

Liver lipids extract analysis by Gazelle C18

Use: Separation of complex lipid extracts for lipidomics studies

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Homogenate of liver tissue was extracted for neutral lipids using the Folch method. The mixture was resuspended in 90/10 MeOH/Toluene and analyzed by LC-MS using competitor's C18, 2.1 x 100mm, 1.7µm, and Orochem Gazelle C18, 2.1 x 100mm, 1.7µm.

Mass spectrometry analysis parameters were kept consistent for each analysis in both positive and negative ion mode at a flow rate of 0.2 mL/min.

The number of compounds separated (peak capacity) was evaluated for each column.

Peak widths and heights were also evaluated for three compounds for negative and positive ion modes.

Mobile phases	Solvent A	Solvent B
POSITIVE ION MODE	60/40 acetonitrile/water + 10 mM ammonium formate + 0.1% formic acid	90/10 isopropyl alcohol/acetonitrile + 10 mM ammonium formate + 0.1% formic acid
NEGATIVE ION MODE	60/40 acetonitrile/water + 10 mM ammonium acetate + 0.2% acetic acid	90/10 isopropyl alcohol/acetonitrile + 10 mM ammonium acetate + 0.2% acetic acid

UHPLC-MS	Agilent 1290 UHPLC & 6545 QToF
Column	Gazelle C18, 1.7 µm
Column Size	2.1 x 100 mm
Temperature	50 deg C
Detection	full scan
Injection	10 µL

Time	% B	Flow Rate (mL/min)
0	15	0.2
2	30	0.2
2.5	48	0.2
14	82	0.2
14.5	99	0.2
20*	99	0.2

* 17 min when competitor column was used

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POSITIVE ION MODE			
Run #	# of compounds	Average	STND
Competitor 1	4930	4891	56
Competitor 2	4827		
Competitor 3	4915		
Orochem Gazelle 1	5440	5479	76
Orochem Gazelle 2	5567		
Orochem Gazelle 3	5430		

POSITIVE ION MODE (Competitor)						
m/z	Peak Width (sec)	Average	STND	Peak Height (counts)	Average	STND
495.2396	0.10	0.12	0.02	1918641	1901690	14877
	0.12			1890803		
	0.13			1895626		
806.5760	0.17	0.16	0.01	2443007	2414773	25836
	0.15			2409000		
	0.15			2392312		
876.8064	0.23	0.19	0.04	2047216	2049070	35603
	0.20			2014431		
	0.15			2085564		

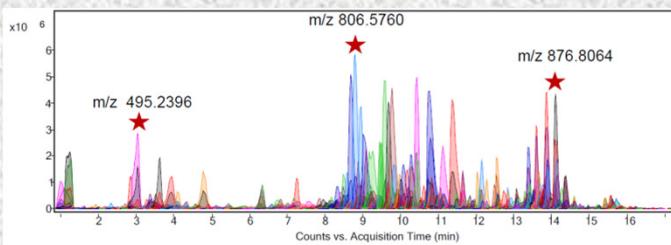
POSITIVE ION MODE (Orochem Gazelle)						
m/z	Peak Width (sec)	Average	STND	Peak Height (counts)	Average	STND
495.2396	0.14	0.15	0.01	1964679	1979243	19472
	0.15			2001360		
	0.16			1971689		
806.5760	0.23	0.23	0.02	2362182	2362824	15990
	0.21			2347165		
	0.24			2379126		
876.8064	0.12	0.15	0.03	2153561	2141070	13015
	0.17			2142062		
	0.16			2127587		

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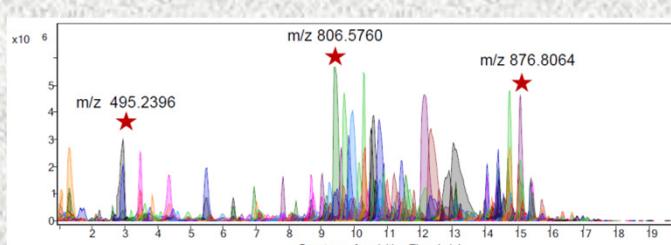
POSITIVE ION MODE

LEFT: COMPETITOR; RIGHT: OROCHEM GAZELLE



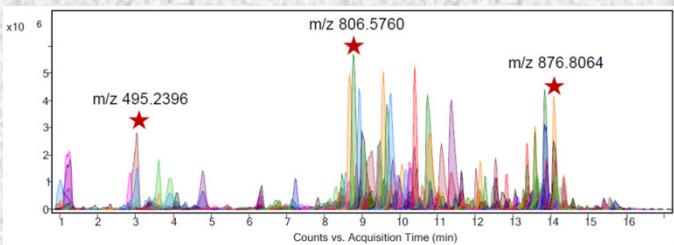
Technical Run 1

4930 Compounds



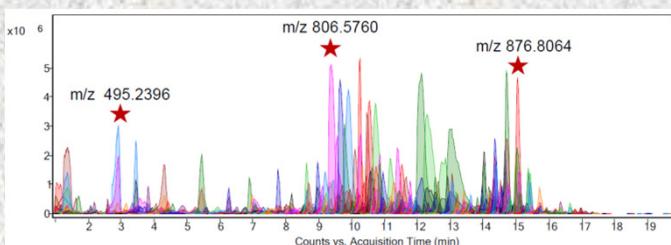
Technical Run 1

5440 Compounds



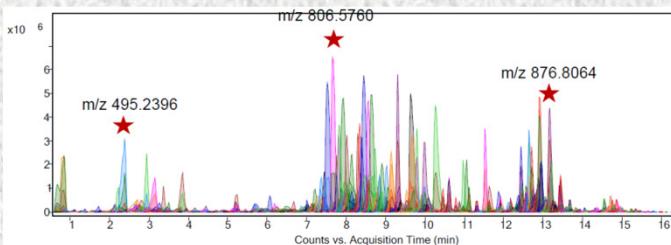
Technical Run 2

4827 Compounds



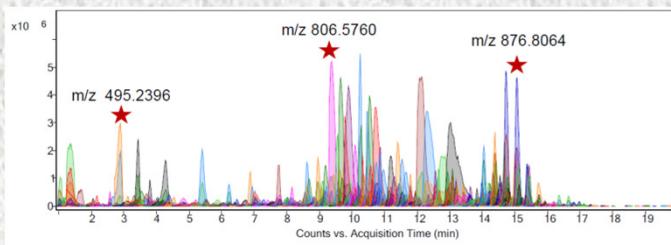
Technical Run 2

5567 Compounds



Technical Run 3

4915 Compounds



Technical Run 3

5430 Compounds

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NEGATIVE ION MODE			
Run #	# Compounds	Average	STND
Competitor 1	3778	3757	28
Competitor 2	3768		
Competitor 3	3726		
Orochem Gazelle 1	3091	3162	62
Orochem Gazelle 2	3206		
Orochem Gazelle 3	3189		

NEGATIVE ION MODE (Competitor)						
m/z	Peak Width (sec)	Average	STND	Peak Height (counts)	Average	STND
255.235	0.20	0.18	0.02	2362041	2378892	14678
	0.18			2385744		
	0.16			2388892		
371.3843	0.24	0.23	0.03	1524857	1528523	13922
	0.25			1543912		
	0.19			1516801		
708.6522	0.25	0.29	0.04	1665741	1679036	12705
	0.32			1691055		
	0.30			1680312		

NEGATIVE ION MODE (Orochem Gazelle)						
m/z	Peak Width (sec)	Average	STND	Peak Height (counts)	Average	STND
255.235	0.17	0.17	0.01	2167278	2139395	35987
	0.17			2098771		
	0.16			2152135		
371.3843	0.51	0.45	0.05	930249	874553	50589
	0.42			861957		
	0.42			831452		
708.6522	0.31	0.30	0.03	1320877	1325741	4219
	0.27			1328417		
	0.32			1327929		

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NEGATIVE ION MODE
LEFT: COMPETITOR; RIGHT: OROCHEM GAZELLE

