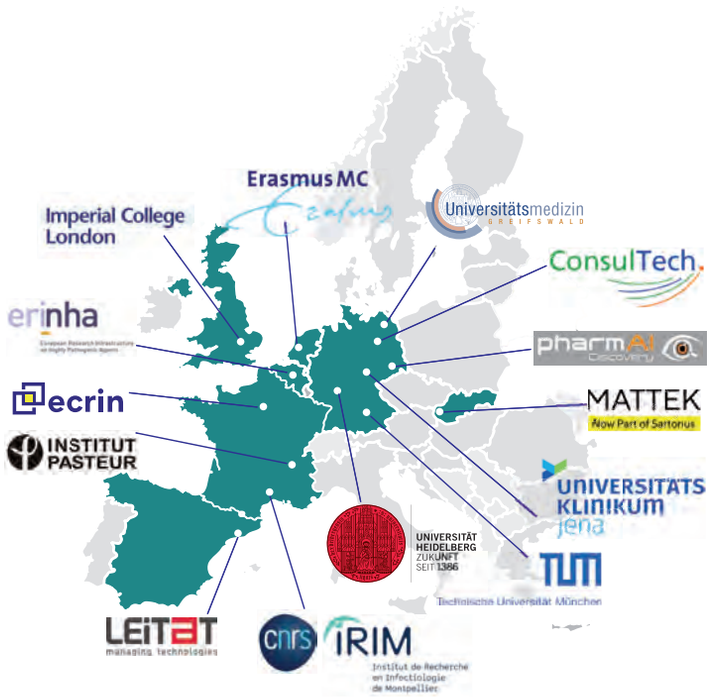
Objective 1:

Establishing a computational and experimental pipeline to identify targets for antiviral drugs against a new emerging or re-emerging virus causing a human disease of high concern

Objective 2:

Identifying and testing antiviral drugs against a broad spectrum of potential emerging and re-emerging viruses as listed by the WHO

14 partners | 7 countries
1 vision



project-appeal.eu
contact@project-appeal.eu

GA 101137311

Discovering broad-spectrum host-directed antivirals as promising therapies

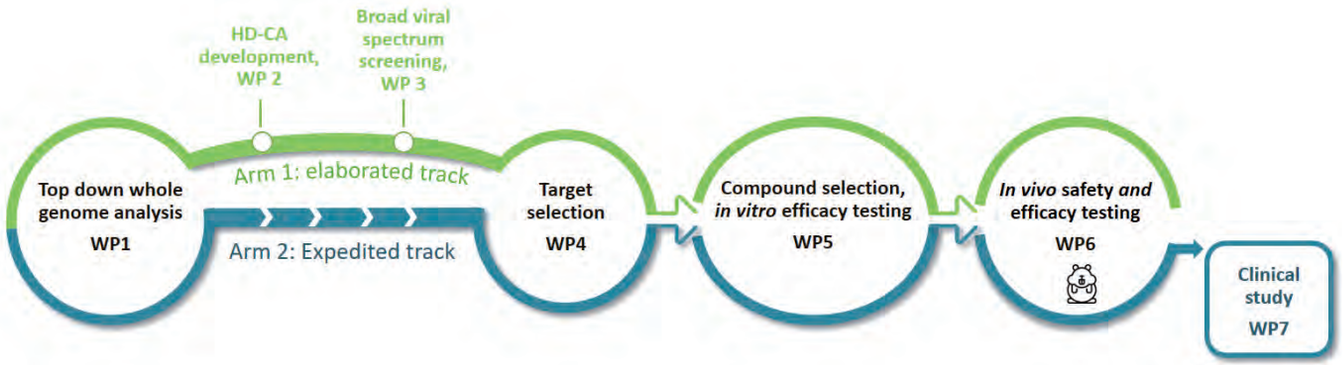
Funded by the European Union

To reach its goals, APPEAL will deploy a drug-selection pipeline built on a high-tech strategy employing

- machine learning, based on data from knockout screens, proteomics, protein interaction, transcriptomics of infected cells with pandemic-related viruses, Genome-Wide Association Studies, and generic gene descriptors,
- High Density Cell Arrays (HD-CA), which complement pooled knockout screens by providing detailed microscopy readouts,
- primary cell cultures (2D and 3D models) from a diverse array of human tissues and donors, as they are more appropriate to study the host cell physiology during infection, compared to cancer cell lines,
- the pipeline to identify host restriction factors, which, when activated, challenge the virus; followed by innovative drug development and delivery based on small activating RNA.

Our strategy is based on two experimental routes:

The **Elaborated Track** includes complex and concerted experimental schemes employing machine learning, high density cell arrays, primary cell cultures and others.



In the **Expedited Track**, broad spectrum antiviral drugs for repurposing will be selected followed by in vitro and in vivo efficacy testing, and a clinical trial as a proof of concept.

APPEAL

will pave the way to be prepared for an appropriate emergency response in a new pandemic, driven by a newly emerging virus causing a yet unknown disease in the future