Open-label, Multi-center, Phase I/II Study to Assess Safety, Disease Progression and Cellular Kinetics Following YTB323 Administration in Participants With Non-active Progressive Multiple Sclerosis (PMS)

Last Update: Jul 08, 2025
An Open-label, Multi-center, Phase I/II Study to Assess Safety, Disease Progression, and Cellular Kinetics Following YTB323 Administration in Participants With Non-active Progressive Multiple Sclerosis (PMS)
ClinicalTrials.gov Identifier:
NCT06675864
Novartis Reference Number:CYTB323r12101
See if you Pre-qualify
All compounds are either investigational or being studied for (a) new use(s). Efficacy and safety have not been established. There is no guarantee that they will become commercially available for the use(s) under investigation.

Study Description

This is an open-label, multi-center, non-confirmatory study to assess the safety, disease progression, and cellular kinetics following YTB323 administration to 28 participants with non-active Progressive Multiple Sclerosis (PMS). The study design utilizes an ascending single dose design consisting of 3 sentinel cohorts followed by an expansion cohort. All participants in this study will receive YTB323. Both the participant and the study doctor will know the participant is getting YTB323. Participants will be given one dose of YTB323. Different groups of participants may receive a higher dose of YTB323, if proven to be safe for every participant at the lower dose. Participants are in this study for 2 years and will be followed for an additional 13 years in a long-term follow up study. The main question this trial is designed to answer: Is YTB323 treatment safe for participants with progressive MS?

Condition
Progressive Multiple Sclerosis
Phase
Phase1, Phase2
Overall Status
Recruiting
Number of Participants
28
Start Date
Dec 12, 2024
Completion Date
Jun 13, 2030
Gender

All
Age(s)
18 Years - 60 Years (Adult)

Interventions

Biological

rapcabtagene autoleucel (YTB323)

CAR-T cell suspension for intravenous infusion

Eligibility Criteria

Key Inclusion Criteria:

1. Male or female participants 18 to 60 years (inclusive) at screening.
2. Signed informed consent must be obtained prior to participation in the study.
3. Able to communicate well with the investigator, to understand and comply with the requirements of the study including:

* Able to undergo lumbar puncture (LP), blood draws, tolerate brain MRI, and able to participate and tolerate all study procedures at study visits.
4. Diagnosis of SPMS or PPMS according to the 2017 McDonald diagnostic criteria (Thompson et al 2018) as confirmed at screening visit.
5. Disease duration less than 15 years.
6. Ambulatory Patients (EDSS 3 to 6.5 inclusive) at screening.
7. Evidence of recent (within 1 year) disease progression of ≥0.5 on the EDSS scale.
8. No relapse in the last year at screening.
9. No Gd-enhancing lesion on brain MRI at screening.

Key Exclusion Criteria:

1. Diagnosis of relapsing multiple sclerosis (RMS) or active PMS according to the 2017 revision of the McDonald diagnostic criteria (Thompson et al 2018) at screening.
2. History of, or current, clinically significant CNS disease except MS (e.g. stroke, traumatic brain or spinal injury, history or presence of myelopathy, history of seizures or epilepsy) or neurological disorders which may mimic MS at screening.
3. Evidence of clinically significant cardiovascular (such as but not limited to myocardial infarction, unstable ischemic heart disease, New York Heart Association Class III/IV left ventricular failure, arrhythmia and uncontrolled hypertension within 6 months prior to screening).
4. Participants with history of confirmed Progressive Multifocal Leukoencephalopathy (PML) or neurological symptoms consistent with PML prior to screening.
5. Clinically significant, active, opportunistic, chronic or recurrent infection (including positive for hepatitis B or hepatitis C) confirmed by clinical evidence, imaging, or positive laboratory tests one month prior to leukapheresis.
6. Have donated blood or experienced a loss of blood \> 400 mL within 3 months prior screening, or longer if required by local regulations.
7. Any prior stem cell therapy or organ transplantation or gene therapy.
8. Any contraindications to LP, including but not limited to:

* Known or suspected structural abnormality of the lumbar spine that, in the opinion of the Investigator, may interfere with the performance of the LP, or increase the risk of the procedure for the participant.
* Presence of risk for increased or uncontrolled bleeding (including but not limited to vascular abnormalities or neoplasms at or near the LP site, disorders of the coagulation cascade, platelet function, or platelet count).
* Participants on anticoagulants (e.g., warfarin) or antiplatelets \[except for low-dose aspirin (100 mg/day or lower) and low-dose nonsteroidal anti-inflammatory drugs such as ibuprofen (600 mg/day or lower) which are allowed\], are not eligible to participate.
9. Not willing or able to have MRI scans as per protocol e.g. due to claustrophobia, or absolute contraindications to MRI (e.g., metallic implants, metallic foreign bodies, pacemaker, defibrillator).
10. Pregnant or nursing (lactating) women.
11. Past surgical history of splenectomy.
12. Evidence of active or latent tuberculosis (TB) infection by QuantiFERON® TB-Gold assay (or equivalent) performed at Screening by central lab. In case of unclear or indeterminate test results, the Investigator should consult with an infectious disease expert to exclude the diagnosis of active or latent TB infection and document this in the source data. Participant should be excluded if they have any signs of active TB observed in available lung imaging (e.g., X-ray or HRCT).
13. Any psychiatric, pulmonary (including, history of or active severe respiratory disease, including Chronic Obstructive Pulmonary Disease, interstitial lung disease or pulmonary fibrosis), renal, hepatic, endocrine, metabolic (e.g. severe hypoproteinemia due to nephrotic syndrome), hematological disorders or gastrointestinal disease that, in the investigator's opinion, would compromise the safety of the participant, interfere with the interpretation of the study results or otherwise preclude participation or protocol adherence of the participant, prior to screening.
14. Grade 2 or higher thromboembolic event in the past 4 weeks prior to or during Screening or evidence of disorders of coagulation or platelet function including subjects that require chronic use of anticoagulation or antiplatelet drugs (please refer to the key exclusion criteria no. 8 for the exceptions).

Australia

Novartis Investigative Site

Recruiting

Darlinghurst,New South Wales,2010,Australia

Novartis Investigative Site

Recruiting

Melbourne,Victoria,3004,Australia

Canada

Novartis Investigative Site

Recruiting

Quebec,G1j 1z4,Canada

France

Novartis Investigative Site

Recruiting

Rennes,35000,France

Novartis Investigative Site

Recruiting

Montpellier,34090,France

Spain

Novartis Investigative Site

Recruiting

Madrid,28222,Spain

Switzerland

Novartis Investigative Site

Recruiting

Lausanne,1011,Switzerland

Novartis Investigative Site

Recruiting

Bern,3010,Switzerland

Novartis Investigative Site

Recruiting

Zuerich,8091,Switzerland

Worldwide Contacts

If the location of your choosing does not feature any contact detail, please reach out using the information below.

Novartis Pharmaceuticals

Phone: +41613241111
Email: novartis.email@novartis.com

Source URL: *https://prod1.novartis.com/clinicaltrials/study/nct06675864*

List of links present in page

1. https://clinicaltrials.gov/ct2/show/NCT06675864
2. #trial-eligibility
3. tel:+41613241111
4. mailto:novartis.email@novartis.com