

An early phase trial to test the safety and determine the appropriate dose of BTM-3566 in patients with mature B cell lymphoma

Submission date 16/01/2025	Recruitment status Recruiting	<input checked="" type="checkbox"/> Prospectively registered <input type="checkbox"/> Protocol
Registration date 20/01/2025	Overall study status Ongoing	<input type="checkbox"/> Statistical analysis plan <input type="checkbox"/> Results
Last Edited 12/05/2025	Condition category Cancer	<input type="checkbox"/> Individual participant data <input checked="" type="checkbox"/> Record updated in last year

Plain English summary of protocol

Background and study aims

The purpose of this study is to test how safe and effective the treatment BTM-3566 is for treating mature B cell lymphomas. This type of cancer affects certain white blood cells. The study will gradually increase the doses given to patients, starting from very low doses and moving to higher ones, to ensure safety at each level.

Who can participate?

Participants can be males or females aged 18 years or older who have relapsed or refractory B cell lymphoma. This means their cancer has returned or has not responded to previous treatments. They must have tried at least two other therapies without success and meet specific health criteria.

What does the study involve?

Participants will be assigned to different dose groups based on when they join the study. They will take BTM-3566 orally for seven days, followed by a seven-day break with no medication. This cycle will continue throughout the study. Participants must also be willing to follow the study visit schedule and undergo necessary tests and biopsies.

What are the possible benefits and risks of participating?

Possible benefits include the potential treatment of cancer, stabilization of the disease, or shrinking of tumors. Participants will also contribute to knowledge about the safety and effects of BTM-3566 for future use. However, there are risks, including side effects like loss of appetite, nausea, weight loss, and potential damage to skeletal or heart muscles.

Where is the study run from?

The study is being conducted across various hospitals in Canada.

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

July 2024 to June 2026.

Who is funding the study?
Bantam Therapeutics (USA).

Who is the main contact?
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Contact information

Type(s)

Public, Scientific, Principal Investigator

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Additional identifiers

EudraCT/CTIS number

Nil known

IRAS number

ClinicalTrials.gov number

Nil known

Secondary identifying numbers

BTM-3566-001

Study information

Scientific Title

A Phase I Trial of BTM-3566 in Relapsed/Refractory Mature B Cell Lymphomas

Study objectives

To determine the dose-limiting toxicity and safety of BTM-3566

Ethics approval required

Ethics approval required

Ethics approval(s)

1. Approved 11/04/2025, Ontario Central Research Ethics Board (661 University Avenue, Suite 510, Toronto, M5G 0A3, Canada; +1 416-673-6649; Natascha.Kozlowski@oicr.on.ca), ref: Reference number not provided

2. Approved 27/03/2025, Nova Scotia Health Research Ethics Board (5790 University Avenue, Halifax, B3H 1V7, Canada; +1 844-483-3344; researchethics@nshealth.ca), ref: 1031500

Study design

Multicenter interventional non randomized dose-escalation trial

Primary study design

Interventional

Secondary study design

Non randomised study

Study setting(s)

Hospital

Study type(s)

Safety, Efficacy

Participant information sheet

No participant information sheet available

Health condition(s) or problem(s) studied

Relapsed/refractory mature B cell lymphoma

Interventions

Dose-escalations of BTM-3566 will be done using single patient cohorts followed by traditional 3+3 methodology. The starting dose level is 0.9mg/kg and will be increased in 33% increments up to a total of 12.1mg/kg or until the maximum tolerated dose or recommended phase 2 dose is established. Dose de/escalations are determined by the Safety Review Committee which meets after each dose escalation cohort completes the dose-limiting toxicity period (ie. 28 days), at minimum, to evaluate the data available. BTM-3566 will be administered as an liquid oral medication with dose based on each patient's weight (mg/kg). Treatment is given as two-week cycles, with BTM-3566 taken daily during the first week (ie 7 days) and no treatment on the second week.

Intervention Type

Drug

Pharmaceutical study type(s)

Dose response

Phase

Phase I/II

Drug/device/biological/vaccine name(s)

BTM-3566

Primary outcome measure

Dose limiting toxicity of BTM-3566 using the incidence and severity of adverse events measured using Common Terminology Criteria for Adverse Events (CTCAE) v5.0 at every study visit for the first 28 days on treatment (i.e. C1D1, C1D2, C1D3, C1D7, C1D9, C2D1, C2D3)

Secondary outcome measures

1. The maximum tolerated dose (MTD) and/or recommended phase 2 dose (RP2D) of BTM-3566 using the incidence and severity of adverse events experienced during the first 4 weeks of treatment measured using Common Terminology Criteria for Adverse Events (CTCAE) v5.0 at every study visit for the first 28 days on treatment (i.e. C1D1, C1D2, C1D3, C1D7, C1D9, C2D1, C2D3)
2. The pharmacokinetic properties of BTM-3566 measured via plasma concentrations of BTM-3566 at C1D1, C1D2, C1D7, C1D9, C2D1
3. The clinical activity of BTM-3566 measured through Objective Response Rate and Duration of Response by Revised Lugano Criteria at C3D1, and every 12 weeks thereafter, and Progression-Free Survival and Overall Survival measured using length of survival at each study visit and every 3 months post-treatment for up to 5 years or until death

Overall study start date

01/07/2024

Completion date

30/06/2026

Eligibility

Key inclusion criteria

1. Patients aged ≥ 18 years with a diagnosis of relapsed or refractory mature B cell lymphoma*
2. Patients with non-Hodgkin's lymphoma (NHL) must have received at least 2 lines of prior therapy and have no available therapies with known clinical benefit
3. Patient must have measurable disease at screening per Lugano classification
4. Patient must have an Eastern Cooperative Oncology Group (ECOG) performance status (PS) of 0 – 2
5. Patient must have a predicted life expectancy of >3 months
6. Patient must have the following laboratory values (obtained ≤ 21 days prior to enrollment):
 - 6.1. High sensitivity cTnI $< 99\%$ ULN for the local assay
 - 6.2. NT-proBNP $<$ age-adjusted "rule in" value for CHF (450 pg/mL for age < 50 ; > 900 pg/mL for 50-75; > 1800 pg/mL for age > 75)
 - 6.3. Serum CK $<$ ULN
 - 6.4. Serum creatinine $< 1.5 \times$ ULN or if creatinine higher than normal range, calculated creatinine clearance (CrCL) must be ≥ 60 mL/min; actual body weight must be used for CrCL unless BMI > 30 kg/m²; lean body weight must be used if BMI > 30 kg/m²
 - 6.5. Total bilirubin $\leq 1.5 \times$ ULN unless has known history of Gilbert's syndrome (in which case, total bilirubin must be $\leq 3 \times$ ULN)
 - 6.6. AST and ALT $\leq 2.5 \times$ ULN, or $\leq 5 \times$ ULN if due to liver involvement by tumor
 - 6.7. Hemoglobin ≥ 8.0 g/dL
 - 6.8. Platelets $\geq 75 \times 10^9$ cells/L
 - 6.9. Absolute neutrophil count $\geq 1.0 \times 10^9$ cells/L (without the use of hematopoietic growth factors)
 - 6.10. Corrected QT interval (QTc) < 470 ms for females and < 450 ms for males (as calculated by the Fridericia correction formula)

6.11. LVEF \geq 50% or \geq LLN for their institution, whichever is higher

6.12. Women of child-bearing potential (WOCBP) must have a negative urine pregnancy test within 72 hours prior to first administration of BTM-3566

7. WOCBP and males with female partners of child-bearing potential must agree to use adequate birth control throughout their participation and for 90 days following the last dose of BTM-3566.

8. Patient must be willing to adhere to the study visit schedule and the prohibitions and restrictions specified in this protocol.

8.1. Patient should have a site of disease amenable to biopsy and be a candidate for tumor biopsy according to institutional guidelines. Patients should be willing to undergo a new tumor biopsy at baseline and after dose 2 to 4 in either Cycle 1 or 2 of this study. Note: Patients with sites of disease not amenable to biopsy, or unwilling to undergo biopsies, will be considered for enrollment after discussion with the study PI.

8.2. Patients must not be enrolled in any other clinical trial and must not be receiving other therapy directed at their malignancy.

*Includes the following subtypes defined by WHO (Swerdlow et al 2016):

- Splenic Marginal Cell Lymphoma
- Splenic diffuse red pulp small B-cell lymphoma
- Lymphoplasmacytic lymphoma
- Nodal Marginal Zone Lymphoma
- Follicular Lymphoma (including in situ and duodenal-type)
- Large B-cell lymphoma with IRF4 rearrangement
- Primary cutaneous follicle center lymphoma
- Mantle cell lymphoma
- Primary mediastinal (thymic) large B-cell lymphoma
- Intravascular large B-cell lymphoma
- Anaplastic lymphoma kinase (ALK) + large B-cell lymphoma
- Plasmablastic lymphoma
- Primary effusion lymphoma
- Burkitt lymphoma
- Burkitt-like lymphoma with 11q aberration
- High-grade B cell lymphoma, with MYC and BCL2 and/or BCL6 rearrangement
- High-grade B cell lymphoma, Not otherwise specified (NOS)
- B-cell lymphoma unclassifiable, with features intermediate between diffuse large B cell lymphoma (DLBCL) and classical Hodgkin lymphoma
- DLBCL, NOS
- Germinal center B-cell type DLBCL
- Activated B-cell type DLBCL
- Primary cutaneous DLBCL
- T-cell/histiocyte-rich large B-cell lymphomas
- Epstein-Barr Virus (EBV)+ DLBCL, NOS
- HHV8+ DLBCL, NOS
- DLBCL associated with chronic inflammation

Participant type(s)

Patient

Age group

Adult

Lower age limit

18 Years

Sex

Both

Target number of participants

24

Key exclusion criteria

1. Patient has received the therapies/interventions listed below within the specified timeframe, or has ongoing toxicity from prior therapy > Grade 1 according to the CTCAE v5.0, with the exception of alopecia, vitiligo, Grade ≤ 2 neuropathy, well-controlled hypo/hyperthyroidism or other endocrinopathies that are well controlled with hormone replacement. Such exceptions must be assessed by the investigator (and approved by the sponsor) as not placing the patient at undue safety risk from participating in this study.

1.1. Patient has undergone a major surgery (excluding minor procedures, e.g., placement of vascular access) <3 months prior to administration of BTM-3566.

1.2. Patient has received any anti-cancer therapy <28 days prior to administration of BTM-3566.

1.3. Patient has received radiation therapy <28 days prior to administration of BTM-3566.

Exception: limited (e.g., pain palliation) radiation therapy is allowed prior to and during study treatment as long as there are no acute toxicities and the patient has measurable disease outside the radiation field.

2. Patient has primary CNS lymphoma.

3. Patient has previously received a total anthracycline dose $\geq 360\text{mg/m}^2$ doxorubicin or equivalent.

4. Patient has a history of any of the following ≤ 6 months before first dose: congestive heart failure New York Heart Association Grade ≥ 2 , unstable angina, myocardial infarction, unstable symptomatic ischemic heart disease, uncontrolled hypertension despite appropriate medical therapy, ongoing symptomatic cardiac arrhythmias of Grade >2, pulmonary embolism, or symptomatic cerebrovascular events, or any other serious cardiac condition (e.g., pericardial effusion or restrictive cardiomyopathy). Chronic atrial fibrillation on stable anticoagulant therapy is allowed.

5. Patients with history of statin-associated myopathy within 6 months of enrollment who is still taking a statin.

6. Patient has symptomatic or uncontrolled neurologic disease (brain metastases, leptomeningeal disease, or spinal cord compression) not definitively treated with surgery or radiation. Note: Symptomatic or uncontrolled neurologic disease is defined as patient has active CNS metastases (including evidence of cerebral edema by MRI, or progression from prior imaging study, or any requirement for steroids, or clinical symptoms of/from CNS metastases) within 28 days prior to study treatment. Patients with known CNS metastases must have a baseline MRI scan within 28 days of study treatment.

7. Patient has current second malignancy at other sites (exceptions: non-melanomatous skin cancer, adequately treated in situ carcinoma, or indolent prostate cancer under observation). A history of other malignancies is allowed at the discretion of the PI and medical monitor as long as patient has been free of recurrence for ≥ 2 years, or if the patient has been treated with curative intent within the past 2 years and, in the opinion of the investigator, is unlikely to have a recurrence.

8. Patient has active and clinically significant bacterial, fungal, or viral infection, including known Hepatitis A, B, or C or HIV (testing not required).

9. Patient requires prolonged use of a moderate or strong CYP3A4 inhibitor or inducer.

Moderate or strong CYP3A4 inhibitors or inducers must be stopped 14 days or 5 half-lives, whichever is longer, prior to the administration of BTM-3566.

10. Women who are pregnant or breastfeeding.

11. Patient has any contraindications to the imaging assessments or other study procedures that patients will be undergoing.

12. Patient has any medical or social condition that, in the opinion of the investigator, might place a patient at increased risk, affect compliance, or confound safety or other clinical study data interpretation.

13. Patient cannot avoid use of proton pump inhibitor (PPI) from 7 days prior to the first dose and throughout the study. H2 antagonists are permitted if they are not taken within 10 hours prior to dosing or 2 hours after dosing.

14. Patient cannot avoid use of CYP2C19 substrates with narrow therapeutic windows (e.g., clopidogrel) or OAT3 substrates with narrow therapeutic windows (cefaclor, cefonicid, ceftiofur, cephadrine, cidofovir, furosemide, and zidovudine).

15. A family history of long QT syndrome.

16. Patient cannot avoid drugs that prolong the QT interval (such as antipsychotic medications (e.g., chlorpromazine, haloperidol, thioridazine, ziprasidone), antibiotics (e.g., moxifloxacin), Class 1A (e.g., quinidine, procainamide) and Class III (e.g., amiodarone, sotalol) antiarrhythmic medications or any other medications known to prolong the QT interval) from 7 days prior to the first dose of study drug and throughout the study.

Date of first enrolment

25/04/2025

Date of final enrolment

01/09/2026

Locations

Countries of recruitment

Canada

Study participating centre

Princess Margaret Hospital

610 University Ave

Toronto

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Study participating centre

QEII Health Sciences Centre

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Sponsor information

Organisation

Bantam Pharmaceuticals

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Sponsor type

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Funder(s)

Funder type

Industry

Funder Name

Bantam Pharmaceuticals

Results and Publications

Publication and dissemination plan

Pooled and anonymized study results may be presented at conferences, in manuscripts and reported in public registries as per local regulations.

Intention to publish date

01/09/2027

Individual participant data (IPD) sharing plan

The data-sharing plans for the current study are unknown and will be made available at a later date

IPD sharing plan summary

Data sharing statement to be made available at a later date