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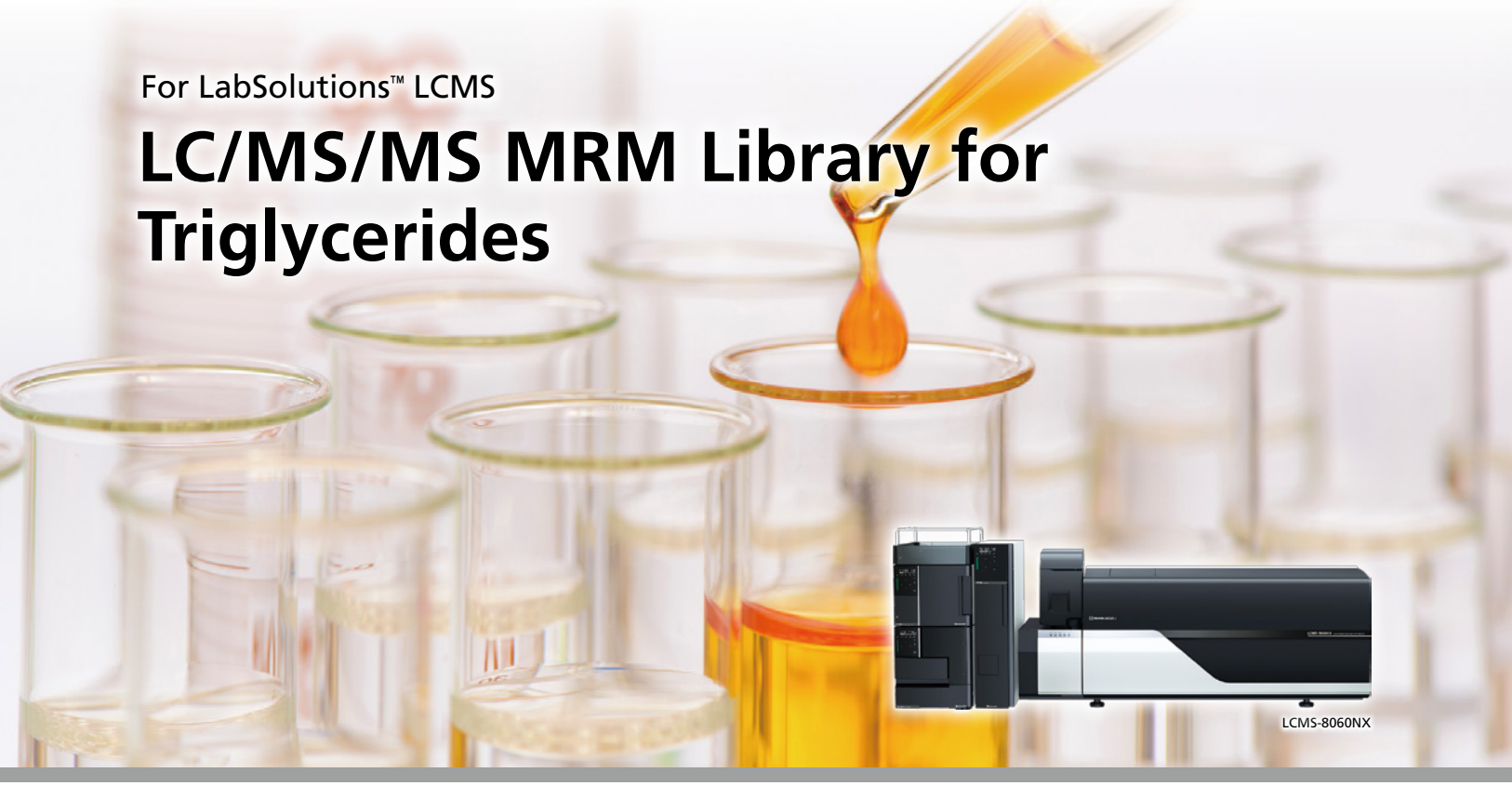
C146-E448

For LabSolutions™ LCMS

LC/MS/MS MRM Library for Triglycerides



This MRM library targets fatty acids with carbon chain lengths of C14 to C22 and 0 to 6 unsaturation sites to profile the triglycerides (TG) in plasma. The library provides 195 MRM transitions, which enable 47 different triglycerides to be monitored. The MRMs were evaluated in human plasma in order to provide researchers a tool for qualitative profiling of fatty acid composition.

Example triglycerides with different fatty acid chains, corresponding to various MRM transitions in the library, are shown below. Fatty acid composition estimation is made possible by monitoring product ions from fatty acid neutral loss.

Triglyceride Compound Panel (excerpt)

No.	ID	Compound name	Triglyceride	Fatty acid	Fatty acid name
1	1	TG 14:0_32:1	TG 46:1	FA 14:0	myristic acid
2	1	TG 16:0_30:1	TG 46:1	FA 16:0	palmitic acid
3	1	TG 16:1_30:0	TG 46:1	FA 16:1	palmitoleic acid
4	2	TG 14:0_34:0	TG 48:0	FA 14:0	myristic acid
5	2	TG 16:0_32:0	TG 48:0	FA 16:0	palmitic acid
6	2	TG 18:0_30:0	TG 48:0	FA 18:0	stearic acid

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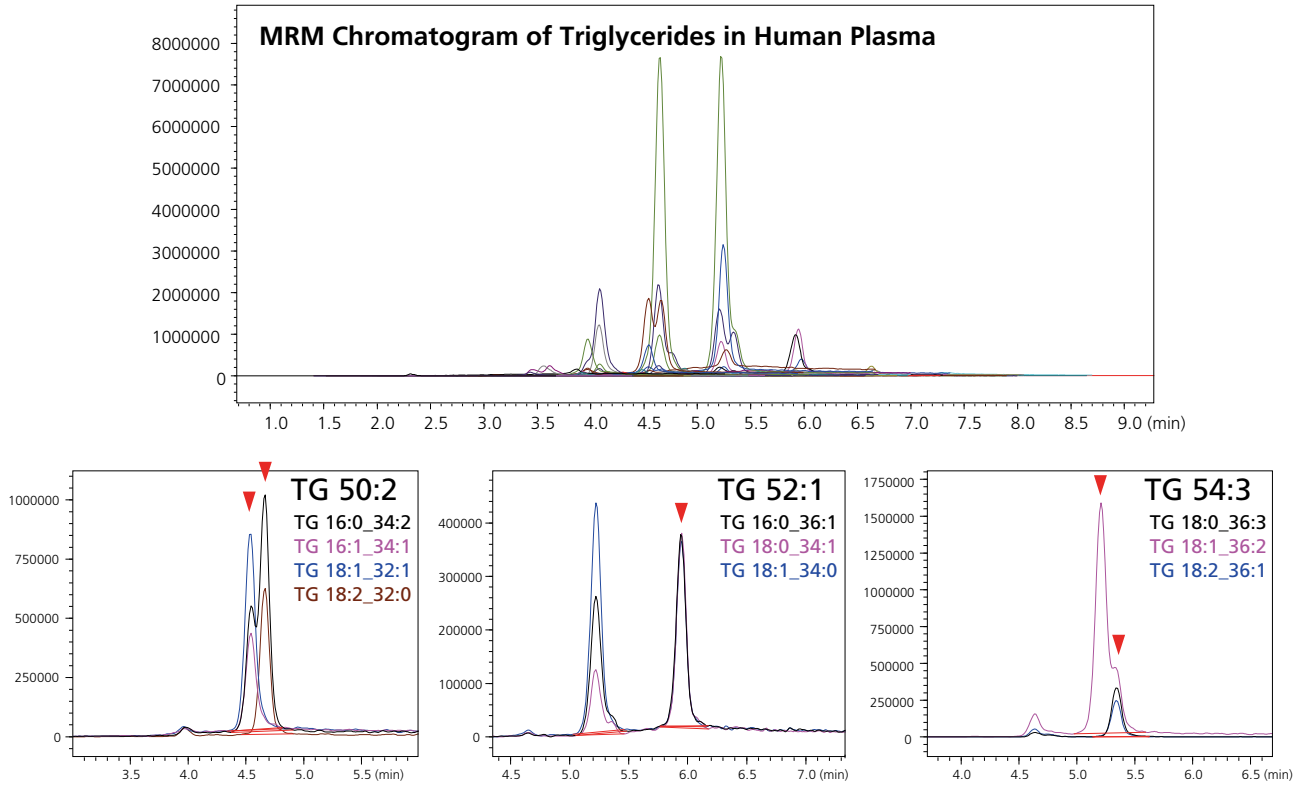
The MRM chromatogram below shows simultaneous analysis of 47 triglycerides in human plasma using Shimadzu's LCMS-8060NX triple quadrupole mass spectrometer. MRM chromatograms corresponding to three typical triglycerides of unknown fatty acid composition are also shown. In the MRM chromatogram of TG 50:2, a doublet peak corresponding to TG 16:0_34:2 and three other peaks corresponding to TG 16:1_34:1, TG 18:1_32:1 and TG 18:2_32:0 can be observed. Assessment of this cumulative qualitative information shows that the TG 50:2 detected contains both TG 16:0 _16:1_18:1 and TG 16:0 _16:0 _18:2, demonstrating the utility of this qualitative MRM library.



Individual TG Chromatograms

Remarks and Precautions

LabSolutions LCMS Ver. 5.109 or later and LabSolutions Insight™ Ver. 3.8SP1 or later are required.

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