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The ABRomics platform - a One Health Antimicrobial resistance analysis service

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► **To cite this version:**

Julie Lao, Raphael Tackx, Pierre Marin, Amanda Dieuaide, Thomas Mignon, et al.. The ABRomics platform - a One Health Antimicrobial resistance analysis service. Journées Ouvertes en Biologie, Informatique, et Mathématiques - 2024, Jun 2024, Toulouse, France. hal-04618645

HAL Id: hal-04618645

<https://hal.science/hal-04618645>

Submitted on 20 Jun 2024

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Background Antibiotic Microbial Resistance (AMR) is a major public health issue prioritized by international institutions. The ABRomics project is funded by the French Priority Plan on antibioresistance (2M€; 2021-2025). We developed a shared web platform to assist AMR surveillance across human and veterinary medicine, including environment and food isolates. It is made of:

- a repository of structured, interoperable, standardized and well-annotated multi-omics microbiological data from human, animal and environmental origins
- with an up-to-date arsenal of mathematical and bioinformatic tools to answer generic and specific research questions related to AMR

From Omics Workflows ...

Workflows here

Quality & Taxonomic assignment & Contamination Control

Assembly: Flye, Polypolish, QUAST, Bandage

AMR Gene Detection: Baktia, PlasmidFinder, ISEScan, IntegronFinder, AMRicate, AMRfinderPlus, StarAMR

Powered by **Galaxy FRANCE**

To Analysis reports ...

Quality metrics

Analysis summary

Antimicrobial resistance analyses

Antimicrobial resistance analyses - Acquired resistance genes

Sample metadata summary

The ABRomics Platform features ...

- 1 Project management**
- 2 Upload data & metadata validation**
- 3 Run analyses**
- 4 Results visualisation**
- 5 Explore results of the community using the ABRomics database**

User Sample collection

User list of Projects

Import Samples form

List of available analysis

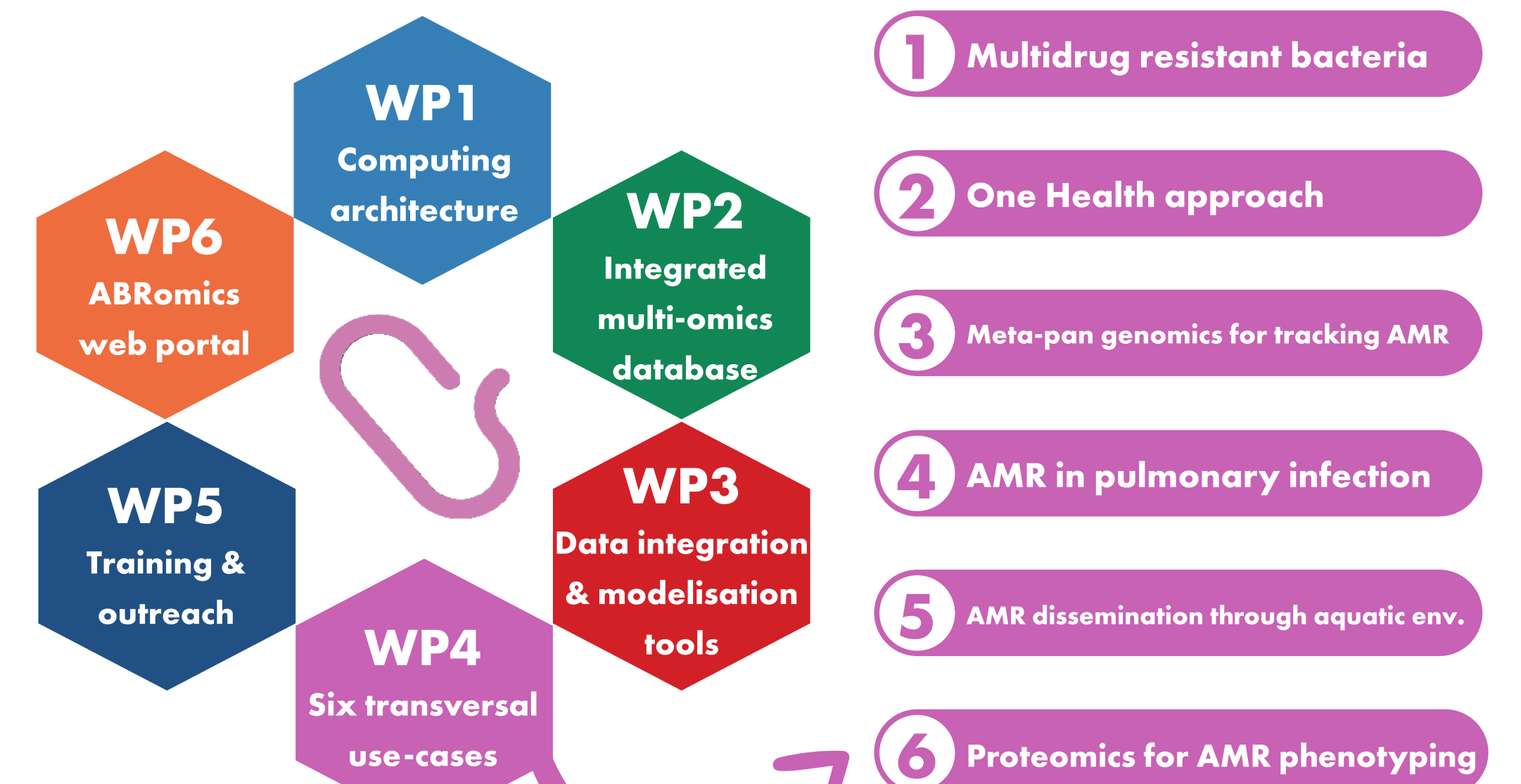
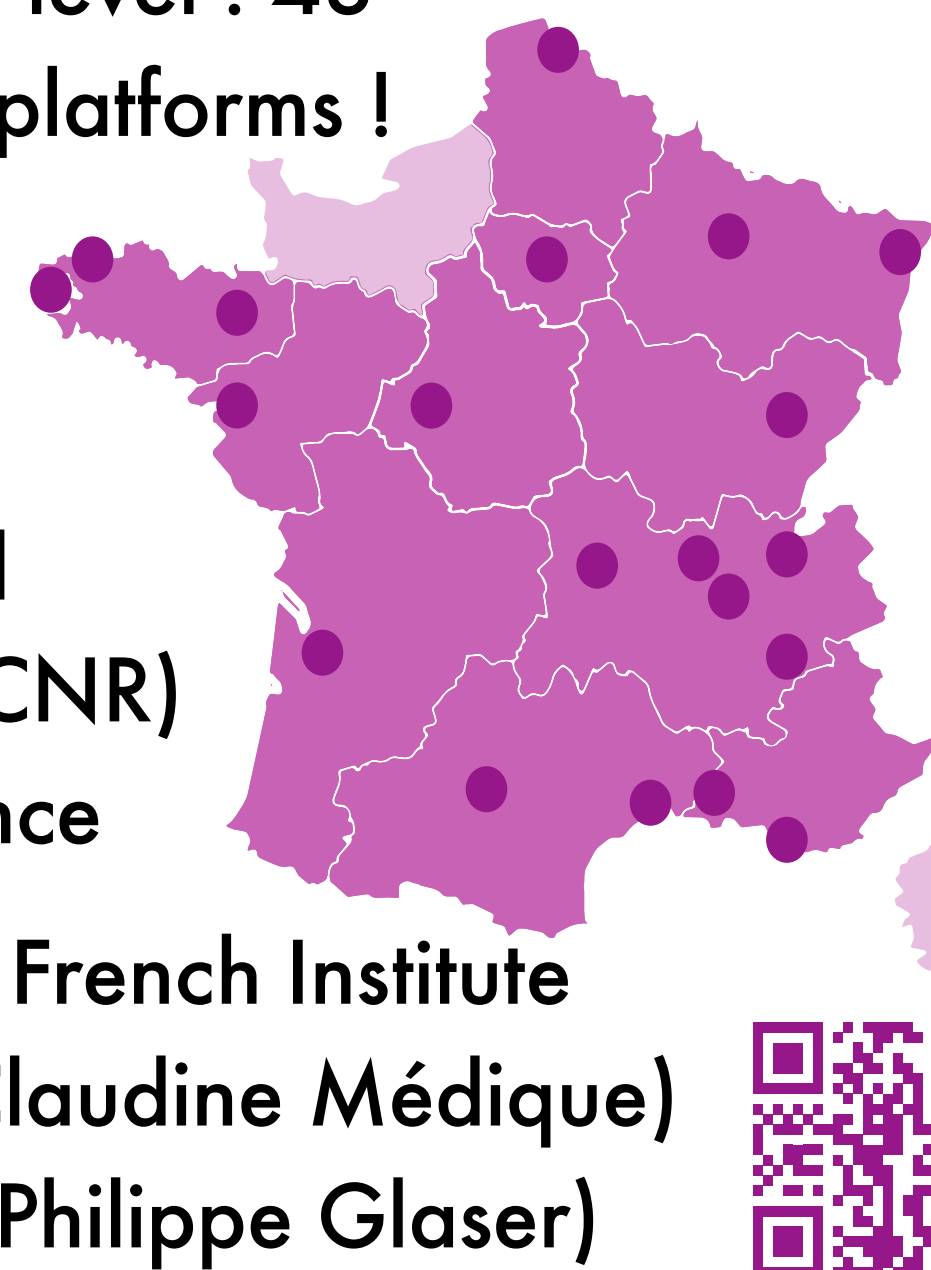
ABRomics database samples location (map visualization)

Leveraging by a large community and a 43 teams consortium; **Our ambition** is to make ABRomics a major platform to scale up and improve surveillance and research on antibiotic resistance from a One Health perspective. For this, we will:

- Enrich the ABRomics AMR resources with the help and expertise of both the community and the consortium.
- Expand the catalogue of available analyses to more Omics data.

ABRomics consortium

- Effort at the national level : 43 research teams and platforms !
- Multidisciplinary consortium
- Includes all National Reference Centers (CNR) for antibiotic resistance
- Coordination by the French Institute for Bioinformatics (Claudine Médigue) and Institut Pasteur (Philippe Glaser)



Next steps !



Visit the Beta ABRomics platform



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Acknowledgements This poster was financially supported by the French Priority Research Program on Antimicrobial Resistance (PPR Antibioresistance), coordinated by Inserm and funded by the Secrétariat Général Pour l'Investissement (SGPI)