



VCU

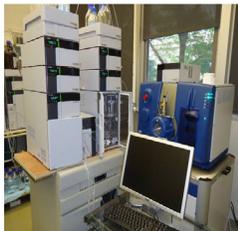
Office of Research spotlights...

December 2013

The Lipidomics Core Facility

Instrumentation

The VCU Lipidomics Core Facility is determined to provide cost effective and highly quantitative lipid analysis for VCU faculty. While simultaneously having the greatest analytical capability on the east coast and the lowest cost per sample of any facility, we strive to provide thorough analyses with remarkable turnaround times. We currently offer quantitative analysis of sphingolipids, cardiolipins, eicosanoids, 3-PUFA-derived lipid mediators, steroid hormones, and cholesterol. Our methods have been validated, by peer-review in journals such as *Nature* and *Science*. While our instrumentation is currently state of the art, data will always be provided as easy to read excel files for the benefit of our users. The Lipidomics Core wants to work with you to give you the best data possible from a wide range of sample types, including blood, serum, tissue, cells in culture, culture media.



6500 QTrap

Coupled with a quaternary pump Shimadzu Nexera UHPLC system, the Applied Biosystems 6500 quadrupole linear ion trap mass spectrometer is the newest addition to our core and has the highest sensitivity of any QTrap currently on the market. The 6500 enables quantitation of more difficult eicosanoids while also pushing the core towards systems-level capabilities.



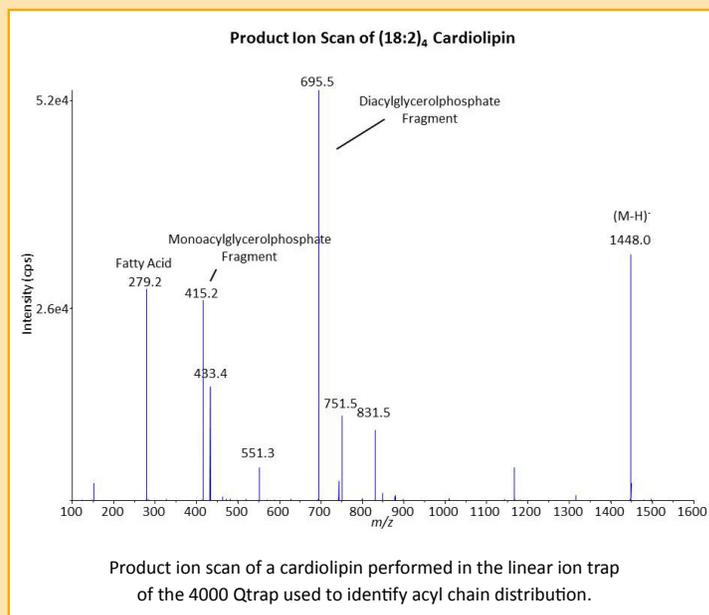
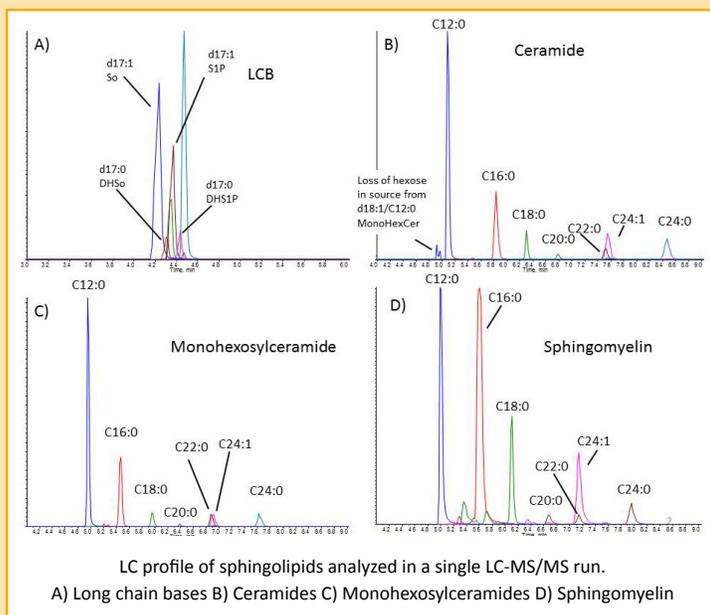
5500 QTrap

The Applied Biosystems 5500 quadrupole linear ion trap mass spectrometer has led to the development of LC-MS/MS methodologies which allow the analysis of 147 eicosanoids in a single run and methods for 58 sphingolipids in a single run. The sensitivity of the 5500 has allowed for the quantitation of lipids bound to immunoprecipitated proteins for publications in both *Science* and *Nature*.



4000 QTraps

The Lipidomics core currently has two Applied Biosystems 4000 quadrupole linear ion trap mass spectrometers. One connected to a traditional HPLC and the other to a Shimadzu Nexera UHPLC. While we consider these to be our daily workhorse instruments, they still allow sub-fmol limits of quantitation on sphingolipids and cardiolipins!



Contact Us

The Lipidomics Core offers quantitative services for a wide range of lipids. We recommend that investigators contact us about their experimental needs so that we can design the best possible experiment with you.

Core Director: Charles Chalfant, PhD 804-828-9526
Operational Director: Jeremy C. Allegood, PhD 804-827-9909
Assistant Scientific Director: Shanaka Wijesinghe, PhD 804-828-9678