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Effects of anti-IL33 (tozorakimab) upon airway inflammation, remodelling and response to exacerbation triggers in chronic obstructive pulmonary disease (COPD) (The MAB Trial)

Submission date
07/08/2025

Recruitment status
Recruiting

Registration date
10/12/2025

Overall study status
Ongoing

Last Edited
26/08/2026

Condition category
Respiratory

[X] Prospectively registered
[_] Protocol
[_] Statistical analysis plan
[_] Results
[_] Individual participant data
[X] Record updated in last year

Plain English summary of protocol

Background and study aims
COPD is characterised by chronic inflammation in the lungs which can leave you more likely to experience infections. The condition can be associated with a higher rate of morbidity and a reduced quality of life. For many years, the mainstay of COPD treatment has been inhaler medication that opens the airways. Despite this many people still suffer with exacerbations (worsening) of their COPD due to inflammation in the lungs. This can be triggered by many things, including infections. The mucous membranes in the lungs release proteins when irritated, including certain substances which lead to increased inflammation in the lungs.
The purpose of this study is to investigate the effects of a new type of medication in terms of what improvements it can achieve and how it improves inflammation and likelihood of getting exacerbations. We hope that treatment with Tozorakimab will reduce inflammation and airway damage in those with COPD. We are working with other research teams based in Europe and the United Kingdom.

Who can participate?
Overall, 80 patients with COPD will take part in the study at about 10 sites.

What does the study involve?
Of these 80 patients, half will be given Tozorakimab and half will be given a dummy drug, called a ‘placebo’. We will compare the results of those two groups.
In order to understand if the treatment works, we would like to collect information from participants including health questionnaires, exercise tests, and breathing tests, and blood, urine, nasal, and breath samples as well as collecting information from your clinical records. This study also involves two bronchoscopy examinations of the lungs where we will take samples. This will enable us to compare information between those who are receiving Tozorakimab and those who receive the placebo (dummy drug). Participation in the study takes place over 36 weeks and 15 visits.

What are the possible benefits and risks of participating?
Not provided

Where is the study run from?
University of Leicester (UK).

When is the study starting and how long is it expected to run for?
June 2026 to December 2027.

Who is funding the study?
AstraZeneca (UK).

Who is the main contact?
Dr Christopher Brightling, theMABtrial@leicester.ac.uk

Contact information

Type(s)
Scientific, Principal investigator

Contact name
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Additional identifiers

Clinical Trials Information System (CTIS)
2025-522359-24-00

Integrated Research Application System (IRAS)
1011840

Central Portfolio Management System (CPMS)
67199

Protocol serial number
1066

Study information

Scientific Title
Effects of anti-IL33 (tozorakimab) upon airway inflammation, remodelling and response to exacerbation triggers in chronic obstructive pulmonary disease (COPD) (The MAB Trial)

Acronym
MAB

Study objectives
Primary objective:
To evaluate the effect of Tozorakimab on:
1. Airway epithelial remodelling histology score
2. Granulocytic inflammation in the bronchial submucosa

Secondary objective:
To evaluate the effect of Tozorakimab on:
1. Thoracic CT
2. Patient-reported outcomes – CAAT, mMRC, SGRQ-C, symptom visual analogue scores (VAS)
3. Spirometry – FEV1, FVC, oscillometry
4. Biopsy – lymphocytes (CD3, CD4, CD8), epithelial integrity, epithelial remodelling markers, goblet cells, RBM thickening and airway smooth muscle area
5. Safety and tolerability

Ethics approval required
Ethics approval required

Ethics approval(s)
Approved 08/10/2025, Seasonal REC (2 Redman Place, Stratford, London, E20 1JQ, United Kingdom; +44 (0)207 104 8241; seasonal.rec@hrs.nhs.uk), ref: 25/LO/0628

Primary study design
Interventional

Allocation
Randomized controlled trial

Masking
Blinded (masking used)

Control
Placebo

Assignment
Parallel

Purpose
Treatment

Study type(s)
Efficacy, Safety

Health condition(s) or problem(s) studied
Chronic Obstructive Pulmonary Disease (COPD)

Interventions

This study is a randomised, double-blind, placebo-controlled trial. It includes a maximum enrolment period of 4 weeks, 24 weeks of treatment (6 doses of 300mg Tozorakimab or placebo SC every 4 weeks to week 20), and a 12-week follow-up period.

Intervention Type
Drug

Phase
Phase II

Drug/device/biological/vaccine name(s)
Tozorakimab

Primary outcome(s)
1. Improvement in the semi-quantitative epithelial remodelling histology score from baseline to week 24
2. Improvement in the granulocytic inflammation in the bronchial submucosa

Key secondary outcome(s)
1. Thoracic CT
2. Patient-reported outcomes – CAAT, mMRC, SGRQ-C, symptom visual analogue scores (VAS)
3. Spirometry – FEV1, FVC, oscillometry
4. Biopsy – lymphocytes (CD3, CD4, CD8), epithelial integrity (%), epithelial remodelling markers, goblet cells, RBM thickening and airway smooth muscle area
5. Safety and tolerability

Completion date
31/12/2027

Eligibility

Key inclusion criteria
1. Willing and able to consent to participate in the trial
2. Age ≥ 40 <85 years old
3. Male or female
4. Able to understand written and spoken English (UK participants) or country's official language (non-UK participants)
5. Clinically diagnosed chronic obstructive airway disease at least 1-year prior screening
6. FEV1/FVC<0.7 and FEV1 ≥ 30% predicted value (and ≥ 1.0L) at Visit 1
7. Current or ex-smokers with ≥ 10 pack years past smoking history (25-40% of participants will be current smokers)
a. Former smokers will be defined as participants who are currently not smoking and with smoking cessation ≥ 6 months before screening with an intention to quit permanently
b. Current smokers will be defined as participants who are currently smoking tobacco (at least one cigarette per day on average during the past 7 days) and are not presently participating in smoking cessation
c. Electronic cigarettes (e-cigarettes referring to devices that vaporise liquids [e.g., nicotine, THC]) and heated tobacco product use do not contribute to the pack-year count for eligibility. E-cigarette smoking/heated tobacco smoking status being irrelevant to categorisation /randomisation
8. On stable treatment for at least 3 months prior to screening with COPD inhaled maintenance

dual or triple therapy. During this period:
a. Individual component changes or switches between devices are allowed if the participant remains on the same class therapies in equivalent doses
b. Short-term changes in background treatment regimen during COPD exacerbation are acceptable.
c. Short-acting muscarinic antagonists taken at regular scheduled intervals (at a minimum frequency of 3 times daily) will be considered equivalent to LAMA
d. If the participant is being treated with oral COPD maintenance therapy (macrolides, roflumilast), these treatments must also be stable for at least 3 months before enrolment
9. History of ≥1 moderate to severe exacerbation event treated with systemic corticosteroid and /or antibiotic in the 12 months prior to screening.
10. CAAT ≥10 and cough and sputum domain ≥2 at Visit 1
11. Women of childbearing potential (WOCBP) and males must be willing to use a highly effective method of contraception

Participant type(s)
Patient

Healthy volunteers allowed
No

Age group
Mixed

Lower age limit
40 Years

Upper age limit
85 Years

Sex
All

Total final enrolment
0

Key exclusion criteria
1. Any unstable disorder, including, but not limited to, cardiovascular, gastrointestinal, hepatic, renal, neurological, musculoskeletal, infectious, endocrine, metabolic, haematological, psychiatric disorder, major physical and/or cognitive impairment that, in the opinion of the Investigator, could:
a. Affect the safety of the participant throughout the study
b. Influence the findings of the study or their interpretation
c. Impede the participant's ability to complete the entire duration of the study and/or comply with the study visit schedule and procedures
2. Significant concomitant respiratory diseases, such as cystic fibrosis, and pulmonary fibrosis.
3. Any significant abnormal laboratory results at screening, which, in the opinion of the investigator, may put the subject at risk if taking take part in the study
4. Current diagnosis of asthma
5. Long-term oxygen therapy or NIPPV for type 2 respiratory failure. Participants using continuous positive airway pressure for sleep apnoea syndrome are permitted in the study

6. Recent acute exacerbation event requiring oral corticosteroids or antibiotics (any dose for more than 3 days) or respiratory tract infection within 4 weeks prior to screening
7. Malignancy, current or within the past 5 years, except for adequately treated non-invasive basal cell and squamous cell carcinoma of the skin and cervical carcinoma-in-situ treated with apparent success more than one year prior to enrolment. Suspected malignancy or undefined neoplasms
8. History of any known primary immunodeficiency disorder excluding asymptomatic selective immunoglobulin A or IgG subclass deficiency
9. Subject taking antiretroviral medications, as determined by medical history
10. Hepatitis: Medical history of or treatment for hepatitis B or hepatitis C, except for cured hepatitis C.
a. Positive test for HBsAg
b. Positive test for anti-HBc: Participants who test positive for anti-HBc antibody but negative for HBsAg may be enrolled if their HBV DNA test result is negative
c. Positive test for anti-hepatitis C antibody: Participants who test positive for anti-hepatitis C antibody may be enrolled if their hepatitis C virus RNA test result is negative in the absence of cirrhosis

Date of first enrolment
23/06/2026

Date of final enrolment
31/03/2027

Locations

Countries of recruitment
United Kingdom

Denmark

Italy

Netherlands

Spain

Study participating centre
University of Hospitals Leicester NHS Trust
Leicester Frith Hospital, Groby Road
Leicester
England
LE3 9QF

Study participating centre
Imperial College Healthcare NHS Trust
The Bays

St Marys Hospital
South Wharf Road
London
England
W2 1BL

Study participating centre
Guy's and St Thomas' NHS Foundation Trust
St Thomas' Hospital
Westminster Bridge Road
London
England
SE1 7EH

Study participating centre
Medicines Evaluation Unit Limited
The Langley Building
Southmoor Road
Wythenshawe
Manchester
England
M23 9QZ

Study participating centre
University of Barcelona
Spain

Study participating centre
University Medical Centre Groningen
Netherlands

Study participating centre
Bispebjerg-Frederiksberg Hospital Denmark
Denmark

Study participating centre
Institute of Biomedical Research of the Balearic Islands Mallorca
Spain

Study participating centre
ASST Santi Paolo e Carlo Hospitals Milan
Italy

Sponsor information

Organisation
University of Leicester

ROR
https://ror.org/04h699437

Funder(s)

Funder type
Industry

Funder Name
AstraZeneca

Alternative Name(s)
AstraZeneca PLC, Pearl Therapeutics, AZ

Funding Body Type
Government organisation

Funding Body Subtype
For-profit companies (industry)

Location
United Kingdom

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary
Data sharing statement to be made available at a later date