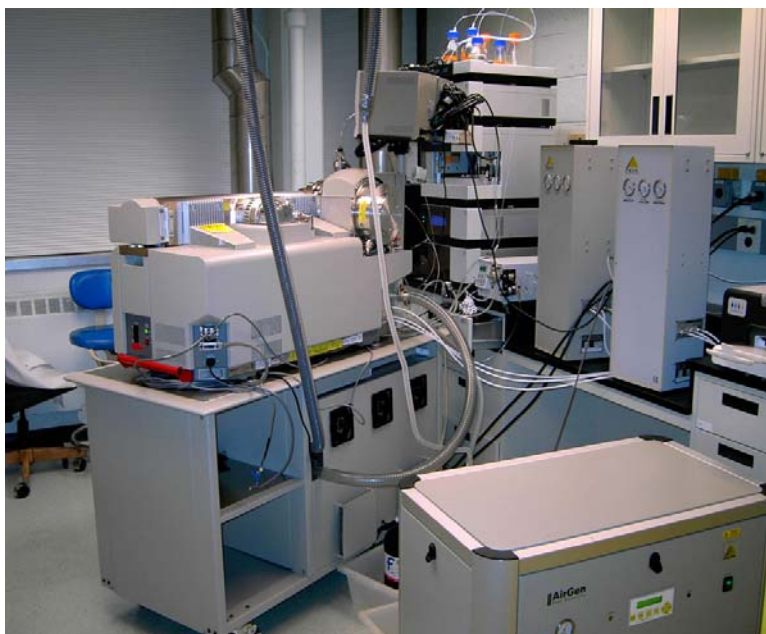


**Department of Nutritional Sciences
Rutgers Center for Lipid Research
Mass Spectrometry Core Facility**

We specialize in the analysis of lipids by liquid chromatography-mass spectrometry (LCMS).

Our equipment consists of a Dionex UltiMate 3000 liquid chromatograph connected to an Applied Biosystems 4000 Q Trap mass spectrometer. The 4000 Q Trap is a hybrid triple quadrupole/linear ion trap instrument, giving us a wide variety of possible experiment types. In addition, we have both TurboIonSpray® (electrospray ionization, ESI) and PhotoSpray® (atmospheric pressure photoionization, APPI) ion sources. Although ESI is most commonly used and is the method of choice for some lipid types, APPI is much better for certain lipids, such as mono- and diacylglycerols.



Contact:

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Standard analyses

	Package						
	A	B	C	D	E	F	G
Compounds							
monoacylglycerols				√	√		√
diacylglycerols				√	√		√
triacylglycerols	√	√					√
phospholipids	√		√				√
cholesterol				√		√	√
cholesterol esters				√		√	√
Cost (per sample)							
Industry	\$300	\$200	\$200	\$300	\$240	\$180	\$500
Academic	\$60	\$40	\$40	\$60	\$48	\$36	\$100
Core academic	\$30	\$20	\$20	\$30	\$24	\$18	\$50

Analysis provided:

Data analysis for phospholipids includes quantitation of total compound classes for phosphatidic acids, phosphatidylcholines, phosphatidylethanolamines, phosphatidylinositols, and phosphatidylserines.

Total Cholesterol Ester is quantified.

Total Cholesterol is quantified.

For mono-, di-, and triacylglycerols, individual species are quantified.

Users are to provide extracted samples. Common internal standard mixes may be supplied to the user by the facility; otherwise standards will be purchased by the user. Internal standards are typically added to the samples prior to lipid extraction.

Users should discuss the project with facility staff beforehand to determine appropriate sample extraction procedures and internal standards. Also, users should provide the protein concentrations (or number of cells) of their samples so that results can be expressed per mg protein (or per 10^x cells).

Additional capabilities:

Please contact facility staff to discuss your project, preferably before sample harvesting and processing. We can do other types of analyses such as:

- Quantitation of individual phospholipid species
- Quantitation of acyl side chain composition of cholesterol esters
- Comparing treatment groups using principal component analysis. This is very useful when looking for changes between control and treatment samples.

We can also analyze other lipid classes such as endocannabinoids. This may require preliminary method development at a cost to be determined.