



PRESS RELEASE

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**DocTIS unveils major scientific outcomes for
immune-mediated inflammatory diseases**



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DocTIS unveils major scientific outcomes for immune-mediated inflammatory diseases

- **The EU-funded research project concludes with 22 scientific publications, a wealth of molecular datasets and analytical tools for the research community, while its ongoing clinical trial continues to show promising results.**

The European research project DocTIS (Decision on Optimal Combinatorial Therapies in Immune-Mediated Diseases using Systems Approaches) has concluded on 30 June 2026, marking another important milestone in the search for more effective treatments for immune-mediated inflammatory diseases (IMiDs). While the project has formally come to an end, the clinical trial initiated within DocTIS remains ongoing and is expected to deliver its final results in August 2026.

Funded by the European Union under the Horizon 2020 programme, DocTIS was launched to address one of the major challenges in the management of IMiDs: many patients fail to achieve adequate disease control despite the availability of increasingly sophisticated biological therapies. Although these treatments have transformed patient care over the last two decades, a substantial proportion of patients either do not respond sufficiently or lose response over time.

To address this challenge, the project brought together clinical experts, molecular biologists, bioinformaticians and systems medicine researchers with the objective of identifying combinations of existing therapies capable of producing better outcomes than current treatment approaches.

A new therapeutic strategy reaches clinical evaluation

One of the most significant achievements of the project has been the successful translation of its scientific discoveries into clinical evaluation. Through the integration of molecular profiling, computational modelling and preclinical validation, DocTIS identified a promising therapeutic strategy based on combining two established biological therapies already used in clinical practice: anti-TNF therapies and anti-IL6 receptor therapies.

Both therapies reduce the excessive immune response that drives inflammation and tissue damage in immune-mediated inflammatory diseases. Although each therapy can be effective on its own, many patients continue to experience symptoms or fail to achieve long-term disease control. The DocTIS approach explores whether combining both treatments can provide a more effective and sustained reduction of inflammation than either therapy alone.

This strategy is currently being evaluated through an international clinical trial involving patients with rheumatoid arthritis and psoriatic arthritis in Spain and the United Kingdom. The study remains ongoing and final results are expected in August 2026. Preliminary observations obtained so far support the scientific rationale behind the therapeutic approach and suggest that combinatorial therapies may offer important benefits for selected patient populations.



From patient samples to precision medicine

The clinical trial represents the culmination of six and a half years of research carried out by the consortium. Using high-quality biological samples from the IMID-Biobank (VHIR) and clinical data from patients affected by six common immune-mediated inflammatory diseases, namely rheumatoid arthritis, psoriatic arthritis, psoriasis, Crohn's disease, ulcerative colitis and systemic lupus erythematosus, researchers generated an unprecedented collection of molecular information aimed at understanding why patients respond differently to the same treatments.

By combining advanced technologies, including bulk and single-cell transcriptomics, with systems biology approaches capable of analysing complex biological networks, the project identified disease mechanisms shared across different conditions, characterised treatment-response patterns and predicted drug combinations with the highest probability of success.

In parallel, extensive preclinical validation studies were conducted in animal models of arthritis, inflammatory bowel disease, lupus and psoriasis, allowing researchers to evaluate the efficacy and safety of candidate therapeutic combinations before advancing them towards clinical testing.

A strong scientific legacy

The scientific output generated by the project has been substantial. To date, DocTIS has produced 22 peer-reviewed scientific publications together with 10 additional scientific outputs, including conference papers, published abstracts, doctoral theses and other scholarly contributions. Collectively, these outputs have accumulated more than 246,000 accesses, reflecting the strong international interest generated by the project's findings.

Several results have been published in leading scientific journals, including Nature Medicine, Genome Medicine, Genome Biology, Nature Communications and Cell Reports Medicine, contributing new knowledge on disease mechanisms, treatment response and precision medicine approaches in immune-mediated inflammatory diseases.

Beyond scientific publications, DocTIS leaves behind a valuable collection of research resources designed to support future studies in the field. The consortium has generated one of the most comprehensive molecular and computational collections developed for immune-mediated inflammatory diseases, encompassing transcriptomic datasets, clinical metadata and analytical workflows.

Several datasets and code repositories are already publicly available, while additional resources will be released following publication of the associated scientific manuscripts. These resources include harmonised single-cell transcriptomic datasets across multiple diseases, treatment-response datasets and computational tools designed to facilitate transparency, reproducibility and future reuse by the scientific community. Full details of the available resources can be found at <https://doctis.eu/results/>

Throughout the project, DocTIS researchers actively disseminated their findings through major international scientific events, including ACR Convergence, the EULAR Congress and the Innovations in Single Cell Omics Conference (ISCO), among many other leading conferences in the fields of rheumatology, immunology and translational medicine. Together, these dissemination activities helped bring the project's findings to an audience of more than 38,000 people worldwide.



"The most important objective of DoctIS has always been to improve the lives of patients affected by immune-mediated inflammatory diseases. While the clinical trial is still ongoing, the results obtained so far are promising and reinforce our belief that more personalised and effective treatment strategies are possible. At the same time, the project has generated an extraordinary scientific resource that will help researchers continue advancing the field long after the project officially concludes", said Doctor Sara Marsal, head of the Rheumatology Service at the Vall d'Hebron University Hospital, principal researcher at the Vall d'Hebron Research Institute (VHIR) and coordinator of the DoctIS project.

"I would also like to express my sincere gratitude to our Scientific Advisory Board for their invaluable expertise and guidance throughout the project, especially Peter Schäfer, Roderic Guigó, John Isaacs and Sandra Xiqués, whose experience of living with rheumatoid arthritis ensured that the voice of people living with immune-mediated inflammatory diseases remained at the heart of DoctIS. My sincere thanks also go to Pere Puigdomènech for his ethical guidance, to Francesc Subirada for his contributions to the Exploitation Board, and to every member of the DoctIS consortium for their dedication and commitment over the past six and a half years. This has truly been a collective achievement", added Doctor Sara Marsal.

An international effort against immune-mediated inflammatory diseases

Under the coordination of Doctor Sara Marsal (Vall d'Hebron Research Institute, VHIR), DoctIS brought together multidisciplinary research teams led by Ernest Choy (Cardiff University), Giampiero Girolomoni (University of Verona), Britta Siegmund (Charité – Universitätsmedizin Berlin), Pere Santamaria (Institut d'Investigacions Biomèdiques August Pi i Sunyer, IDIBAPS), Holger Heyn (National Centre for Genomic Analysis, CNAG), Manuel Lopez-Figueroa (IMIDomics Inc.) and Richard M. Myers (HudsonAlpha Institute for Biotechnology). Zabala Innovation also contributed throughout the initiative, playing an essential cross-cutting role in project management and liaison with the European Commission. The collaboration also included contributions by Linköping University and Karolinska Institutet during specific phases of the project. Together, these organisations formed an international partnership bringing together expertise from Spain, the United Kingdom, Italy, Germany, Sweden and the United States.

While the clinical trial continues towards its final analysis, DoctIS already leaves behind a substantial scientific legacy comprising publications, datasets, analytical tools and new methodologies that will continue supporting research into immune-mediated inflammatory diseases and accelerating the development of more personalised treatments for patients.

More information on the doctis.eu website.





The DoctIS consortium during a project meeting in 2025



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