

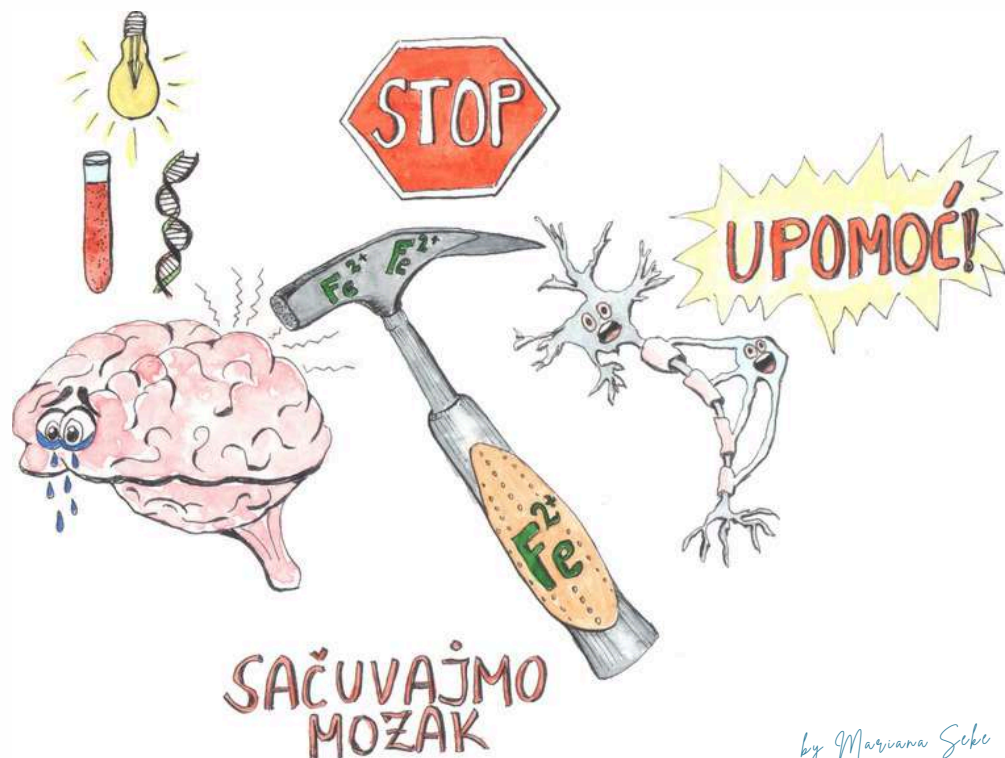
# FerroReg



**Identification and functional characterization of extracellular and intracellular genetic regulators of ferroptosis related processes in multiple sclerosis**

## The objective of **FerroReg** project

is to comprehend the time (different phases/phenotypes of disease) and space (blood/brain and cells/exosome proposed molecular actions) dependent regulatory background of ferroptosis in MS, as an inflammatory, neurodegenerative disease with highly limited therapeutic options.



by Marijana Sebe

# FERROREG CONCEPT

## Why MS?

- a chronic inflammatory and neurodegenerative disease
- affects young adults (20–40 years old)
- no cure, just disease management therapies
- more than 9000 people with MS lives in Serbia

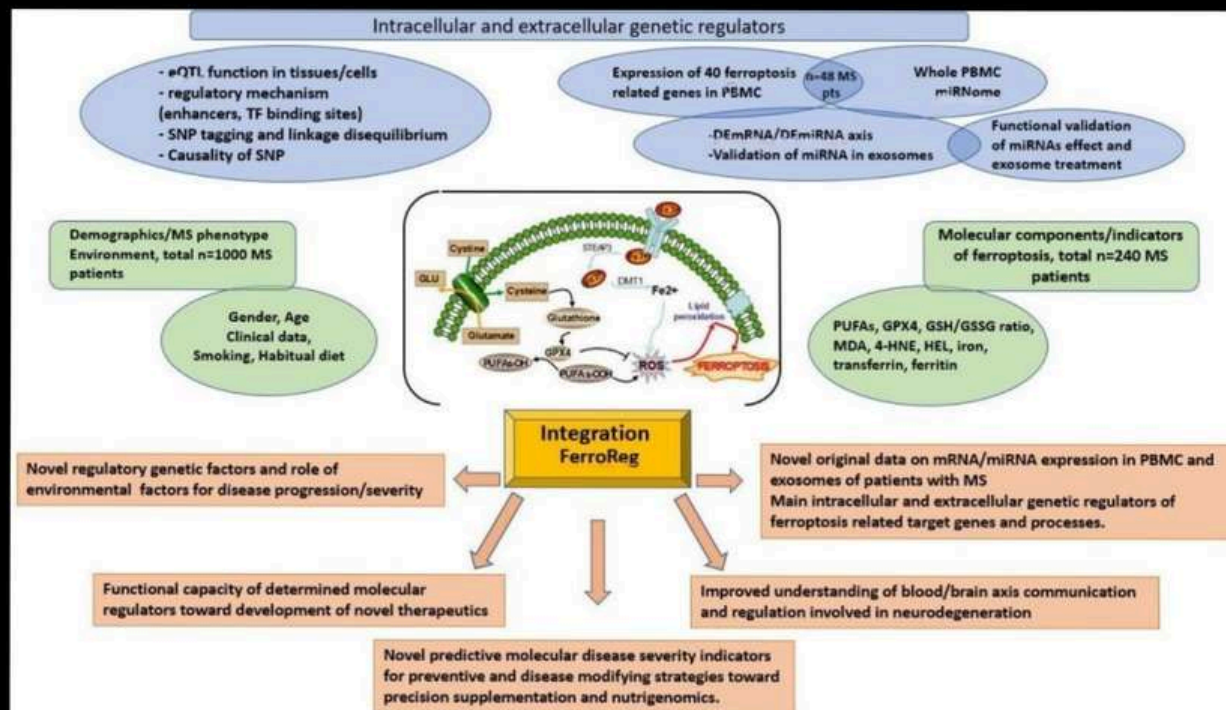
## Why ferroptosis?

- an iron-dependent type of cell death
- recently recognized as driver for neurodegeneration

for more information about FerroReg research project visit

[www.ferroreg.vin.bg.ac.rs](http://www.ferroreg.vin.bg.ac.rs)

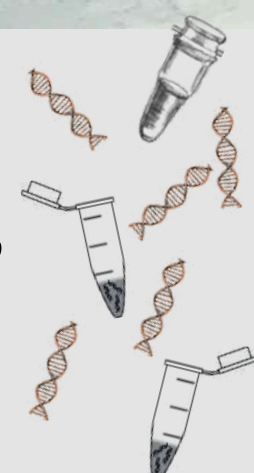
[FerroReg Project](#)



# FERROREG SAMPLES



What we extracted from blood samples?



- **DNA**
- total **RNA** → mRNA and miRNA
- plasma → **EXOSOMES** → miRNA
- **PLASMA** → MDA, 4-HNE, GPX4 and Glutathione
- serum → **TRACE ELEMENTS**  
Cr Mn Co Cu Zn Se
- **SERUM** → HEL, Iron, Transferrin, and Ferritin
- erythrocytes → **FATTY ACIDS**

# FERROREG TEAM

12 team members

3 years

Start 21.1.2022.  
Finish 21.1.2025.

3 participating research organizations



4 oral presentations

11 poster presentations

5 research article publications

1 workshop



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# FERROREG ACKNOWLEDGEMENTS

Thank You  
**250**

new MS participants who donated blood samples to FerroReg research project

**1261** citizens who completed the first FerroReg public survey – Science for Citizens: Genes and Multiple Sclerosis

## FERROREG PARTICIPATING RESEARCH ORGANIZATIONS



„VINČA” Institute of Nuclear Sciences –  
National Institute of the Republic of  
Serbia, University of Belgrade  
Laboratory for radiobiology and molecular genetics



The Medical Faculty of the Military  
Medical Academy



Institute for Medical Research, National  
Institute of the Republic of Serbia,  
University of Belgrade

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