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Evaluating the role of IL-17 as an orchestrator of peripheral-central cross talk in depressive symptoms

Submission date
02/04/2026

Recruitment status
Recruiting

Registration date
14/04/2026

Overall study status
Ongoing

Last Edited
07/05/2026

Condition category
Skin and Connective Tissue Diseases

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

Plain English summary of protocol

Background and study aims
People with psoriatic disease often experience inflammation in the body, and some also develop symptoms of depression. This study aims to understand whether a type of medicine that blocks a protein called IL17 can reduce inflammation in the brain and whether this affects depressive symptoms. The study will use advanced brain scans to measure chemicals linked to mood, such as glutamate, and will look at how different parts of the brain communicate with each other.

Who can participate?
Adults aged 18 years to less than 75 years who have psoriasis or psoriatic arthritis and who have already been selected by their usual clinical team to start an IL17blocking medicine (secukinumab, bimekizumab, or ixekizumab) may be able to take part. Participants must meet standard safety checks for starting biologic treatments and be able to have an MRI scan.

What does the study involve?
Participants will be randomly allocated to receive either the IL17blocking medicine straight away or a placebo for a short period. This waiting time is similar to current NHS waiting periods before starting biologic treatment. All participants will then receive the IL17blocking medicine as part of their normal care. The study will include brain scans such as MRI, MRS and EEG to measure brain chemicals and brain activity, along with questionnaires about mood and health.

What are the possible benefits and risks of participating?
Participants may not experience direct personal benefit, but the information gained may help improve understanding and future treatment of depression linked to inflammatory disease. Risks are expected to be low and similar to routine care, but may include discomfort during MRI scanning, possible side effects from the medicine, and the small chance that placebo may delay the start of active treatment for a short time. All medicines used later in the study are already routinely prescribed for psoriatic disease.

Where is the study run from?
The study is being run from the Imaging Centre of Excellence at the Queen Elizabeth University Hospital in Glasgow, Scotland.

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

Who is funding the study?
The study is funded by the Medical Research Council, a UK government organisation that supports medical research.

Who is the main contact?
The main scientific contact is Professor Jonathan Cavanagh at the University of Glasgow. A public contact is also available: Maxine Arnott, School of Immunology and Infection, University of Glasgow.

Contact information

Type(s)
Principal investigator, Scientific

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Additional identifiers

ClinicalTrials.gov (NCT)
NCT06786936

Integrated Research Application System (IRAS)
345892

Central Portfolio Management System (CPMS)
68029

NHS Sponsor Protocol Number
GN22MH376

Study information

Scientific Title
Impact of IL17 blockade on nucleus accumbens glutamate in psoriatic disease: a randomised placebo controlled waiting list study using 7T MRS

Acronym
ELATE

Study objectives
To determine:
1. The effects of IL17 antagonism on 7T magnetic resonance spectroscopy glutamate concentration in the NAcc
2. The effects of IL17 antagonism on the strength of the EEGinformed fMRI coupling between the thalamic and NAcc learning systems and its relationship with depressive symptoms
3. The relationship between glutamate concentration and depressive symptoms after IL17 antagonism
4. The ability of EEGinformed fMRI thalamicNAcc systems coupling to predict depressive symptoms after IL17 antagonism
5. The relationship between resting state fMRI functional connectivity between the thalamus and the NAcc and depressive symptoms
6. The ability of resting state fMRI functional connectivity between the thalamus and the NAcc to predict depressive symptoms after IL17 antagonism
7. Whether changes in depressive symptoms correlate to peripheral blood immune cell alterations, particularly cells that produce or respond to IL17

Ethics approval required
Ethics approval required

Ethics approval(s)
approved 02/06/2025, Yorkshire & The Humber - South Yorkshire Research Ethics Committee (NHSBT Newcastle Blood Donor Centre Holland Drive, Newcastle upon Tyne, NE2 4NQ, United Kingdom; no telephone number provided; southyorks.rec@hra.nhs.uk), ref: 25/YH/0039

Primary study design
Observational

Secondary study design
Other clinical trial to study a novel intervention or randomised clinical trial to compare interventions in clinical practice.

Study type(s)

Health condition(s) or problem(s) studied
Depressive symptoms in people with active psoriatic disease and how IL-17 inhibition affects inflammation in brain and immune processes.

Interventions
Randomised placebo-controlled waiting list experimental medicine study. Participants will be randomised 1:1 to either immediately receive (fast-tracked) IL-17 blockade (secukinumab/ bimekizumab/ Ixekizumab) as per normal dose loading regime or a placebo. The duration of placebo exposure is justified on the basis that it is consistent with current local routine screening and waiting times to start biologics from treatment decision.

Active treatment period is 6 weeks, with IL 17 inhibitors administered according to the participants local care prescription:
• Secukinumab 150mg or 300mg every week for 5 doses;
• Bimekizumab 160mg or 320mg every 4 weeks;
• Ixekizumab 160mgs for one dose then 80mgs 2 weekly or 4 weekly.
• Placebo (normal saline 0.9%) is administered on the same schedule to mirror the chosen biologic.

Participants undergo Baseline assessments (Week 0) and Follow-up assessments at Week 6 (Day 42). After 6 weeks, all participants transition back to local standard care, including initiation or continuation of IL-17 inhibitors.

Randomisation is performed centrally using a computer generated randomisation system (Interactive Voice Response System) managed by the Robertson Centre for Biostatistics using randomised permuted blocks of variable size. The randomisation schedule is prepared by the study statistician without involvement of the investigators.

Intervention Type
Other

Primary outcome(s)
1. Glutamate concentration in the NAcc measured using 7T MRS at Day 0 (Baseline) and Day 42 (Follow Up)

Key secondary outcome(s))
1. EEG-informed fMRI coupling between the thalamic and NAcc learning systems measured using EEG at Day 0 (Baseline) and Day 42 (Follow Up)

Completion date
31/10/2027

Eligibility

Key inclusion criteria
1. Adults aged 18 years to less than 75 years
2. Diagnosis of PsO or PsA made by a dermatologist or rheumatologist
3. Selected to start secukinumab, bimekizumab, or ixekizumab by their usual dermatology team for PsO or rheumatology team for PsA in line with the drug licence and eligible using NICE or SMC criteria
4. No contraindications to MRI, for example metal fragments or implantable devices not compatible with MRI; no additional xray imaging will be obtained and existing images may be used to check for possible contraindications
5. Satisfactory completion of standard prebiologic safety screening, including but not limited to exclusion of latent TB infection according to local protocol, chest xray, negative HIV screen, negative hepatitis screen antibody, negative hepatitis B surface antigen, and negative hepatitis B anticore antibody
6. Recent use of intramuscular or intraarticular steroid injections, but not within 4 weeks prior to baseline
7. Women of childbearing potential must be willing to use effective contraception for the study duration
8. Willing to participate and give informed consent

Healthy volunteers allowed
No

Age group
Mixed

Lower age limit
18 years

Upper age limit
74 years

Sex
All

Total final enrolment
0

Key exclusion criteria
1. Inability to provide written informed consent
2. Severe physical impairment (e.g. blindness, deafness, paraplegia)
3. Clinically important active infections e.g. active TB
4. History of inflammatory bowel disease
5. Pregnant or breast feeding
6. Severe claustrophobia precluding MRI
7. Contraindications to 7T MRI
8. Confounding neurological disease including MS, stroke, traumatic brain injury
9. Previous exposure to IL17A, IL17A/F, IL17R inhibitors or IL23 (p19/p40) inhibitors in the last 6 months

10. Hypersensitivity to any of the excipients in secukinumab, bimekizumab, or ixekizumab
11. Any clinical, psychological, social or geographical reason which, at the investigator's discretion, would make them unsuitable to take part in the study

Date of first enrolment
27/06/2025

Date of final enrolment
28/02/2027

Locations

Countries of recruitment
United Kingdom

Scotland

Study participating centre
Imaging Centre of Excellence (ICE) at the Queen Elizabeth University Hospital
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Langlands Drive
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Sponsor information

Organisation
NHS Greater Glasgow and Clyde

ROR
https://ror.org/05kdz4d87

Funder(s)

Funder type

Funder Name
Medical Research Council

Alternative Name(s)

Medical Research Council (United Kingdom), UK Medical Research Council, Medical Research Committee and Advisory Council, MRC

Funding Body Type
Government organisation

Funding Body Subtype
National government

Location
United Kingdom

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary
Not expected to be made available

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Protocol file	version 2.1	20/03/2026	02/04/2026	No	No