COALA

Cure Oncogene-Addicted Lung Adenocarcinoma

Research Network

Lung cancer: new opportunities, new challenges

Over the last decades, the development of new anti-cancer treatments has revolutionized the standard of care for patients with lung cancer, particularly those with genetic alterations in 'driver' oncogenes such as EGFR, ALK, ROS1, BRAF or more recently KRAS. Despite these advances, long-term disease control remains challenging due to the frequent onset of therapeutic resistance.

Not all patients respond equally to treatment—this variability may stem from the molecular characteristics of their tumors, the limited efficacy of available therapies, or a range of individual-specific factors. Therefore, it is essential to integrate diverse approaches to better understand tumor response to treatment, with the goal of extending therapeutic benefit in good responders and enhancing efficacy in those who respond poorly.

High oncogenic addiction

Low oncogenic addiction

EGFR
ALK
ROS1
RET
BRAF ^{V600E}

- good responders
- resistances

KRAS ^{G12C}
BRAF $^{non\text{-}V600E}$
HER2
NRG1
MET

"Hard-to-treat"

KRAS
others.

- ineffective therapies
- unexplored biology

Our mission

COALA is a French multidisciplinary research network dedicated to significantly improving the therapeutic management of patients with lung adenocarcinoma harboring targetable alterations.

COALA
Cure Oncogene-Addicted Lung Adenocarcinoma

"We believe that short-term remission of patients with oncogene-addicted lung cancer is no longer satisfactory, when cure is within reach"

Understand	Improve	Prevent	Cure
the disease & the patients through a multidisciplinary approach	treatments	the emergence of resistances	patients with oncogene-addicted lung cancer

Integrated Research Program

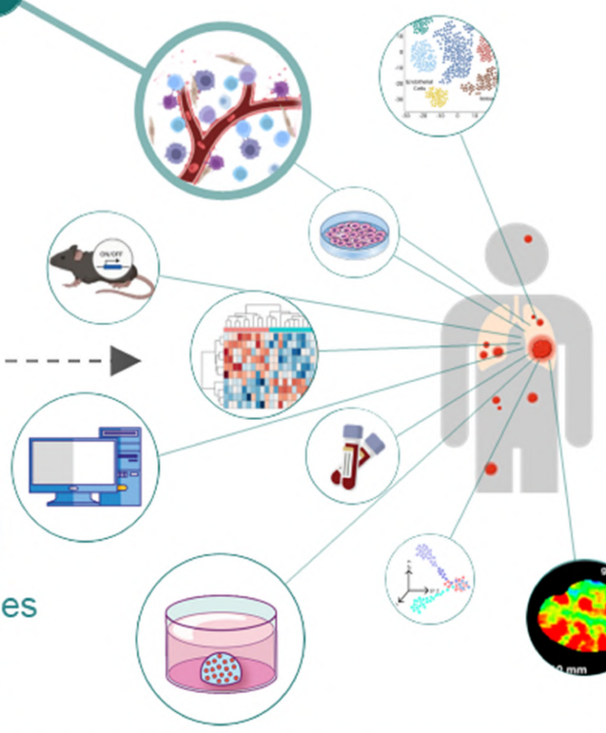
COALA
Cure Oncogene-Addicted Lung Adenocarcinoma

WP6 Sociological approach of the network

WP5 Data management, integration and transfer / methodological innovation

Tumor microenvironment (TME) **WP3**

cold ⟷ hot



WP4 Early-stage oncogene-addicted LC

Poorly investigated compared to advanced stages

↓

Can provide valuable information for achieving cure

High oncogenic addiction

EGFR
ALK
ROS1
RET
BRAF^{V600E}

Main issue: emergence of resistances

WP1 Target Minimal Residual Disease

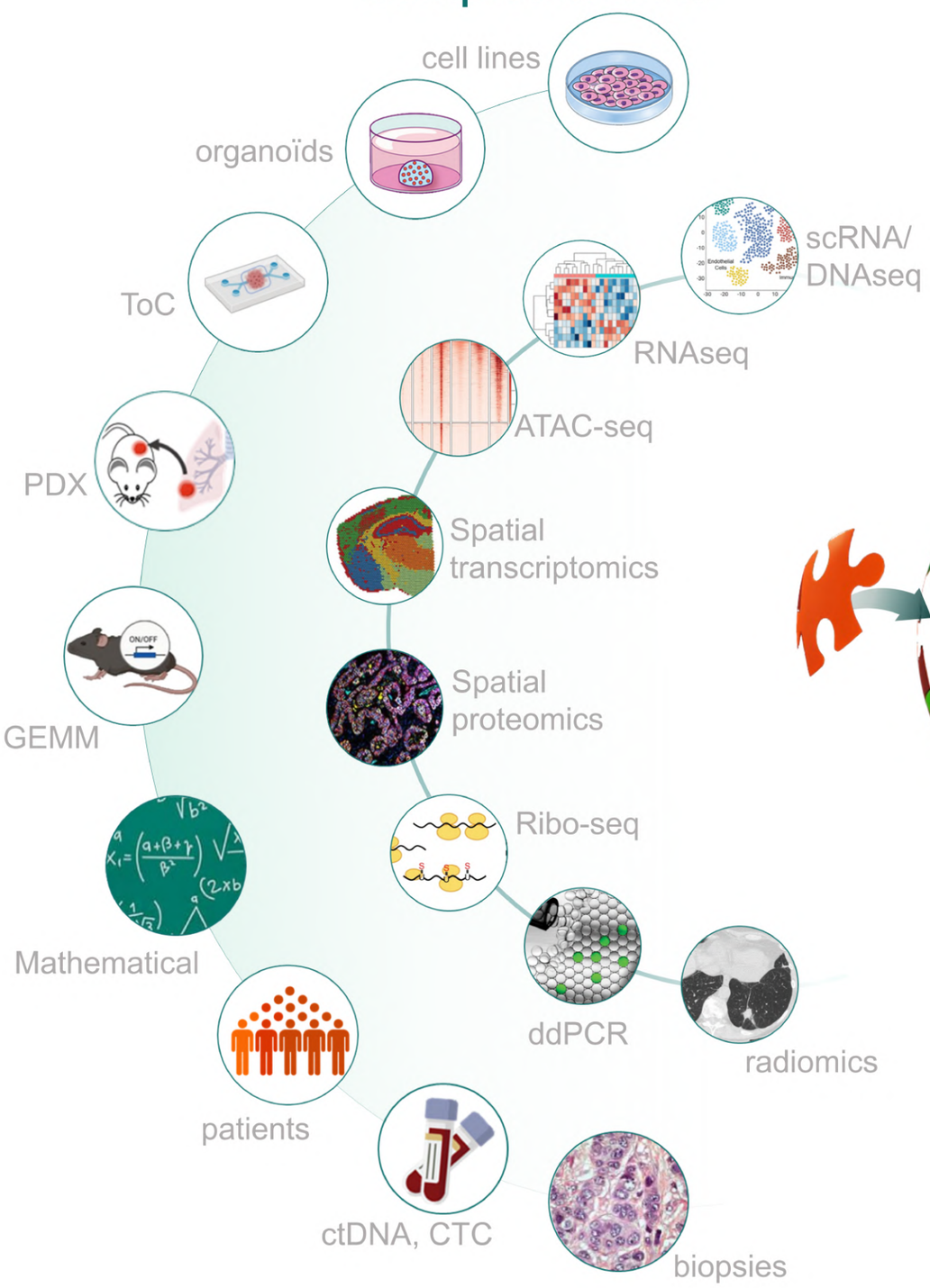
"Hard-to-treat"

KRAS^{G12C}
BRAF$^{non-V600E}$
NRG1
MET

Main issue: ineffective therapies

WP2 Better understand the disease

Samples & tools



Methodological integration and innovation

Multiomic data integration
→ advanced molecular analysis

Develop shiny app
→ code-free interrogation of the data

Tumor map data integration
→ Integrate different datasets

Mathematical modelling

AI
Develop generative AI approaches
→ 'learn' a deep phenotype from a shallow one

Key figures

Consortium	Budget	Duration	Start date
15 teams	3 million €	5 years	April 17, 2024

Map of the COALA national network

Cure Oncogene-Addicted Lung Adenocarcinoma

- 5 University Hospitals
- 4 Cancer Centers
- 9 Research Centers
- 6 SIRIC partners

www.coala-lung.org

Project coordination

Project coordinator	Project co-coordinator	Project manager
Pr. Julien Mazières	Dr. Olivier Calvayrac	Dr. Virginie Albinet

Work Packages' Leaders

1. Dr. Olivier Calvayrac & Dr. Aurélie Swalduz
2. Dr. Sandra Ortiz-Cuaran & Pr. Alexis Cortot
3. Pr. Eric Tartour & Pr. Marie Wislez
4. Pr. Marco Alifano & Pr. Diane Damotte
5. Dr. Vera Pancaldi & Dr. Lynnette Fernandez-Cuesta
6. Dr. Audrey Vézian & Pr. Michaël Duruisseaux

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Contact information

If you have any question about COALA, please visit our website: www.coala-lung.org

Partners

Associated teams

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