METEOROID

Clinical Trial for Treatment of Myelin Oligodendrocyte Glycoprotein Antibody-Associated Disease (MOGAD)

Please note: Satralizumab is not licensed for the treatment of MOGAD in any territory and is currently being investigated for MOGAD in controlled clinical trials

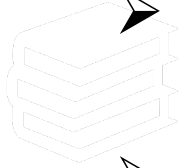
Agenda

01 What is Myelin Oligodendrocyte Glycoprotein Antibody-Associated Disease (MOGAD)?

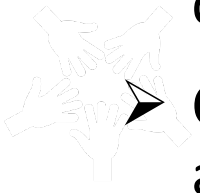
02 How satralizumab treatment could work for MOGAD

03 Overview of the study of satralizumab in adults and adolescents with MOGAD (METEOROID)

What is myelin oligodendrocyte glycoprotein antibody-associated disease (MOGAD)?



- MOGAD is a rare autoimmune disorder similar to multiple sclerosis (MS) and neuromyelitis optica spectrum disorders (NMOSD)
- In MOGAD, the immune system mistakenly attacks a protein called MOG present in the protective covering around nerve fibres, making it hard for the brain to communicate with the rest of the body

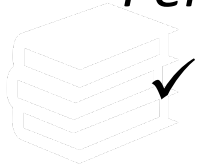


- Children and adults with MOGAD have attacks (known as 'relapses' after the first attack) that damage the nerves connecting the eyes to the brain (optic nerves), the spinal cord and/or the brain itself

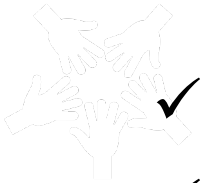
MOGAD is a condition that causes inflammation to the optic nerve(s), brain and spinal cord

How is MOGAD diagnosed?

Per 2023 International diagnostic criteria, the diagnosis is given based on:



- ✓ Symptoms caused by inflammation of the optic nerves, spinal cord and/or the brain
- ✓ Neurological examination confirming the damage of the optic nerves, spinal cord and/or the brain



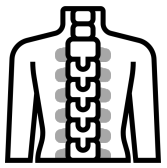
- ✓ A blood test for the presence of MOG antibodies causing the immune attack
- ✓ Exclusion of alternative diseases, including MS, which typically requires a brain MRI and a spinal tap (lumbar puncture)

Reindl M, Waters P. Nat Rev Neurol. 2019;15(2):89–102; Banwell B, et al. Lancet Neurol. 2023;S1474-4422(22)00431-8

What are the symptoms of MOGAD?

Symptoms caused by inflammation in the optic nerves (optic neuritis) include:

- Eye pain that worsens with eye movements
- Blurred vision/loss of vision
- Loss of color vision experienced as colors appearing washed out



Symptoms caused by inflammation in the spinal cord (transverse myelitis) may include:

- Weakness (paralysis)
- Stiffness in the arms or legs (spasticity)
- Numbness (loss of sensation), tingling, burning sensation, pain
- Loss of bowel or bladder control (manifesting as difficulties with emptying or uncontrolled leakage), erectile dysfunction

Symptoms caused by inflammation of the brain may include:

- Seizures
- Change in the level of consciousness, confusion, drowsiness or coma

Other symptoms:

- Fatigue
- Depression

People with MOGAD may have only one attack or multiple attacks (relapses) of the disease

What are the treatments for MOGAD?

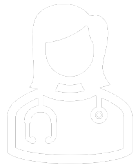
- There are no definitively proven therapies to prevent relapses in MOGAD
- There are no FDA-approved medicines to prevent relapses in MOGAD, so anything prescribed is done off-label
- People with MOGAD consider ongoing treatment with medicines that suppress the immune system (immunosuppressants)
- Current treatment approaches include:
  - Short term treatment of attacks/relapses: T*o speed up recovery and prevent any residual damage (disability)*
    - High-dose corticosteroids
    - IV immunoglobulin (IVIg)
    - Plasma exchange (PLEX)
  - Long term: *For future attack/relapse prevention*
    - Rituximab (RTX) (lower efficacy)
    - Long term steroids (not recommended)
    - IVIG/SCIG
    - Other immunosuppressants, including azathioprine and mycophenolate mofetil

Whittam DH, et al. J Neurol. 2020;267:3565–3577; Barreras P, et al. Neurology. 2022;99(22):e2504-e2516; Durozard P, et al. Ann Neurol. 2020;87:256–266

How satralizumab treatment could work for MOGAD

Satralizumab is an investigational medicine [1–4]

It is an experimental drug investigated as a potential future treatment for MOGAD in the METEOROID study



Satralizumab is a medicine given as a subcutaneous injection (administered under the skin).

Satralizumab is designed to block a small protein called interleukin-6 (IL-6).

IL-6 is thought to cause damage and disability associated with MOGAD.

Satralizumab is an investigational medicine (experimental drug), which means it has not yet been approved for the treatment of MOGAD.

There are no approved treatments for prevention of MOGAD relapses.

This study will help determine if using satralizumab to block IL-6 will prevent the damage and disability associated with attacks.

Two clinical trials showed that satralizumab is safe and works as a treatment for neuromyelitis optica spectrum disorder (NMOSD). Satralizumab has already been approved in over 80 countries for the treatment of NMOSD.

Satralizumab safety risks

The side effects associated with satralizumab use in MOGAD are being studied in the METEOROID study

The most common side effects related to satralizumab observed in people with NMOSD

Very common (occurs in more than 10% of patients)	**Common** (occurs in 1-10% of patients)
Headache	Muscle and joint stiffness
Injection reactions (itching, rash)	Rash or itching
Diarrhea	Difficulty sleeping or falling asleep
Joint pain	Migraine
Decreased white blood cell count	Swelling of hands, feet or lower leg
	Hay fever
	Decreased level of fibrinogen (a protein needed for blood clotting)

Traboulsee A, et al. *Lancet Neurol* 2020;19:402–412; Yamamura T, et al. *N Engl J Med* 2019;381:2114–2124

Overview of the study of satralizumab in adults and adolescents with MOGAD (METEOROID)

Trial Summary

- In this clinical trial, participants will receive either satralizumab with or without background therapy, or placebo with or without background therapy. *Background therapy is the treatment participants have been taking regularly to prevent MOGAD attacks (relapses).*
- This is a double-blind study. *Double-blind means that neither the patient nor the study doctor can choose or know which group the patient is in.*
- All participants will be randomly assigned (like flipping a coin) to either receive satralizumab (the investigational medicine) or placebo (looks like the investigational medicine but is not a real medicine) alone or in addition to their current MOGAD medication

The main goal of the study is to compare the effects, good or bad, of **satralizumab** and placebo with or without background therapy in patients with MOGAD

METEOROID study features

ClinicalTrials.gov ID NCT05271409

This clinical trial is split into two parts:

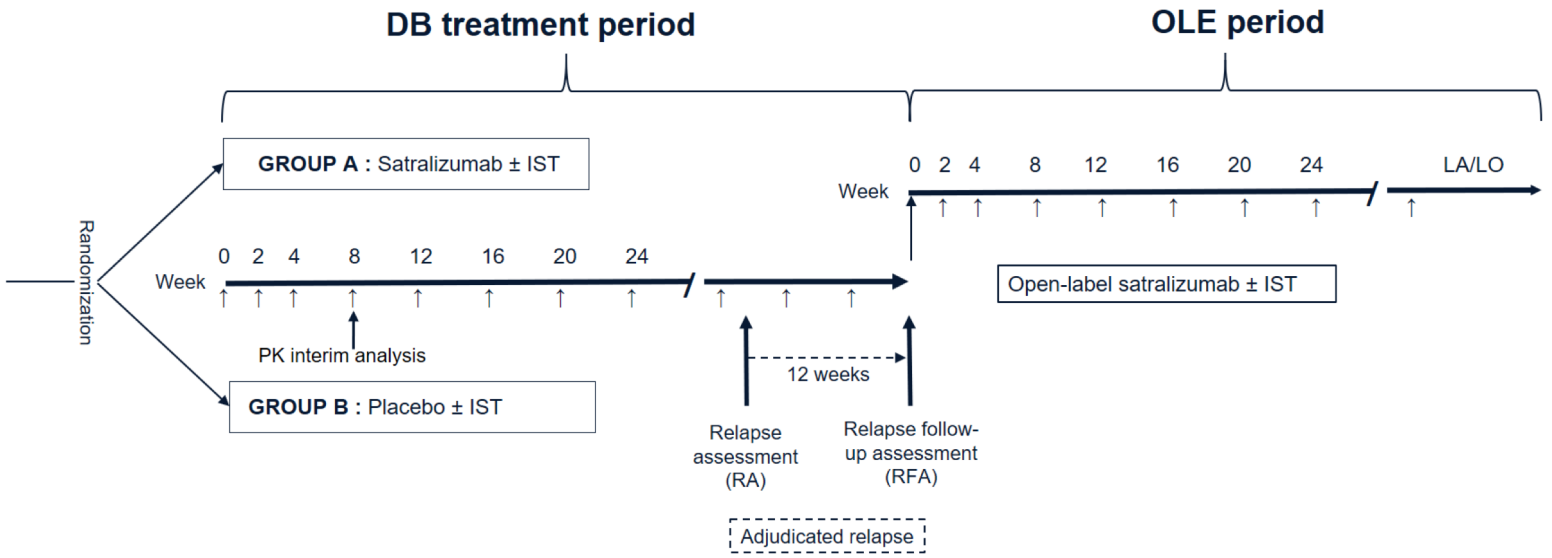
In Part 1 (double-blind period) everyone who joins this clinical trial will be split into two groups randomly and given either:

- **Satralizumab**

  OR

- **Placebo.** Placebo is a medicine with no active ingredients, which is used to show that the doctor or the patient did not sway the results of the clinical trial.

Part 2 (open-label period). In Part 2 of the clinical trial, all participants will be given satralizumab for up to two years.



The trial started in 2022 and is expected to read out in 2026

Key patient eligibility criteria

- Adolescents and adults with MOGAD (at least 12 years old)
- At least 1 MOGAD relapse in the 12 months before entering the study

  OR At least 2 attacks (may include the first attack) in the 24 months before entering the study
- Blood test positive for MOG antibody

  Blood test negative for AQP4 antibody
- Exclusion of alternative diseases, including MS
- Body weight at least 20 kg
- Either no or ongoing chronic immunosuppressant treatment for MOGAD at the time of screening

MS: multiple sclerosis

Assessments in the METEOROID study

Neurological examination, so-called EDSS

Eye and vision (ophthalmological examination), including visual acuity testing

Questionnaires on the quality of life and pain

Memory (cognitive) testing in adolescents

MRI of the brain and the spinal cord

Complete or brief physical examination

Vital signs and body weight

Single 12-lead ECG

Blood draws and urine collection

Summary

MOGAD

- An autoimmune disease in which the immune system is attacking the MOG protein, which is present in the brain, optic nerves, and spinal cord

Satralizumab

- An antibody drug that blocks the IL-6 receptor
- Long-term safety of satralizumab in NMOSD has been well established
- More than 2,000 patients with NMOSD worldwide have been treated with satralizumab
- Satralizumab is an investigational medicine, which means health authorities have not approved satralizumab for the treatment of MOGAD

The METEOROID study

- A study to evaluate the efficacy and safety of satralizumab compared with placebo alone or in addition to baseline/background immunosuppressant treatment in adolescents and adults with MOGAD