

MET'CONNECT



[HTTPS://CANCEROPOLE-PACA.COM/METCONNECT](https://canceropole-paca.com/metconnect)



canceropôle
Provence-Alpes-Côte d'Azur
le propulseur régional des recherches
et innovations anticancers

Background

Changes in **metabolic pathways** during tumor progression are key drivers of tumor aggressiveness. Projects to better understand how **metabolic changes** contribute to cancer biology, in the frame of both clinical and fundamental research, are expanding.

Tumor metabolism provides invaluable insights into the intricate **interplay** between **metabolites** and oncogenic signaling pathways in **cancer progression**.

As a result, there is an emerging need and growing interest for tailored **bioinformatics** and **functional** approaches to analyze tumor metabolism.



Aims of the platform

- Structure and strengthen scientific and technical expertise in the study of cancer cell metabolism.
- Provide experimental solutions to questions focused on tumor metabolism.
- Develop bioinformatics approaches for metabolic profiling of samples based on multiple omics data.
- Facilitate access to core facilities/platforms to explore tumor metabolism.

Our organization

Met'Connect is a **canceropôle PACA** founded structuring action led by Sophie Vasseur (CRCM, **Marseille**) and Frédéric Bost (C3M, **Nice**) to address needs in **tumor metabolism expertise**, in both wet and dry lab. Sharing the expertise of a multidisciplinary network of researchers in PACA region.

The organization of Met'Connect consists of co-coordinators, Fabienne Guillaumond (CRCM, Marseille) and Nathalie Mazure (C3M, Nice), as well as **14 dedicated scientific committee members** from several institutes, with expertise in various fields of tumor metabolism.



Sophie
VASSEUR



Frédéric
BOST



Fabienne
GUILLAUMOND



Nathalie
MAZURE



Experimental pole, C3M, Nice

Constance NAU

Facilitated **access to equipment** based at C3M (Nice) or CRCM (Marseille), with technical assistance on the equipment making up the two centers' metabolic exploration platforms. These equipments includes **SeaHorse analyzer** (quantification of mitochondrial metabolism), **Biochemical analyzers** (YSI 2900, for the quantification of specific metabolites), **OmniLog**, can analyze the "metabolic preference" of cells for over 1400 metabolites, hormones and cytokines, or their sensitivity to inhibitors in 96-wells plates, and **Hypoxic chambers**.

In 2026, the C3M platform will be expanded with two new instruments :

- the **Oroboros**, a high-resolution respirometry system enabling precise measurement of mitochondrial oxygen consumption,
- the **BS-240Pro biochemical analyzer**, dedicated to automated measurements of biochemical parameters from biological samples, such as blood or serum.

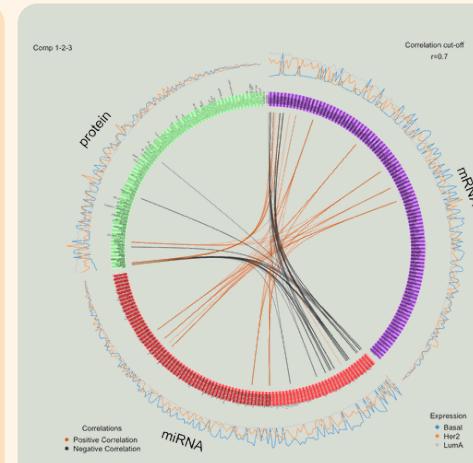
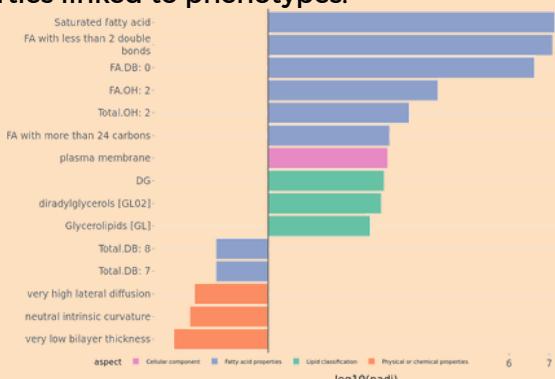


Bioinformatics pole, CRCM, Marseille

Paraskevi KOUSTERIDOU, Pierre BERTRAND

We are offering analysis of **omics data**, thanks to expert bioinformatics engineers. Adapted methods propose to reduce experimental bias and variation, and to visualize the metabolic profiles, signatures and biomarkers (**principal component analysis**, **enrichment analysis**, **integrated analysis of multi-omics** data, such as **transcriptomics**, **proteomics**, **metabolomics** and **lipidomics**). State-of-the-art methods are constantly updated.

As an example, this **lipid enrichment** plot allows highlighting lipid pathways and physical/chemical properties linked to phenotypes.



Concerning **multi-omics**, this circos plot represents the integration of 3 datasets (proteomic, mRNA and miRNA). It's showing expression and (anti)correlation of deregulated molecules.

The design of analysis reports (HTML) will enable project leaders to pursue their exploration of omics datasets independently.

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PROJECTS SUBMITTED

5

SCIENTIFIC PUBLICATIONS

5

COLLABORATING COUNTRIES



SUBMISSION AND TIMELINE OF PROJECTS

- Visit the website of Met'CONNECT (QR code), fill the form, sign the chart and send us your request at metconnect.crcm@inserm.fr.
- Connection of your project with metabolism experts.
- Average time for completion of projects : 1-3 months.