclusion criteria
1. Significant history or clinical manifestation of any metabolic, allergic, dermatological, hepatic, renal, haematological, pulmonary, cardiovascular (history of clinically relevant ECG findings [e.g., Torsades de Points, cardiac arrhythmia, cardiac insufficiency, coronary artery disease, cardiomyopathy, congestive heart failure, family history of congenital long QT-syndrome, family history of sudden death]), gastrointestinal, neurological, respiratory, endocrine, or psychiatric disorder, as determined by the Investigator (or designee).
2. Any clinically relevant abnormal 12-lead ECG finding at screening and/or check-in, as determined by the Investigator (or designee), including, but not limited to, any of the following:

2.1. PR interval >210 ms or <120 ms
2.2. Evidence or history of second- or third-degree atrioventricular block
2.3. QT interval corrected for heart rate using Fridericia's correction (QTcF) ≥450 ms
2.4. QRS complex interval >112 ms
3. History of significant hypersensitivity, intolerance, or allergy to any drug compound, food, or other substance, unless approved by the Investigator (or designee)
4. Serum ferritin <30 ng/ml or >300 ng/ml at screening
5. Haemoglobin <13 g/dl (8.1 mmol/l) at screening and/or check-in
6. History of stomach or intestinal surgery or resection that would potentially alter absorption and/or excretion of orally administered drugs (uncomplicated appendectomy and hernia repair will be allowed)
7. Positive hepatitis panel and/or positive human immunodeficiency virus test
8. Subjects with estimated glomerular filtration rate <90 ml/min/1.73m² calculated using the Chronic Kidney Disease Epidemiology Collaboration (CKD-EPI) equation with serum creatinine at screening

Date of first enrolment
31/10/2022

Date of final enrolment
15/12/2022

Locations

Countries of recruitment
United Kingdom

England

Study participating centre
Fortrea (formerly: Labcorp) Clinical Research Unit [CRU] Limited
Springfield House
Hyde Street
Leeds
United Kingdom
LS2 9LH

Sponsor information

Organisation
Vifor (International) Inc.

Funder(s)

Funder type
Industry

Funder Name
Vifor (International) Inc.

Results and Publications

Individual participant data (IPD) sharing plan
The datasets generated and/or analyzed during the current study are not expected to be made available because of their high commercial sensitivity and the negligible benefit to the public of publication of results of nontherapeutic clinical trials.

IPD sharing plan summary
Not expected to be made available

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Other unpublished results		19/07/2023	20/06/2025	No	No