MEDICAL SCHOOL
METABOLOMICS CORE
UNIVERSITY OF MICHIGAN

Summary: Profile 30 acylcarnitine species in plasma, serum, or tissues after solvent extraction. Separated by RPLC in a 20 min cycle. All analytes and Internal Standards are measured by ESI+ on a LC-QQQ mass spectrometer using MRM methods and reported as uM normalized to either wet tissue weight or cell protein content. CV's are generally 10%.

Container: Eppendorf Tube or equivalent
Normal Volume: Plasma (100 ul) Tissue (50-100 mgs); Cells (2E7).
Minimal Volume: Plasma (50 uL) Tissue (20 mg); Cells (~5E6)
Special Handling: If human or primate, note any known presence of infectious agents.
Sample Collection. Please see our detailed sample collection protocol on the Michigan Regional Comprehensive Metabolomics Resource Core (MRC^2) website before preparing samples for analysis or contact the core director at the number below for details.

Reference: Donald H. Chace, James C. DiPerna, Brenda L. Mitchell, Bethany Sgroi, Lindsay F. Hofman and Edwin W. Naylor (2001) "Electrospray Tandem Mass Spectrometry for Analysis of Acylcarnitines in Dried Postmortem Blood Specimens Collected at Autopsy from Infants with Unexplained Cause of Death" *Clinical Chemistry* 4(7): 1166-1182.

Table I: Analytes (30) reported. Others on special request:

Analyte	Abbr.	Mol Formula	PubCHEM	Transition	LOQ(uM)
L-carnitine	Carn	C7H15NO4	10917	162.1->85	0.05
Acetyl-	C2	C9H17NO4	1	204.1 -> 85.0	0.05
Propionyl-	C3	C10H19NO4	107738	218.2 -> 85.0	0.05
Butyryl-	C4	C11H21NO4	439829	235.2 -> 85.0	0.05
Valeryl-	C5	C12H23NO4	6426903	246.2 -> 85.0	0.05
Glutaryl-	C5DC	C12H21NO6	53481622	276.2 -> 85.0	0.05
Hexanoyl- (caproyl-)	C6	C13H25NO4	6426853	260.2 -> 85.0	0.05
Octanoyl-	C8	C15H29NO4	11953814	288.2 -> 85.0	0.05
trans-2-Octenoyl-	C8:1	C15H27NO4	71464472	286.2 -> 85.0	0.05
Decanoyl-	C10	C17H33NO4	11953821	316.2 -> 85.0	0.05
cis-4-Decenoyl-	C10:1	C17H31NO4	71464497	314.2 -> 85.0	0.05
Lauroyl-	C12	C19H37NO4	168381	344.2 -> 85.0	0.05

trans-2-Dodecenoyl-	C12:1	C19H35NO4	53481671	342.2 -> 85.0	0.05
3-Hydroxy-dodecanoyl-	C12-OH	C19H37NO5		360.2 -> 85.0	0.05
Myristoyl-	C14	C21H41NO4	53477791	372.3 -> 85.0	0.05
cis-5-Tetradecenoyl-	C14:1	C21H39NO4	22833575	370.3 -> 85.0	0.05
Tetradecadienoyl-	C14:2	C21H37NO4	53481681	368.3 -> 85.0	0.05
3-Hydroxymyristoyl-	C14-OH	C21H41NO5	71464541	388.3 -> 85.0	0.05
Palmitoyl-	C16	C23H45NO4	461	400.3 -> 85.0	0.05
Palmitoleoyl-	C16:1	C23H43NO4	53481653	398.3 -> 85.0	0.05
3-hydroxyhexadecanoyl-	C16-OH	C23H45NO5	53481691	416.3 -> 85.0	0.05
Stearoyl**-	C18	C25H49NO4	6426855	428.3 -> 85.0	0.05
Oleoyl- (Elaidic-, Vaccenyl-)	C18:1	C25H47NO4	6441392	426.3 -> 85.0	0.05
Linoleyl- (linoelaidyl-)	C18:2	C25H45NO4	51000598	424.3 -> 85.0	0.05
3-Hydroxy-linoleyl-	C18:2-OH	C25H45NO5	71464556	442.3 -> 85.0	0.05
Arachidoyl**-	C20	C27H53NO4	533477833	454.3 -> 85.0	0.05
cis-11-Eicosenoyl**-	C20:1	C27H51NO4	71464507	452.3 -> 85.0	0.05
11*cis*,14*cis*-Eicosadienoyl-	C20:2	C27H49NO4	71464509	450.3 -> 85.0	0.05
Eicosatrienoyl-	C20:3	C27H47NO4		448.3 -> 85.0	0.05
Arachidonoyl-	C20:4	C27H45NO4	53477832	456.3 -> 85.0	0.05

**Below LOD for some samples