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EPIVINIF

Epigenetic regulation of host factors in viral infections

ACTION: Research & Innovation Action (RIA)

CALL: HORIZON-HLTH-2021-DISEASE-04

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Deliverable D7.15: Project Website

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Deliverable leading partner	IRSICAIXA	Author	IRSICAIXA
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1 INTRODUCTION / EXECUTIVE SUMMARY

This document is intended to describe Deliverable 7.15 as a fundamental part of WP7 within EPIVINF project. The website is understood as the main source of updated and accurate information to, on the one hand, draw the public's attention, thus creating awareness and, on the other hand, to serve as a platform to inform about the steps taken forward within the framework of the project.

From the variety of dissemination and communication materials aimed at the different target groups, the website allows the Consortium to deliver information on the project progress and make developments available to the public in an easy-to-reach and agile manner.

The website creation started at the beginning of the project, and it has been active and publicly accessible from month 10 of the project's lifespan.

The EPIVINF project website is:

<https://www.epivinf.eu/>

To put it in a nutshell, the website will be one of the main tools of impact and dissemination for EPIVINF.

This document provides information about the website status on June 2023. Successive updates and changes will be informed.

2 STRUCTURE AND LAYOUT OF THE WEBSITE

EPIVINF website can be reached through the following address: <https://www.epivinf.eu/>

The project coordinator IRSICAIXA has been responsible for the design, implementation, hosting, functionalities and the correct run of the site. The website will remain active for at least 4 years after the end of the project to contribute to the action's visibility and sustainability.

English language has been used for the website, as it is the official language for the project and the communication language among the partners and the general public.

While looking for the website provider, 3 subcontractors were contacted to guarantee the best value for money. They were informed about the main requirements that the website had to meet:

- User friendly: to keep the user's interest.
- Responsive: to look good on all devices.
- Simple: avoiding people getting lost in dense menus and buttons, and thus losing interest.
- Creation of a brand representing the Consortium: by creating an EPIVINF brand book and following its designs and colors.
- Information: provide general and specialized media with first-hand materials.
- Dissemination: to keep stakeholders informed and updated.
- Communication: serve as a communication channel for the widest audience possible.
- Contact: whoever wants to get in touch with the Consortium, they can contact through the available means shown on the website footer.

The main objective of the website design is to make the project visible and keep the information accessible and easy-to-use for anyone interested in the subject. Its main structure is the following:

- The Project
- About us
- Glossary
- News

New sections may be included according to the project and Consortium needs.

Besides the EPIVINF-related content, legal and data protection information has been considered and included on the website.

2.1 Landing Page

When landing in the project's website, the visitor will find a landing page with a visual identity that represents the essence of the project, epigenetics, without falling into the classical DNA images. The landing page background joins concepts such as "sequence", "coding", "pattern", while playing with the project acronym EPIVINF.

The website, as well as the menus, are shown as simple, light, and minimalist. The predominant characteristics are the typography and the colors, which facilitate the identification of EPIVINF visual identity.

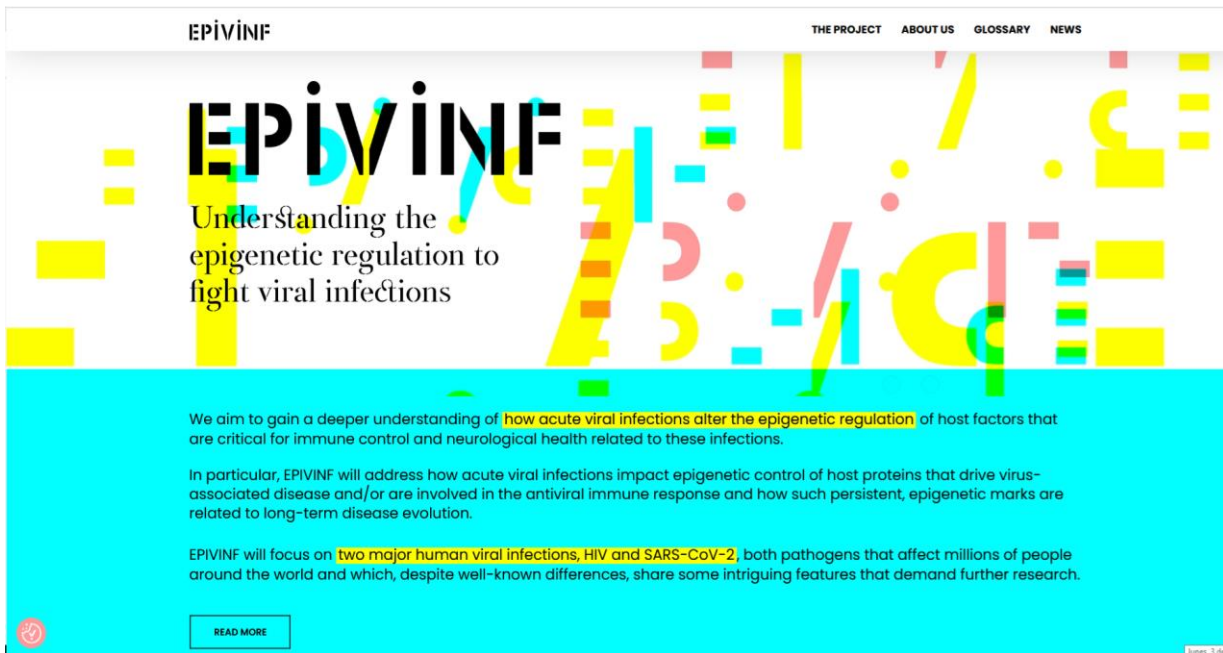


Figure 1. <https://www.epivinf.eu/> Home Page

EPiVINf landing page offers a short and easy-to-read summary of the project objectives. As the visitor scrolls down to the bottom of the page, he/she will find a summary of the four most important features of the project, as well as the acknowledgment to the EU funding, which will be visible from all sections of the website (figure 2).



Figure 2. <https://www.epivinf.eu/> Home Page (bottom)

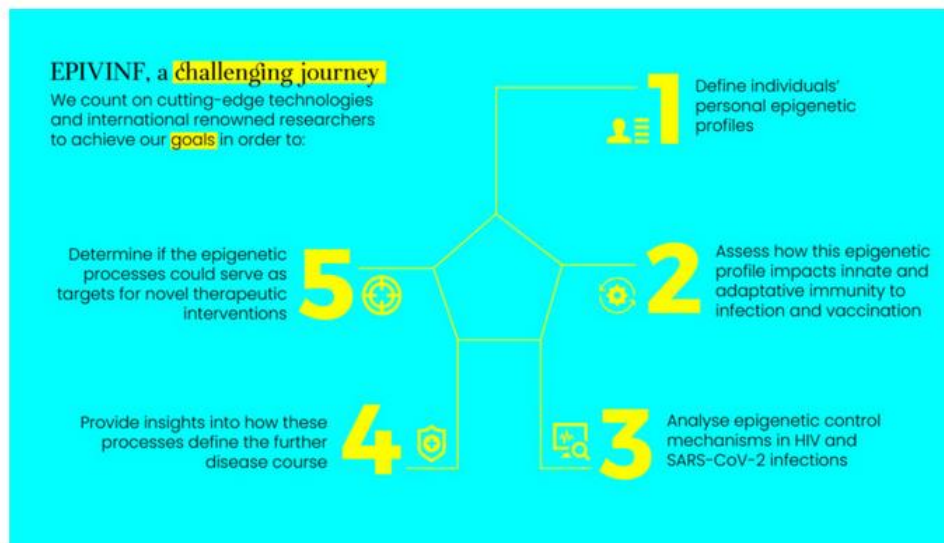
2.2 The Project

This is the first section of the website's Menu and is divided in 2 sub-sections:

- **Our Aim**, where a project abstract for general public can be found. Here, the main objectives of the action are mentioned together with the most relevant concepts and institutions involved.

Our aim

Behaviours and environment can change the way your genes work through a mechanism known as **epigenetics**, which act as a switch that turns genes on or off. The EU-funded EPIVINF project aims to understand how **acute viral infections alter the epigenetic regulation** of host genes that are governing **immune control and neurological health**. EPIVINF will also investigate how pre-existing epigenetics impact immune response to vaccination. The study will focus on **HIV and SARS-CoV-2** as two human viral pathogens that affect millions of people around the globe and share common features that require further research. The study also aims to identify the predisposing factors leading to specific clinical symptoms and how these could be employed as **novel therapeutic targets**.



The project in numbers

7M€
Funding

+25
Researchers

5
Countries involved

5 years
Duration

Figure 3. <https://www.epivinf.eu/OurAim>

- **Workpackages**, which includes a short summary of each project workpackage, as well as its lead beneficiary.

Work Packages

The work packages are the backbone and building blocks of EPIVINF. Check them out to understand what our objectives are and how we organise ourselves to achieve them.



Harmonization of clinical data and cohort studies

The objective is to harmonize the patient selection and sample processing. EPIVINF works with different cohorts established in three European countries and researchers will dedicate significant efforts to ensure that clinical profiles are comparable and controlled, but also that the samples are processed following comparable protocols. This is important so that the downstream analyses and results can be properly compared.

This WP also covers tasks related to data protection, ethics committee approvals and interactions with regulatory agencies to plan future development of novel strategies for personalized medicines.

Lead partner




Figure 4. [https://www.epivinf.eu/ Workpackages](https://www.epivinf.eu/Workpackages)


2.3 About us

This section is divided in 2 sub-sections:


- **Partners.** Each project beneficiary has shared its logo, the official website link, and a brief description to be shown on EPIVINF website.



Partners



EPIVINF brings together 6 international institutions working together towards the same goal: to decipher the relationship between epigenetic profiles, clinical outcome of viral infections and response to vaccination.




Institut de Recerca de la Sida

IrsiCaixa AIDS Research Institute - Coordinator

IrsiCaixa is an international landmark center for research, primarily focusing on the eradication of HIV/AIDS and HIV-related diseases. It also tackles other biomedical challenges, such as those associated with the microbiome and emerging infectious diseases, including SARS-CoV-2 infection.


Official website: <http://www.irsicaixa.es/en>



Karolinska Institutet

Karolinska Institute (KI), founded in 1810, ranks as one of the world's leading medical universities. KI accounts for 40% of all medical research in Sweden with around 4,700 employees. KI awards the annual Nobel Prize in Physiology or Medicine.


Official website: www.ki.se



Ospedale San Raffaele

San Raffaele Hospital and San Raffaele Scientific Institute are major components of the San Raffaele Biomedical Park, the largest facility in Italy integrating hospital care, basic and clinical research, post-graduate teaching, biotechnology transfer, and science-to-industry interface.

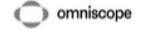
Official website: <https://www.hsr.it/>



The Saarland University

The Saarland University (UDS) is a public research university located in Saarbrücken, the capital of the German state of Saarland. With 17,000 students, UDS is the largest university in the Saarland. The research focus is on life sciences, informatics, and nano sciences. The UDS is closely associated with the Saarland University Hospital, which provides tertiary care in over 40 departments.


Official website: www.uni-saarland.de/



Omniscope

Omniscope is a Biotech Company whose technology platform decodes the immune system in high resolution, and to inform therapy and develop diagnostics through the convergence of immune cell sequencing and artificial intelligence.

Official website: omniscope.ai



Animal Health Research Center (CReSA) from the Institute for Agrifood Research and Technology (IRTA)

IRTA-CReSA works on the research, technological development, and transfer of the health of animals, both farm and wildlife. In addition, it studies the implications for human consumption products and their effects on public health under the One Health approach. IRTA-CReSA has an enhanced BSL-3 infrastructure (BSL-3+) that includes animal facilities and laboratories.

Official website: <https://www.irta.cat/en/centros/irta-cresa/>

Figure 5. <https://www.epivinf.eu/Partners>

- **Researchers.** A priority for EPIVINF Consortium is to give visibility to any team member who works on the project and wants to appear on the website. Following this premise, any person with dedication to EPIVINF (with previous consent) is shown on the project website, independently of his/her role or position. The website shows a summary of the persons involved, which includes a picture, the institution and position. By clicking on each picture, a short biosketch of the team member will be shown.

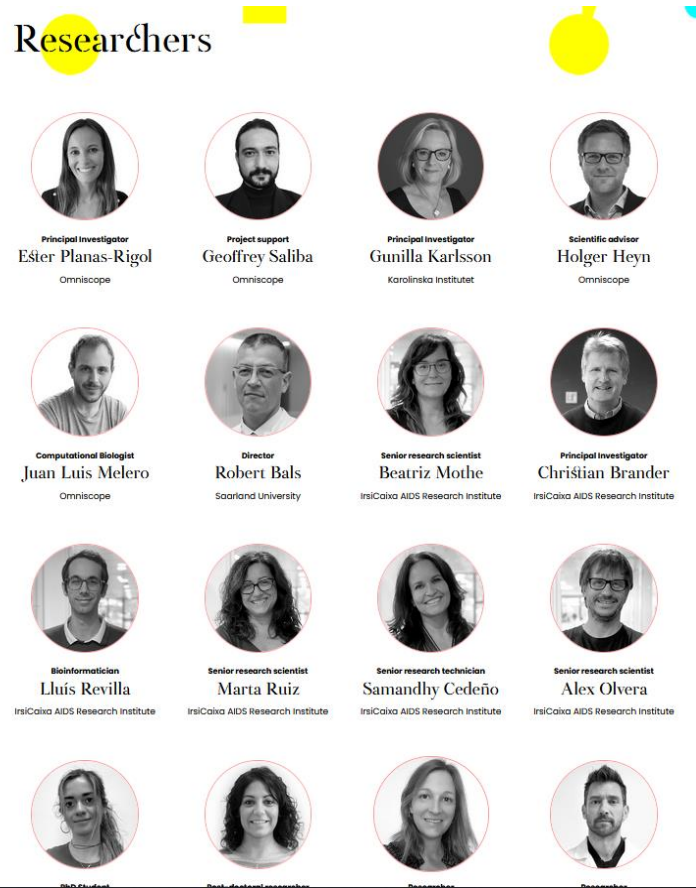


Figure 6. <https://www.epivinf.eu/> Researchers

2.4 Glossary

This section is focused on disseminating the existing knowledge about epigenetics, its relationship with viral infections and the discovery of new therapeutic strategies and how the research within EPIVINF project will tackle these fields.

New points may be also included at any time the Consortium finds it necessary to make sure that citizens understand EPIVINF project, and the importance of its research and outputs.

Glossary

Epigenetic changes: the switches in our genome

It is not only our genes that determine who we are. Our environment has strong impact on our health and aging process and, in fact, is capable of influencing our genome. Among all the changes caused by the environment, there are those that generate mutations, as they modify the sequence of the genetic code – the “alphabet” that our DNA uses and that defines us as we are. But there are also changes to our genome that do not cause mutations, and these are known as epigenetic changes. Although these mechanisms do not modify the genetic code, they still have the potential to strongly influence the way in which our genes are expressed. There are different epigenetic mechanisms, of which one is the chemical modification (methylation) of certain components of DNA, turning genes on or off, like a switch. These variations, among others, cause differences between people; differences that may be key to understanding some diseases.

The relationship between epigenetics and viral infections

Epigenetics can be influenced by various factors, including environmental factors such as viral infections. When a virus infects a cell, it can trigger changes in the cell’s epigenetic mechanisms, which can affect the expression of genes involved in immune response and other cellular processes. For example, some viruses can cause changes to the methylation patterns on DNA, which can affect gene expression and may contribute to the development of diseases and their related clinical outcomes. EPIVINF studies the relationship between epigenetics processes and HIV and SARS-CoV-2 infections, but its results may be extrapolated to other viral infections.

Regarding HIV, its viral latency allows the virus to persist in the host, and may lead to several long-term issues that include exhaustion of immune response, co-morbidities and neurological complications, among others. On the other side, SARS-Cov-2 infection has been reported to affect many organ systems, including the brain and certainly the adaptative immune system. Although this infection, unlike HIV, is normally solved within days to weeks, it has also been linked to long-lasting COVID-19 disease with a wide range of symptoms, vaguely referred to as “long-COVID” or “post-acute COVID-19 syndrome (PACS)”. Although there are differences in viral persistence between both infections, there are also a number of parallels between the two infections that could be responsible for their long-term disease evolution. EPIVINF aims to understand whether SARS-CoV-2 and HIV might both severely impact the epigenetic control of host genes, which can drive the immunological and neurological disturbances observed in the long-term outcome of these infections.

New therapeutic strategies and diagnostic/prognostic tools for HIV and SARS-CoV-2 infections

In recent years, scientists have discovered that epigenetic changes can serve as biomarkers for a variety of diseases, including cancer and neurological disorders. By analyzing these changes, doctors may be able to diagnose diseases earlier and develop more personalized treatment plans.

In addition to serving as biomarkers, epigenetics is also being explored as a potential therapeutic strategy. Scientists are studying drugs that can target and reverse harmful epigenetic changes, with the goal of treating diseases at the root cause rather than just managing symptoms.

The ambition of the EPIVINF researchers is that the results of the project could determine epigenetic signatures that can be used as biomarkers for the HIV and SARS-CoV-2 diagnosis or as a predictor of disease progression/severity. In addition to using epigenetics in this sense, the team aims to use these signals as therapeutic targets and design strategies to modify epigenetic alterations to prevent or treat Covid-19 or HIV infection.

Figure 7. <https://www.epivinf.eu/> Glossary

2.5 News

Every event that is relevant for the project (Meetings, Brokerage events, Congresses, Workshops, Symposiums...) will be posted in this section, where pictures and other materials will be uploaded and made available. Likewise, news about HIV, COVID-19, Epigenetics or any information which could be interesting according to the project context will be included in this section.

The “News” section shows a summary of all posted news, with a representative picture, title, and date. To get further information, the visitor can select any of the posts and will be driven to the full article.

The contact details of the Coordinator's press office is included.

News



Welcome on board the EPIVINF project: the kick-off meeting

25 October 2022



Epigenetic differences in the DNA of people living with HIV can affect their natural ability to control the virus

5 August 2020

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Badalona (Barcelona), Spain

Figure 8. <https://www.epivinf.eu/News>

2.6 Future sections

The Consortium has the objective to include two new sections in EPIVINF project website:

- **Publications and resources:** all material generated in relation to project communication and dissemination will be made available through this section (i.e., publications in scientific journals, project flyers and leaflets, etc.)
- **Intranet:** it is now under discussion whether an Intranet for project partners would be a useful tool.