## Lipidomics Facility

The lipidomics facility offers analysis of long-chain and short chain lipids from a variety of biological matrices to investigators at Rutgers and beyond.

## Management

## Director: Dr. Harini Sampath ([harini.sampath@rutgers.edu](mailto:harini.sampath@rutgers.edu))

Administrator: Roger Grillo

**Services offered**

* Enzymatic Lipid Profiles (plasma):
  + Esterified cholesterol, Free cholesterol, Triglycerides, Free fatty acids
* Long chain fatty acid analysis (tissue, cell culture, plasma):
  + total lipid acyl chain composition
  + phospholipids, diglycerides, free fatty acids, triglycerides, cholesterol esters content and acyl chain composition
  + Preparative TLC plates for publications/displays
* Short chain fatty acid analysis (feces):
  + Quantitation of C1-C6 SCFAs in mouse or human feces

**Fee structure**

Costs include sample prep from pre-weighed samples. For GC-MS analyses, costs include basic peak identification and quantitation, along with an Excel report.

Additional analyses are carried out on a collaborative basis by arrangement with Dr. Harini Sampath.

Turn-around time is dependent on place in queue and can be estimated through prior communication with Dr. Sampath.

|  |  |  |
| --- | --- | --- |
| **Service** | **IFNH member price** | **Non-IFNH** |
| Enzymatic kits | Kit price\*+100/plate (upto 75 samples) | Kit price\*+200/plate (upto 75 samples) |
| Long chain fatty acids – total | $20/sample (each injection is a sample) | $40/ sample (each injection is a sample) |
| Long chain fatty acids with TLC separation of lipid classes | $30/sample (each injection is a sample) | $60/ sample (each injection is a sample) |
| Long chain fatty acids display TLC | $100/up to 9 samples | $200/ up to 9 samples |
| Fecal SCFAs | $20/ sample | $40/ sample |
| \*Kit price upon inquiry |  |  |

**Sample preparation**

* Tissue/cell samples should be weighed and frozen in liquid nitrogen immediately after collection.
* Feces should be freshly collected, weighed, and frozen in liquid nitrogen immediately after collection.
* Serum or EDTA plasma should be removed from the red cells as soon as possible after collection and then frozen.
* Samples with gross hemolysis or lipemia may yield false results.
* Heparin is not acceptable as an anticoagulant for lipid profiles.
* All samples should be stored at -70°C until shipped.
* Please label all tubes clearly and legibly.

**Sample requirements**

|  |  |  |
| --- | --- | --- |
| **Assay** | **Requirements for Human** | **Requirements for Mouse** |
| **Plasma/Serum Cholesterol (enzymatic)** | 20 µl  plasma or serum | 20 µl  plasma or serum |
| **Plasma/Serum Triglycerides (enzymatic)** | 20 µl plasma or serum | 20 µl  plasma or serum |
| **Plasma/Serum FFA (enzymatic)** | 20 µl plasma or serum | 20 µl plasma or serum |
|  | | |
| **Plasma/Serum FFA (GC)** | 500 µl plasma or serum | 150 µl plasma or serum |
| **Tissue/Cell FFA (GC)\*** | ~30-100 mg tissue | ~30-100 mg tissue |
| **Tissue/Cell Diglyceride (GC)\*** | ~30-100 mg tissue | ~30-100 mg tissue |
| **Tissue/Cell Phospholipid (GC)\*** | ~30-100 mg tissue | ~30-100 mg tissue |
| **Tissue/Cell Triglycerides (GC)\*** | ~30-100 mg tissue | ~30-100 mg tissue |
| **Tissue/Cell Cholesterol esters (GC)\*** | ~30-100 mg tissue | ~30-100 mg tissue |
| **Fecal SCFAs** | 100 mg feces | 100 mg feces |
| \*all tissue analyses can be conducted using a single sample | | |