



Endogenous retroviruses make a stop in Zaragoza

Endogenous retroviruses, very ancient viruses that integrated into human genome, make a stop this month in Spain. They have been intensively studied by researchers from 5 different European countries, within a HERVCOV project, funded by EU Commission. This project is focused on the viral HERV-W-ENV protein, a molecule found to be induced during SARS-CoV-2 infection and present at high levels in the blood of patients with severe COVID-19 and has been associated to “long COVID” disorders.

Last year more than 40 researchers gathered in Rome for the first annual meeting. This year it's time to visit another of the project partners' cities and the 2nd HERVCOV project Annual Meeting will be held in Zaragoza, headquarters of the Instituto Aragonés de Ciencias de la Salud (IACS) and IIS Aragón.

The Consortium Meeting 2024

Two days of meetings, intense debates and networking will be held on 20 and 21 May in Zaragoza. Most of the researchers involved in the HERVCOV project will gather at the Centro de Investigación Biomédica Aragón (CIBA) of the Instituto Aragonés de Ciencias de la Salud, where the various representatives of the work packages will present the progress of the last year.

The 2nd day of the meeting will be characterized by an outreach event for general public where families, youngsters, students and citizens can have: a “virtual” walk in the HERVCOV laboratories by using virtual reality, play a challenging quiz with prizes discovering endogenous retroviruses or playing “Biology challenge”, an outreach game based on DOBBLE created by Bioscienza Responsabile, the Italian association for science communication composed by University of Rome “Tor Vergata” researchers and partner of Frascati Scienza network.

The objectives of the project

The overall objective of HERVCOV project is to analyze the role of these HERVs in the immunopathogenesis of COVID-19 and to identify and evaluate the set of biomarkers which will be important for the diagnosis, prognosis and follow-up of COVID-19 patients and their prioritization for targeted therapy.



Funded by
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One of the objectives of the project is focused on the analysis of the cellular and molecular mechanism of SARS-CoV-2 induced activation of human endogenous retrovirus (HERVs). The first year of the research has demonstrated that that in vitro exposure to SARS-CoV-2 activates the expression of the HERV-W proinflammatory envelope protein.

The study within the HERVCOV project aims to determine the transcriptomic biomarkers to discriminate bioclinical profiles associated to COVID-19 for individualized medicine. It is supposed to generate high-quality high-throughput sequencing datasets in well-defined biological samples and patients, to be able to define the HERV transcriptional profile of COVID-19 and the long COVID patients.

Last but not least, the researchers would like to define the HERVs associated biomarker panel for patient stratification, diagnostic guidelines and prognosis of COVID-19. Clinical and biochemical markers have been analyzed to define a panel of markers that discriminates between Long Covid patients and healthy controls.

The Partners

HERVCOV is the name of the project funded by the European Commission with a grant of almost 7 million euros that involves research centers, companies and associations from Croatia, France, Greece, Italy and Spain. HERVCOV, “SARS-CoV-2-induced activation of pathogenic endogenous retrovirus envelope HERV-W: towards personalized treatment of COVID-19 patients” is funded under the HORIZON-HLTH-2021-DISEASE call (Personalised medicine and infectious disease: understanding the individual host response to viruses) of the European Commission under the Horizon Europe Framework Programme and it involves the following partners: Institut National de la Santé et de la Recherche Médicale (France), Ethniko Kai Kapodistriako Panepistimio Athinon (Greece), Rome Tor Vergata University (Italy), Instituto Aragonés de Ciencias de la Salud (Spain), Fundación Agencia Aragonesa para la Investigación y el Desarrollo (Spain), Geneuro Innovation SAS (France), Inserm Transfert (France), Klinicki Bolnicki Centar Rijeka (Croatia) and Frascati Scienza (Italy).

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