



VCU

Office of Research and Innovation spotlights...

June 2015

VCU Lipidomics/Metabolomics Core

THE VCU LIPIDOMICS/METABOLOMICS CORE

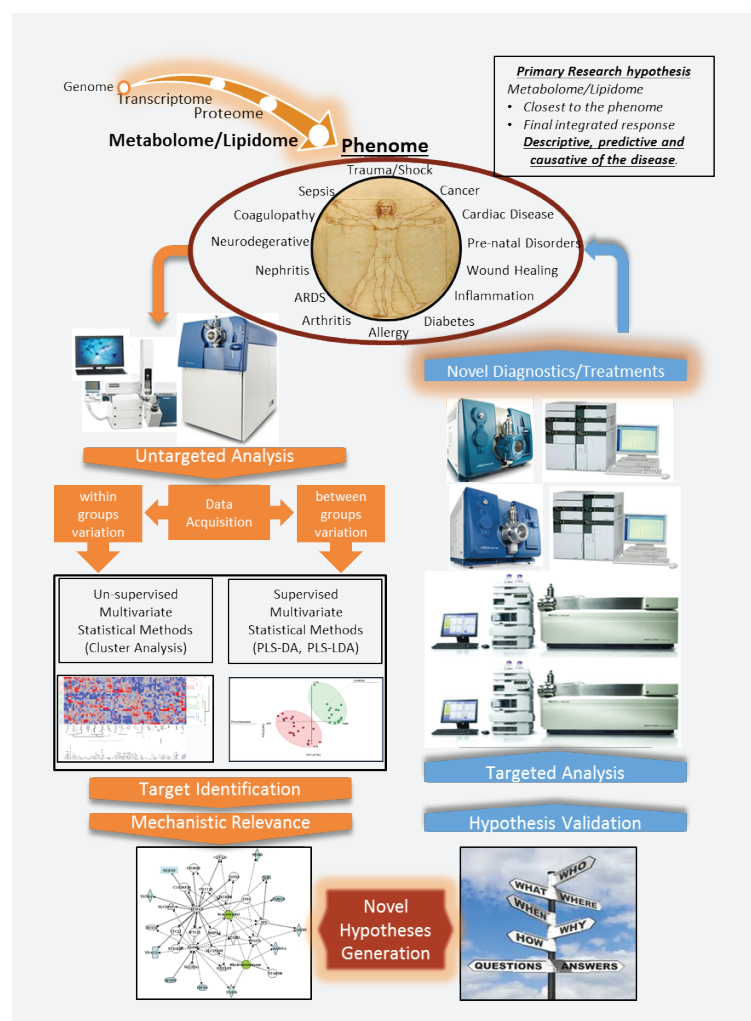
The VCU Lipidomics/ Metabolomics Core (VLMC) has the goal to provide cost effective and highly quantitative lipid and small metabolite analyses for VCU faculty. Featuring perhaps the strongest academic analytical capability on the East Coast, and a highly competitive cost per sample, we strive to provide thorough analyses with rapid turnaround times. The VCU lipidomics core is located on the second floor of Sanger Hall in two dedicated labs (Rooms 2-012 and 2-006). Importantly, the VLMC has led to >70 peer-reviewed publications in the past few years with our methods vetted by the highest impact journals such as Nature, Science, Nature Immunology, and Cancer Cell.

WHY STUDY THE LIPIDOME/METABOLOME?

The Lipidome/Metabolome constitutes a highly diverse group of small molecules within biological systems. These molecules are the closest in proximity to the disease phenome and act as excellent surrogates to obtain a readout of the sum integrated response of an organism to an insult or disease. Also of note, significant changes will be observed in the lipidome/metabolome prior to the onset of any clinical symptoms. Primary means of studying the lipidome/metabolome is liquid chromatography tandem mass spectrometry, and the VLMC utilizes a complete quantitative and qualitative analytical workflow investigating the changes of the lipidome/metabolome with respect to various disease states. In this regard, the standard workflow for a discovery-based/hypothesis-generating approach is given to the right, and the with the recent addition of an AB SCIEX accurate mass analyzer (AB SCIEX 5600+ System), full systems level lipidomics/metabolomics is now offered as a service by the VLMC to the VCU community.

MAJOR EQUIPMENT

- AB SCIEX 5600+ accurate mass analyzer with Eksigent Eksport 200 series micro-UPLC.
- AB SCIEX 6500 hybrid triple quadrupole linear ion trap mass spectrometer (6500QTRAP) with custom built 2D Shimadzu Nexera Ultra-High Performance Liquid Chromatography (UPLC) system.
- AB SCIEX 5500 hybrid triple quadrupole linear ion trap mass spectrometer (5500QTRAP) with Shimadzu Nexera Ultra-High Performance Liquid Chromatography (UPLC) system.
- 2 AB SCIEX 4000 hybrid triple quadrupole linear ion trap (4000QTRAP) mass spectrometer each with Shimadzu Nexera Ultra-High Performance Liquid Chromatography (UPLC) system.



CONTACT US!

We offer a wide range of mass spectrometric services, and we encourage investigators to contact the VLMC regarding their experimental needs, so that we can discuss how to get the best results for you.

Core Director

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