ISRCTN21589167 https://doi.org/10.1186/ISRCTN21589167

A study to evaluate single and multiple doses of TLC-1180 in healthy subjects

Submission date 16/10/2025	**Recruitment status** No longer recruiting	[X] Prospectively registered [_] Protocol [_] Statistical analysis plan [_] Results [_] Individual participant data [X] Record updated in last year
Registration date 17/10/2025	**Overall study status** Ongoing	
Last Edited 20/08/2026	**Condition category** Other	

Plain English summary of protocol

Background and study aims
This study aims to test a new drug, TLC-1180, compared with a placebo at different doses, to find out if it is safe and to understand the way people process the drug. A placebo looks like a drug but has no active ingredient.

Who can participate?
Healthy male and non-pregnant, non-lactating female subjects, 18-55 years of age, inclusive.

What does the study involve?
Participants are randomly assigned to receive either TLC-1180 or a placebo as a single dose or multiple doses to determine the safety and the way people process the drug.

What are the possible benefits and risks of participating?
Participants are not expected to receive any direct benefits from the study, but the information that is learned may help other people in the future. TLC-1180 has not yet been tested in humans. This is the first trial of TLC-1180 in humans. For this reason, the side effects of this drug are not known at this time.

Where is the study run from?
OrsoBio, Inc. (USA)

When is the study starting and how long is it expected to run for?
October 2025 to June 2027

Who is funding the study?
OrsoBio, Inc. (USA)

Who is the main contact?
Clinicaltrials_Inquires@orsobio.com

Contact information

Type(s)
Public, Scientific, Principal investigator

Contact name
Dr Clinical Trials

Contact details
101 Jefferson Drive
Menlo Park
United States of America
94025
+1 650-382-2225
Clinicaltrials_Inquires@orsobio.com

Additional identifiers

ClinicalTrials.gov (NCT)
NCT07300189

Protocol serial number
1180-CL-101

Study information

Scientific Title
A Phase I study to evaluate the safety, tolerability, pharmacokinetics, and pharmacodynamics of single and multiple ascending doses of TLC-1180 in healthy subjects

Study objectives
The primary objectives are to assess the safety, tolerability, and pharmacokinetics of TLC-1180 in healthy subjects. The exploratory objective is to evaluate the pharmacodynamics of TLC-1180 in healthy subjects.

Ethics approval required
Ethics approval required

Ethics approval(s)
Approved 10/10/2025, Northern A Health and Disability Ethics Committee (HDEC) (Ministry of Health, PO Box 5013, Wellington, 6140, New Zealand; +64 4 819 6877; hdecs@health.govt.nz), ref: 2025 FULL 23746

Primary study design
Interventional

Study design
Single-centre double-blind randomized placebo-controlled single- and multiple-ascending dose study

Study type(s)
Safety, Other

Health condition(s) or problem(s) studied
Healthy volunteers

Interventions
Current interventions as of 20/08/2026:
The study will proceed in three parts (Parts A-C), where Parts A-C are randomized, blinded (sponsor-unblinded), and placebo-controlled. Part A will evaluate the safety, tolerability, pharmacokinetics (PK), and pharmacodynamics (PD) of escalating single oral doses of TLC-1180 or matching placebo over 5 cohorts (within each cohort, 8 subjects will be randomized 3:1 to receive either blinded TLC-1180 or placebo-to-match [PTM]). To maximize subject safety, in single-ascending dose (SAD) cohorts in Part A, two sentinel subjects (one randomized to TLC-1180 and one to PTM) will be dosed, and safety and tolerability data will be evaluated before dosing of the remaining subjects in each cohort. Within SAD cohorts in Parts A and C, initiation of single-dose administration at escalating dose levels will be based on recommendations by the Safety Review Committee (SRC), where the SRC will evaluate cumulative safety data, and relevant and available PK and/or PD data, following single-dose administration of the previous dosing cohort. Part B will evaluate the safety, tolerability, PK, and PD of adaptive multiple doses of TLC-1180 or matching placebo over 5 cohorts (within each cohort, 10 subjects will be randomized 4:1 to receive either blinded TLC-1180 or PTM) for up to 8 weeks. The dose regimen for the first multiple-ascending dose (MAD) cohort will be selected based on the totality of available clinical data, predicted systemic exposures, and available nonclinical safety data, including ensuring that predicted clinical exposures remain below those associated with the no-observed-adverse-effect levels (NOAELs) in the 13-week GLP toxicology studies. For the remaining Part B cohorts, dose selection and initiation of additional Part B MAD cohorts will be based on recommendations by the SRC, where the SRC will evaluate cumulative safety, tolerability, PK, and where available, PD data from previously dosed Part B cohorts, together with all relevant and available data from SAD cohorts conducted in Parts A and/or C. Part C of the study is designed to be adaptive, based on initial data from Part A and/or B, to evaluate the safety, tolerability, PK, and PD of TLC-1180, with adaptive dose selection, administered as a single dose. The SRC will oversee dose selection and escalation decisions. The results of this study will be used to refine dosing strategies for future studies.

Previous interventions:
The study will proceed in four parts (Parts A-D), where Parts A-C are randomized, blinded (sponsor-unblinded), placebo-controlled, and Part D is open-label. Part A will evaluate the safety, tolerability, pharmacokinetics (PK), and pharmacodynamics (PD) of escalating single oral doses of TLC-1180 or matching placebo over 5 cohorts (within each cohort, 8 subjects will be randomized 3:1 to receive either blinded TLC-1180 or placebo-to-match [PTM]). To maximize subject safety, in single-ascending dose (SAD) cohorts in Part A, two sentinel subjects (one randomized to TLC-1180 and one to PTM) will be dosed, and safety and tolerability data will be evaluated before dosing of the remaining subjects in each cohort. Within SAD cohorts in Part A and C, initiation of single-dose administration at escalating dose levels will be based on recommendations by the Safety Review Committee (SRC), where the SRC will evaluate cumulative safety data, and relevant and available PK and/or PD data, following single-dose administration of the previous dosing cohort. Part B will evaluate the safety, tolerability, PK, and PD of escalating multiple doses of TLC-1180 or matching placebo over 5 cohorts (within each cohort, 10 subjects will be randomized 4:1 to receive either blinded TLC-1180 or PTM) for 14 days. The dose for the first multiple-ascending dose (MAD) cohort will be selected such that predicted steady-state exposure (Cmax and AUCtau) will not exceed single dose exposures (Cmax and AUCinf) observed in the highest dose Part A SAD cohort considered safe and well tolerated based on evaluation of cumulative safety, tolerability, and any relevant and available

PK and/or PD data from all subjects enrolled in prior relevant SAD cohort(s). For the remaining Part B cohorts, dose selection and initiation of additional Part B MAD cohorts will be based on recommendation by the SRC, where the SRC will evaluate cumulative safety, tolerability, and any relevant and available PK and/or PD data from all subjects enrolled in prior MAD cohort(s), as well as all subjects enrolled in prior SAD cohort(s) which evaluated doses with associated exposure (Cmax and AUCinf) equal to or greater than expected (Cmax and AUCtau) at the proposed Part B MAD cohort dose. Additionally, any dose selected for evaluation in Part B will not exceed a 3-fold increase in dose or expected exposure relative to the highest dose previously evaluated. Part C of the study is designed to be adaptive, based on initial data from Parts A and/or B, to evaluate the safety, tolerability, PK, and PD of TLC-1180, with adaptive dose selection, administered as a single dose or multiple doses over 14 days. The SRC will oversee dose selection and escalation decisions. Part D includes a single cohort (open-label, single-sequence design with 8 subjects) to evaluate the safety, tolerability, PK, and PD of a single dose of TLC-1180 in a tablet formulation under fasted, then fed conditions. The results of this study will be used to refine dosing strategies for future studies.

Intervention Type
Drug

Phase
Phase I

Drug/device/biological/vaccine name(s)
TLC-1180

Primary outcome(s)
Current primary outcomes as of 20/08/2026:
1. Incidence of TLC-1180 treatment-emergent adverse events: Adverse events (AEs) - severity of the AEs will be graded using the Common Terminology Criteria for AE (CTCAE) (v6.0). The relationship between AEs and the study drug will be indicated as related or not related.
[Time Frame: Through study completion: Day 365 (Parts A, C); up to Day 421 (Part B) of the study]
2. PK of TLC-1180 AUC: Area under the concentration-time curve
[Time Frame: Through study completion: Day 365 (Parts A, C); up to Day 421 (Part B) of the study]
3. PK of TLC-1180 Cmax: Maximum plasma concentration
[Time Frame: Through study completion: Day 365 (Parts A, C); up to Day 421 (Part B) of the study]
4. PK of TLC-1180 tmax: Time to reach Cmax
[Time Frame: Through study completion: Day 365 (Parts A, C); up to Day 421 (Part B) of the study]
5. PK of TLC-1180 t1/2: Half-life
[Time Frame: Through study completion: Day 365 (Parts A, C); up to Day 421 (Part B) of the study]
6. PK of TLC-1180 CL/F: Apparent clearance, calculated as dose/AUC0-inf
[Time Frame: Through study completion: Day 365 (Parts A, C); up to Day 421 (Part B) of the study]

Previous primary outcomes as of 10/04/2026:
1. Incidence of TLC-1180 treatment-emergent adverse events: Adverse events (AEs) - severity of the AEs will be graded using the Common Terminology Criteria for AE (CTCAE) (v5.0). The relationship between AEs and the study drug will be indicated as related or not related.
[Time Frame: Through study completion: Day 365 (Parts A, C); Day 28 (Parts B, C); Day 39 (Part D) of the study]
2. PK of TLC-1180 AUC: Area under the concentration-time curve
[Time Frame: Through study completion: Day 365 (Parts A, C); Day 28 (Parts B, C); Day 39 (Part D)

of the study]
3. PK of TLC-1180 Cmax: Maximum plasma concentration
[Time Frame: Through study completion: Day 365 (Parts A, C); Day 28 (Parts B, C); Day 39 (Part D) of the study]
4. PK of TLC-1180 tmax: Time to reach Cmax
[Time Frame: Through study completion: Day 365 (Parts A, C); Day 28 (Parts B, C); Day 39 (Part D) of the study]
5. PK of TLC-1180 t1/2: Half-life
[Time Frame: Through study completion: Day 365 (Parts A, C); Day 28 (Parts B, C); Day 39 (Part D) of the study]
6. PK of TLC-1180 CL/F: Apparent clearance, calculated as dose/AUC0-inf
[Time Frame: Through study completion: Day 365 (Parts A, C); Day 28 (Parts B, C); Day 39 (Part D) of the study]

Previous primary outcomes:
1. Incidence of TLC-1180 treatment-emergent adverse events: Adverse events (AEs) - severity of the AEs will be graded using the Common Terminology Criteria for AE (CTCAE) (v5.0). The relationship between AEs and the study drug will be indicated as related or not related.
[Time Frame: Through study completion: Day 15 (Parts A, C); Day 28 (Parts B, C); Day 39 (Part D) of the study]
2. PK of TLC-1180 AUC: Area under the concentration-time curve
[Time Frame: Through study completion: Day 15 (Parts A, C); Day 28 (Parts B, C); Day 39 (Part D) of the study]
3. PK of TLC-1180 Cmax: Maximum plasma concentration
[Time Frame: Through study completion: Day 15 (Parts A, C); Day 28 (Parts B, C); Day 39 (Part D) of the study]
4. PK of TLC-1180 tmax: Time to reach Cmax
[Time Frame: Through study completion: Day 15 (Parts A, C); Day 28 (Parts B, C); Day 39 (Part D) of the study]
5. PK of TLC-1180 t1/2: Half-life
[Time Frame: Through study completion: Day 15 (Parts A, C); Day 28 (Parts B, C); Day 39 (Part D) of the study]
6. PK of TLC-1180 CL/F: Apparent clearance, calculated as dose/AUC0-inf
[Time Frame: Through study completion: Day 15 (Parts A, C); Day 28 (Parts B, C); Day 39 (Part D) of the study]

Key secondary outcome(s)
There are no secondary outcome measures

Completion date
01/06/2027

Eligibility

Key inclusion criteria
1. Non-smoking, healthy male or female subject between 18 and 55 years of age, inclusive
2. Body mass index from 19 to 35 kg/m2, inclusive
3. Estimated glomerular filtration rate ≥ 80 mL/min
4. Normal liver biochemistry tests
5. Screening laboratory evaluations (hematology, chemistry, and urinalysis) must fall within the normal range of the local laboratory's reference ranges unless the results have been determined

by the investigator to have no clinical significance
6. Subject must have either a normal 12-lead electrocardiogram (ECG) or one with abnormalities that are considered clinically insignificant by the investigator
7. Females of childbearing potential must have a negative pregnancy test at Screening and clinic admission
8. Male subjects and female subjects of childbearing potential who engage in heterosexual intercourse must agree to use protocol-specified method(s) of contraception
9. Must, in the opinion of the investigator, be in good health based upon medical history and physical examination, including vital signs

Participant type(s)
Healthy volunteer

Healthy volunteers allowed
Yes

Age group
Adult

Lower age limit
18 Years

Upper age limit
55 Years

Sex
All

Total final enrolment
0

Key exclusion criteria
1. Pregnant or lactating subjects
2. Subjects who have any serious or active medical or psychiatric illness (including depression) that, in the opinion of the investigator, would interfere with the subject's treatment, assessment, or compliance with the protocol
3. Subjects who have received any investigational compound within 30 days or 5 half-lives, whichever is longer, prior to study drug dosing
4.Current alcohol abuse that is judged by the investigator to potentially interfere with the subject's compliance or safety
5. Current substance abuse that is judged by the investigator to potentially interfere with the subject's compliance or safety
6. A positive test result for human immunodeficiency virus (HIV-1) antibody, hepatitis B (HBV) surface antigen, or hepatitis C (HCV) antibody
7. Subjects who have taken any prescription medications or over-the-counter medications, including herbal products, within 28 days prior to start of study drug dosing, with the exception of vitamins, acetaminophen (paracetamol), ibuprofen, and/or hormonal contraceptive medications
8. Subjects who have been treated with systemic steroids, immunosuppressant therapies, or chemotherapeutic agents within 3 months prior to Screening or expected to receive these agents during the study (e.g., corticosteroids, immunoglobulins, and other immune- or cytokine-

based therapies)
9. Medical history of serious skin disease in the opinion of the investigator, such as but not limited to rash, food allergy, eczema, psoriasis, or urticaria
10. Medical history of drug sensitivity or drug allergy (such as anaphylaxis or hepatoxicity)
11. Presence or history of cardiovascular disease, including significant cardiovascular disease (including a history of myocardial infarction based on ECG and/or clinical history), history of cardiac conduction abnormalities (including any history of ventricular tachycardia), congestive heart failure, cardiomyopathy with left ventricular ejection fraction < 40%, a family history of Long QT Syndrome, or unexplained death in an otherwise healthy individual between the ages of 1 and 30 years
12. Syncope, palpitations, or unexplained dizziness
13. Implanted defibrillator or pacemaker
14. Medical history of liver disease, including but not limited to alcoholic liver disease, autoimmune disorders (e.g., primary biliary cholangitis, primary sclerosing cholangitis, autoimmune hepatitis), drug-induced hepatotoxicity, Wilson disease, clinically significant iron overload, or alpha-1-antitrypsin deficiency)
15. History of rhabdomyolysis
16. Severe peptic ulcer disease, gastroesophageal reflux disease, or other gastric acid hypersecretory conditions
17. History of medical or surgical treatment that permanently alters intestinal absorption (e.g., gastric or intestinal surgery)
18. Subjects who have received vaccination for COVID-19 within 14 days of Admission

Date of first enrolment
20/10/2025

Date of final enrolment
01/10/2026

Locations

Countries of recruitment
New Zealand

Sponsor information

Organisation
OrsoBio, Inc.

Funder(s)

Funder type
Industry

Funder Name

OrsoBio, Inc.

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary
Not expected to be made available