

# The Lipid and Lipid Metabolite Analysis Core Facility

Services

Rates

Samples

The Core Facility is a joint initiative of the Group on the Molecular and Cell Biology of Lipids (MCBL) and the Cardiovascular Research Group (CVRG) with support from the Mazankowski Alberta Heart Institute (MAHI) and the Women and Children's Health Research Institute (WCHRI)

## Services Provided by the Core Facility

### Currently available:

- FPLC lipoprotein profiling from various sources including plasma, cell culture medium, and isolated intracellular compartments (cholesterol / triglyceride / phospholipid profiles)
- FPLC separation and purification of lipoprotein classes and subclasses including VLDL, LDL, and HDL
- HPLC analysis and quantitation of phospholipid classes from various sources including tissue, plasma, and cell extracts
- HPLC analysis and quantitation of bile acids from various sources including isolated bile
- HPLC analysis and quantitation of nucleotides including xanthine, hypoxanthine, inosine, IMP, NAD, adenosine, AMP, ADP, ATP, and GTP
- HPLC analysis and quantitation of short and long chain CoAs including free CoA and acetyl, malonyl, succinyl, palmitoyl, stearoyl, and oleoyl CoAs
- HPLC analysis and quantitation of ceramides
- GC analysis and quantitation of total lipids
- GC analysis and quantitation of fatty acid chain length and saturation
- customized HPLC or FPLC protein purification\*
- customized HPLC or FPLC lipid analysis\*
- customized analysis of other molecules and metabolites\*

### Available in the near future:

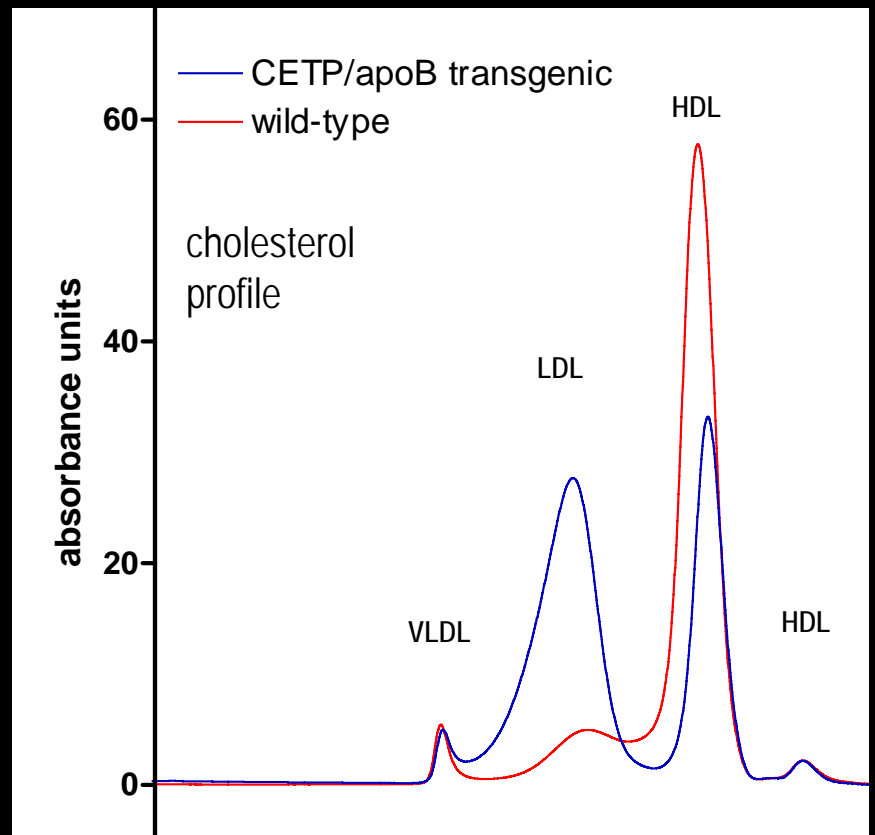
- HPLC analysis and quantitation of total lipid classes from various sources
- customized metabolite analysis using the Luminex system
- mass spectrometry (alone or coupled to HPLC separation)

\*customized services will involve discussion with clients regarding materials and methods required for analysis

Please email Audric Moses ([audric.moses@ualberta.ca](mailto:audric.moses@ualberta.ca)) for current information on services, rates, and for any other inquiries. Alternatively, you may phone the lab at 492-5648.

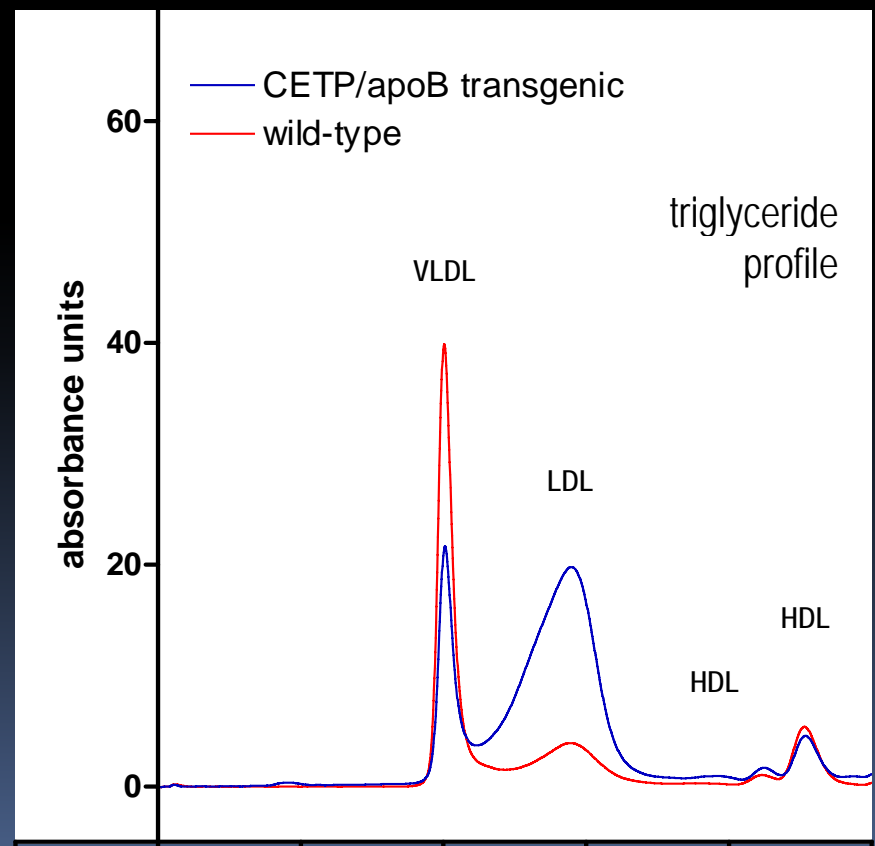
FPLC separation of lipoprotein classes  
(cholesterol profile)

Column: Superose 6 HR 10/30  
Dimensions: 10 x 300mm  
Mobile Phase: 50mM NaCl  
Flow rate: 0.4 mL/min.  
Reagent: total cholesterol  
Detection: vis. @ 500nm  
Sample: pure mouse plasma



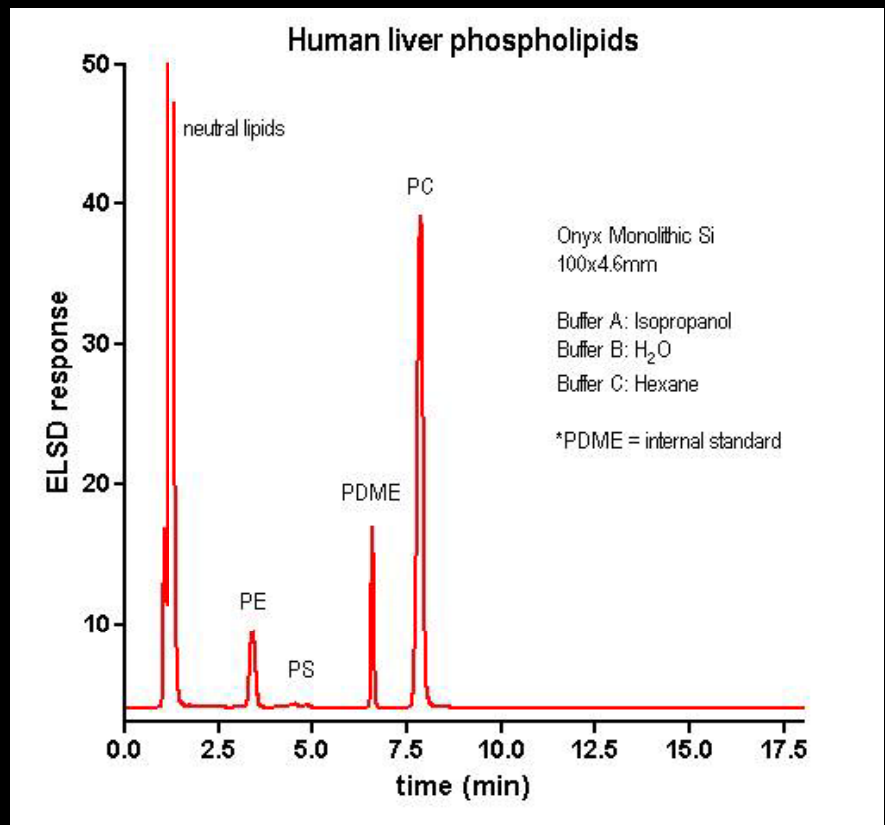
FPLC separation of lipoprotein classes  
(triglyceride profile)

Column: Superose 6 HR 10/30  
Dimensions: 10 x 300mm  
Mobile Phase: 50mM NaCl  
Flow rate: 0.4 mL/min.  
Reagent: triglyceride  
Detection: vis. @ 500nm  
Sample: pure mouse plasma



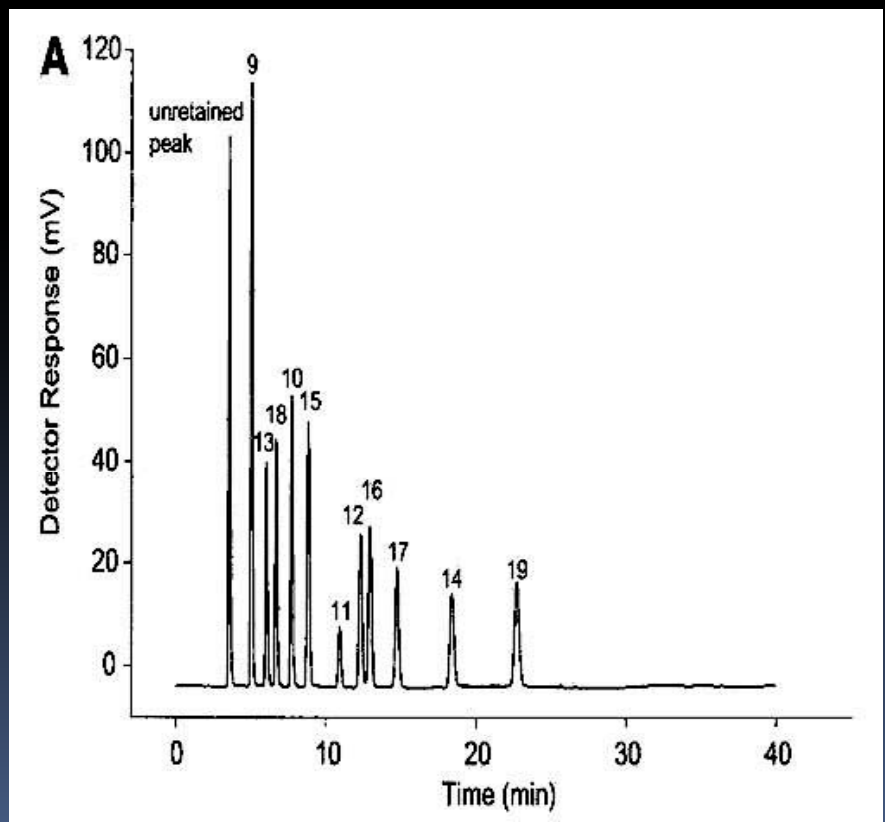
## HPLC separation of phospholipids

Column: Onyx monolithic silica  
Dimensions: 4.6 x 100mm  
Mobile Phase: IPA/hexane/water  
Flow rate: 1.5 mL/min.  
Detection: ELSD  
Sample: human liver extract



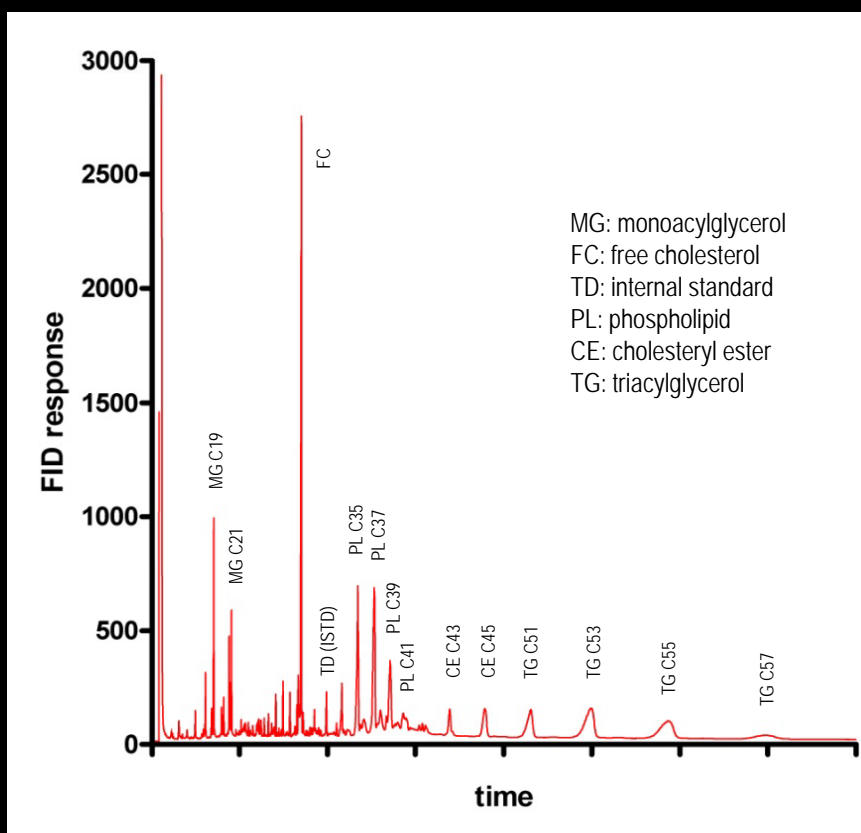
## HPLC separation of bile acids

Column: Luna C18  
Dimensions: 4.6 x 250mm  
Mobile Phase: MeOH/CHCN<sub>3</sub>/  
water/HOAc/NH<sub>4</sub>OH  
Flow rate: 1.0 mL/min.  
Detection: ELSD  
Sample: commercial standards



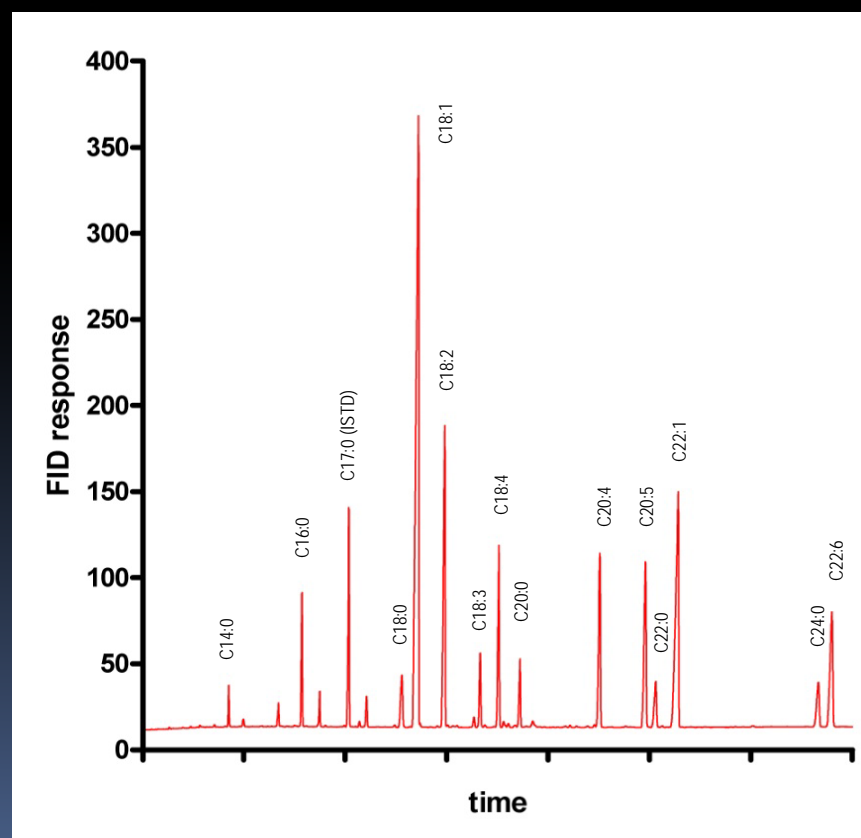
## GC separation of total lipids

Column: Zebron ZB-5  
Dimensions: 15m x 0.32mm  
Mobile Phase: helium  
Flow rate: 16.9 mL/min.  
Detection: Flame-Ionization  
Sample: mouse liver extract



## GC separation of fatty acids

Column: J&W DB-23  
Dimensions: 30m x 0.25mm  
Mobile Phase: helium  
Flow rate: 6.4 mL/min.  
Detection: Flame-Ionization  
Sample: commercial standards



## Introductory rates

| <u>analysis type</u>   | <u>price per sample</u> |
|--|-------------------------|
| FPLC lipoprotein profile cholesterol .....                                     | \$30                    |
| FPLC lipoprotein profile triglyceride .....                                    | \$40                    |
| FPLC lipoprotein profile phospholipids .....                                   | \$50                    |
| FPLC non-destructive separation and collection of<br>lipoprotein classes ..... | \$20                    |
| HPLC phospholipids .....   | \$30                    |
| HPLC bile acids .....  | \$30                    |
| HPLC nucleotides .....   | \$30                    |
| HPLC short or long chain CoAs .....  | \$30                    |
| HPLC ceramides .....   | \$30                    |
| HPLC total lipids .....  | \$30                    |
| GC total lipids .....  | \$25                    |
| GC fatty acids .....   | \$25                    |
| Luminex .....  | call                    |
| Mass spectrometry .....  | call                    |
| LC-MS .....  | call                    |
| customized analyses .....  | call                    |

discounts may be requested when submitting >10 samples