

# Registro español de alteraciones hematoogicas durante el tratamiento con siponimod. (SILITOX Study)

**First published:** 17/01/2022

**Last updated:** 15/07/2024

Study

Finalised

## Administrative details

### EU PAS number

EUPAS45187

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### Study ID

45188

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### DARWIN EU® study

No

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### Study countries

Spain

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### Study description

Siponimod blocks the action of cell receptors called 'sphingosine-1-phosphate receptors', which are involved in the movement of lymphocytes, thereby preventing the movement of lymphocytes from the lymph nodes to the brain and spinal cord. This redistribution of lymphocytes to secondary lymphoid organs produces a dose-dependent reduction in the number of peripheral lymphocytes. In the EXPAND study, grade 4 lymphopenia was observed in only 1% of patients. Newly marketed drugs require more information about aspects of efficacy or safety that may arise during their use in clinical practice, outside the controlled environment of the clinical trial. Siponimod is subject to additional monitoring, which will expedite the discovery of new information about its safety. In this context, a retrospective observational study is proposed to evaluate the real incidence of lymphopenia and other hematological alterations during, at least, the first three months of treatment with siponimod in real-life patients. A secondary objective will be to analyze the baseline characteristics that potentially predispose to lymphopenia, either by modifying the pharmacokinetic properties (age, sex, CYP2C9 genotype, weight, dosage, or duration of treatment) or the pharmacodynamics (previous therapies received and concomitant therapies) of the drug. Finally, it will be analyzed whether the appearance of lymphopenia and/or its intensity predispose to adverse events of an infectious nature.

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## **Study status**

Finalised

## **Research institutions and networks**

### **Institutions**

## Clinical Pharmacology Service, Puerta de Hierro-Majadahonda University Hospital (HUPHM)

Spain

**First published:** 26/12/2012

**Last updated:** 20/08/2024

**Institution**

Educational Institution

Hospital/Clinic/Other health care facility

## Clinical Pharmacology Service, Puerta de Hierro-Majadahonda University Hospital (HUPHM)

Spain

**First published:** 26/12/2012

**Last updated:** 20/08/2024

**Institution**

Educational Institution

Hospital/Clinic/Other health care facility

## Clinical Pharmacology Department, Hospital La Paz, School of Medicine

Spain

**First published:** 24/10/2022

**Last updated:** 19/12/2025

**Institution**

**Educational Institution**

**Hospital/Clinic/Other health care facility**

**ENCePP partner**

Multiple centres: 15 centres are involved in the study. (Hospital Universitario San Carlos Madrid, Hospital Universitario Gomez Ulla Madrid, Hospital Universitario Ramon y Cajal Madrid, Hospital Vall Hebron Barcelona, Hospital del Mar/Hospital Germans Trias i Pujol Barcelona, Hospital Universitario de Bellvitge Barcelona, Hospital Universitario General de Valencia Valencia, Hospital Clínico Universitario de Valladolid Valladolid, Hospital Universitario Virgen del Rocio Sevilla, Hospital Universitario Virgen de la Victoria, Hospital Regional de Málaga Malaga)

## Contact details

### **Study institution contact**

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**Study contact**

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**Primary lead investigator**

Belen Ruiz-Antoran

**Primary lead investigator**

## Study timelines

**Date when funding contract was signed**

Planned: 10/06/2022

Actual: 13/02/2023

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**Study start date**

Planned: 01/09/2022

Actual: 14/02/2023

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**Data analysis start date**

Planned: 01/06/2022

Actual: 14/02/2023

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**Date of interim report, if expected**

Planned: 01/02/2023

Actual: 14/02/2023

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**Date of final study report**

Planned: 01/03/2023

Actual: 14/02/2023

## Sources of funding

- Other

## More details on funding

The study is not funded

## Study protocol

[PROTOCOLO ESTUDIO SIPONIMOD V1 1012021.pdf](#) (370.85 KB)

## Regulatory

**Was the study required by a regulatory body?**

No

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**Is the study required by a Risk Management Plan (RMP)?**

Not applicable

## Methodological aspects

### Study type

### Study type list

**Study topic:**

Disease /health condition

Human medicinal product

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**Study type:**

Non-interventional study

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**Scope of the study:**

Assessment of risk minimisation measure implementation or effectiveness

**Data collection methods:**

Secondary use of data

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**Main study objective:**

To assess the incidence of haematological abnormalities, particularly lymphopenia related to siponimod treatment in patients with secondary progressive multiple sclerosis in the context of clinical practice.

## Study Design

**Non-interventional study design**

Cohort

Other

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**Non-interventional study design, other**

Retrospective, multicenter, observational study

## Study drug and medical condition

**Medicinal product name**

MAYZENT

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**Medical condition to be studied**

Multiple sclerosis

## Population studied

### **Short description of the study population**

Adult patients with multiple sclerosis initiated treatment with Siponimod.

Inclusion criteria:

- Adult patients with active secondary progressive multiple sclerosis who have started treatment with Siponimod.
  - At least three months of follow-up from the start of treatment.
  - At least one analytical determination after the start of treatment with Siponimod.`
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### **Age groups**

- Adults (18 to < 46 years)
  - Adults (46 to < 65 years)
  - Adults (65 to < 75 years)
  - Adults (75 to < 85 years)
  - Adults (85 years and over)
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### **Special population of interest**

Other

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### **Special population of interest, other**

Patients with multiple sclerosis

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### **Estimated number of subjects**

150

## Study design details

## Outcomes

Analytical data available in the clinical history: Leukocytes, Lymphocytes, ALT, AST, GGT, Alkaline Phosphatase (ALP) and Total Bilirubin. All serious adverse reactions (SAEs) related to the study drugs will be collected and recorded by the physicians responsible for, - Determine the clinical significance of lymphopenia produced by siponmod - Identify possible demographic, clinical or therapeutic factors related to the development of lymphopenia in the context of the use of siponimod. - Describe the safety of siponimod in the context of clinical practice

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## Data analysis plan

A descriptive analysis will be carried out for all the variables of the study, with the appropriate analyzes depending on the nature of each of the variables. Logistic regression models will be used to identify predictors of lymphopenia and serious adverse events. The adjusted OR will be estimated for comorbidities and other treatments that the patient had taken. A multivariate logistic regression analysis by stages will be used to identify any independent baseline factors that predicted the absence of response or the development of adverse events.

## Data management

### ENCePP Seal

The use of the ENCePP Seal has been discontinued since February 2025. The ENCePP Seal fields are retained in the display mode for transparency but are no longer maintained.

### Data sources

## **Data sources (types)**

Electronic healthcare records (EHR)

## Use of a Common Data Model (CDM)

### **CDM mapping**

No

## Data quality specifications

### **Check conformance**

Unknown

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### **Check completeness**

Unknown

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### **Check stability**

Unknown

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### **Check logical consistency**

Unknown

## Data characterisation

### **Data characterisation conducted**

No