CORE FACILITIES

METABOLOMICS

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Metabolomics is the study of all the small molecules of a cell, tissue, fluid or organism.

The metabolomics core facility specializes in the analysis of key metabolites (quantitative or semi-quantitative assays) for metabolic diseases.

Throughout the years, we have developed our expertise in the analysis of small quantities of material and in the study of the microbiome's metabolism.

SERVICES

METABOLITE ASSAYS

- Short-chain fatty acids (10 metabolites)
- Bile acids (13 metabolites)
- Central carbon metabolism (35 metabolites)
- Amino acids (23 metabolites)
- Neurotransmitters (10 metabolites)

DEVELOPMENT OF CUSTOMIZED METHODS

- For example, sphingosine-1-phosphate in islets of Langerhans; kainic acid in zebrafish embryos; dNTPs in sorted T-cells (FACS)

INSTRUMENT USE

- Self-service use of an HPLC system equipped with an absorbance detector (UV/Vis), a fluorescence detector and a fraction collector
- Self-service use of specialized sample preparation equipment

RESEARCH IN ACTION

In 2023 during a study on the role of the enzyme glycerol 3-phosphate phosphatase in healthy aging, we developed a method to extract metabolites from small quantities of *C. elegans* worms. This research was published in the journal *Nature Communications.* The diversity of the methods developed by our team allows us to rapidly respond to new needs, whether they be extracting metabolites from new matrices or quantifying new analytes.

HIGHLIGHTS

Since 2011, our team has developed **over fifteen targeted methods** for quantifying water-soluble and lipid metabolites.

Experience with numerous **experimental models**, including *Caenorhabditis elegans* and *Danio rerio*

Assays possible starting from 10 mg of tissue, 10 µL of plasma or 5 mg of stool

Citations in over **25 publications**

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Core Facilities
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