

OUR AMBITION

Our EU consortium has an ambition to unravel the mysteries of the FH-protein family's contributions to diseases¹. These efforts are leading to new technology and improved methods to investigate FH-related proteins. Tools developed and validated within the project will become available for research use only (RUO).

¹ Banerjee, Prati, Bert Veuskens, Elena Goicoechea de Jorge, Mihály Józsi, Antje J. Baeumner, Mark-Steven Steiner, Richard B. Pouw, et al. 2022. "Evaluating the Clinical Utility of Measuring Levels of Factor H and the Related Proteins." *Molecular Immunology* 151 (November): 166–82.

FIRST TOOLS

Mouse monoclonal antibodies to:

- Human FHR-2
- Human FHR-3
- Human FHR-4
- Human FHR-5

These antibodies are developed by Sanquin Blood Supply Foundation, available by various SciFiMed partners and commercially available via Hycult Biotech.

FIND OUT MORE



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PARTICIPATING PARTNERS:



PRE-RELEASE

Assays under development:

- Human FHR-2 ELISA
- Human FHR-3 ELISA
- Human FHR-4 ELISA
- Human FHR-5 ELISA

For a limited period Hycult Biotech is able to offer early access to prototype ELISA kits. Inquire for terms and conditions to obtain these assays developed within SciFiMed project.

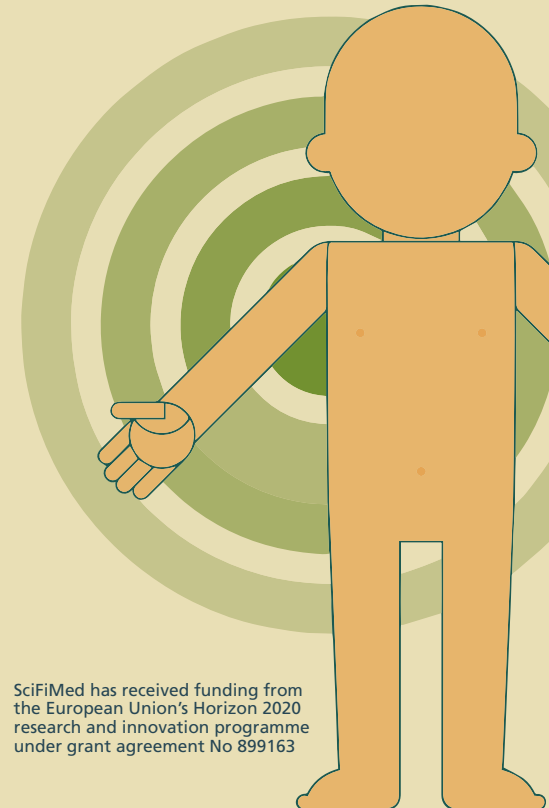
SciFiMED UPDATES

Presented at ICW 2023:

- Factor H-related dimer equilibrium and kinetics revealed through novel specific ELISAs *Veuskens BMC, Brouwer MC, Geissler J, van Leeuwen K, Kuijpers TW, Pouw RB; on behalf of the SciFiMed Consortium*
- Factor H-related proteins bind to extracellular matrix components and affect complement activation. *Papp A, Bencze D, Uzonyi B, Márquez-Tirado B, Goicoechea de Jorge E, Józsi M; on behalf of the SciFiMed Consortium*
- Interaction of factor H and factor H-related proteins with S and N proteins of SARS-CoV-2 *Barbai VH, Papp A, Bencze D, Uzonyi B, Józsi M; on behalf of the SciFiMed Consortium*
- A novel CFHR3-1 hybrid protein provides insight into the pathogenic mechanisms leading to C3 glomerulopathy *Márques-Tirado B, Martín Merinero HM, Lucientes-Continente L, Jiménez Villegas L, Rodríguez de Córdoba S, Goicoechea de Jorge, E. Complutense University of Madrid and CSIC Madrid*



SCREENING OF INFLAMMATION TO ENABLE PERSONALIZED MEDICINE



SciFiMed has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 899163



WHY SciFiMed

The Factor H (FH)-protein family is a group of seven proteins that belong to a specific part of the immune system, called the complement system. Problems with the FH-protein family have been linked to infections, but also to kidney and eye diseases, affecting millions of people.

The exact function of the FH-protein family is unknown and therefore, many questions remain unanswered, such as how they contribute to diseases.



WHAT WE DO

Our EU consortium will unravel the mysteries of the FH-protein family's contributions to diseases.

Using transdisciplinary fundamental science-to-technology transfer we will develop a new smart device that will allow for analysing the levels and activity of FH-protein family members in patients' samples at the bedside.

This high-impact project will propel immunological research in Europe, enable product development of bioanalytical companies, modernize the EU diagnostic market and provide new perspectives for patient treatment paving the way for drug development.

For updates on SciFiMed project see our website: <https://www.scifimed.eu/> or follow our socials. Any requests for specific project information or technologies in progress, fill out this form: <https://www.scifimed.eu/contact>.

WHO WE ARE

We are eight partners from four countries and eight universities and companies.

SciFiMed supports young scientists, female coordinator and a balanced gender ratio.

UNMET NEEDS

<p>DISCREPANCIES IN QUANTIFICATION</p> <p>Reported plasma concentrations of the FH family members vary widely among the different studies</p>	<p>CONTROVERSIES IN FUNCTIONAL ROLES</p> <p>FHRs were suggested to be complement regulators - recent studies have suggested that FHRs act as deregulators.</p>
<p>LACK OF VALIDATED TOOLS</p> <p>Limited availability of specific antibodies that do not cross-react</p>	<p>LACK OF ANIMAL MODELS</p> <p>Mouse FH-related (FHRs) homologues need to be functional investigated</p>

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